aws

API Reference

AWS Elemental MediaConvert API Reference

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AWS Elemental MediaConvert API Reference: API Reference

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What is the AWS Elemental MediaConvert API?

This is the AWS Elemental MediaConvert REST API Reference. It provides information about each MediaConvert REST operation, including its URL, and its response and request contents.

Use the API to control MediaConvert programmatically. We assume that your IAM role has IAM permissions needed so that you can use MediaConvert with the REST API. We also assume that you're familiar with the features and operations of MediaConvert, as described in the MediaConvert User Guide.

Getting Started with AWS Elemental MediaConvert Using the AWS SDKs or the AWS CLI

To get started with AWS Elemental MediaConvert using one of the AWS SDKS or the AWS Command Line Interface (AWS CLI), follow this general procedure.

1. Set up AWS Identity and Access Management (IAM) permissions for both yourself and for the MediaConvert service to access your resources on your behalf:

   - For information about setting up permissions for yourself, see Overview of Identity Management: Users in the *IAM User Guide*.
   - For information about setting up permissions for the service to access your resources, see Set Up IAM Permissions in the *MediaConvert User Guide*.
2. In your client configuration, specify your authentication credentials and your AWS Region. For instructions that are specific to the programming language that you use, choose from this list of links to open the relevant topics in the AWS CLI or SDK guides:

   - AWS CLI
   - C++: credentials and Region
   - Go
   - Java
   - JavaScript
   - .NET
   - PHP
   - Python: credentials and Region
   - Ruby
   - Tools for PowerShell
3. To prevent duplicate jobs from being created, use client request tokens. For more information see Preventing duplicate jobs.

Choosing the correct case for requests

When you send requests, use camelCase or PascalCase as appropriate for the language you are using. All examples in this guide use PascalCase, which is the correct casing for the AWS CLI and

AWS SDK for Python (Boto3). The MediaConvert console JSON export function also generates JSON job specifications in PascalCase.

When you use a language that specifies camelCase, such as JavaScript, you must convert the casing of your properties before you submit your requests. For example, if you use the properties "Settings" and "TimecodeConfig" in your call through the AWS CLI, you must change those to "settings" and "timecodeConfig" for your call through the AWS SDK for JavaScript.

AWS Elemental MediaConvert CreateJob Example Using the AWS CLI

A job does the work of transcoding a media file. When you create a job using the AWS CLI, you specify the job settings that AWS Elemental MediaConvert requires to perform the transcoding.

To create a transcoding job using the AWS CLI:

- Specify your job settings with `--cli-input-json`:

  ```
  aws mediaconvert create-job \
      --region region-name-1 \
      --cli-input-json file://job.json
  ```

  In the preceding example, `job.json` specifies your job settings. You can use the MediaConvert console to generate the JSON job specification. For more information and sample job specifications, see Creating Your Job Specification.

  For more information about how to create a job using the AWS CLI, see the AWS CLI command reference.

Preventing duplicate jobs

You can use *client request tokens* to ensure that a `create-job` API request completes only once. With these requests, if the original request completes successfully, subsequent requests have no additional effect. This is useful to prevent duplicate jobs from being created when you interact with the AWS Elemental MediaConvert API.

A client request token is a unique string that you specify when you make a create job request.

A client request token can be any string that includes up to 64 ASCII characters. If you reuse a client request token within one minute of a successful request, the API returns the job details of the original request instead.

The following AWS CLI command creates an idempotent CreateJob request with the client request token *example-token*.

```
aws mediaconvert create-job \
    --client-request-token example-token \
    --region region-name-1 \
    --cli-input-json file://job.json
```

For more information about how to create a job using the AWS CLI, see the AWS CLI command reference.

Using MediaConvert with an AWS SDK

AWS software development kits (SDKs) are available for many popular programming languages. Each SDK provides an API, code examples, and documentation that make it easier for developers to build applications in their preferred language.

For code examples specific to AWS Elemental MediaConvert, see the AWS SDK code example library. These include examples for the MediaConvert actions `CreateJob`, `GetJob`, and `ListJobs` for .NET, C++, AWS Command Line Interface (CLI), Java, and Kotlin.

The following table provides links to AWS SDK documentation and general AWS SDK code examples on GitHub.

AWS SDK documentation	Code examples (GitHub)
AWS SDK for C++	AWS SDK for C++ code examples
AWS SDK for Go	AWS SDK for Go code examples
AWS SDK for Java	AWS SDK for Java code examples
AWS SDK for JavaScript	AWS SDK for JavaScript code examples
AWS SDK for Kotlin	AWS SDK for Kotlin code examples

AWS SDK documentation	Code examples (GitHub)
AWS SDK for .NET	AWS SDK for .NET code examples
AWS SDK for PHP	AWS SDK for PHP code examples
AWS SDK for Python (Boto3)	AWS SDK for Python (Boto3) code examples
AWS SDK for Ruby	AWS SDK for Ruby code examples
AWS SDK for Rust	AWS SDK for Rust code examples
AWS SDK for Swift	AWS SDK for Swift code examples

Getting Started with MediaConvert Using the API

This section shows you how to get started with the MediaConvert API to transcode media files using API calls.

To get set up to use the AWS Elemental MediaConvert API

1. Set up permissions:

   - **Permissions that the AWS Elemental MediaConvert service can assume on your behalf.** These allow access to your Amazon S3 buckets and to Amazon API Gateway. For instructions, see Set Up IAM Permissions in the *AWS Elemental MediaConvert User Guide*.
   - **Your Signature Version 4 authentication for the requests that you send to AWS.** When you use the AWS Command Line Interface (AWS CLI) or one of the AWS SDKs, these tools automatically sign the requests for you with the access key and secret key that you specify in your client configuration.

2. Set up S3 file locations.

   The service reads your input files from and saves your output files to Amazon S3 buckets. For instructions on creating these buckets, see Create Storage for Files in the *AWS Elemental MediaConvert User Guide*.

3. **Send your transcoding requests.**

   Send your requests to manage transcoding jobs, queues, job templates, and presets. For more information, see the following:

   - For information about setting up your transcoding job, see the Creating Your Job Specification topic of this guide.
   - For general information about how the MediaConvert resources (jobs, queues, job templates, and output presets) work, see the AWS Elemental MediaConvert User Guide.
   - For information about interacting programmatically with each resource type, see the Resources topic of this guide.
   - For detailed information about each transcoding setting, see the Properties topic of the Jobs resource chapter of this guide. You might find it easiest to navigate to a particular setting in the Properties topic by following the links in the Schemas section.

- To prevent duplicate jobs from being created, use client request tokens. For more information see Preventing duplicate jobs.

Creating Your AWS Elemental MediaConvert Job Specification

When you submit your MediaConvert jobs programmatically, you submit a payload with your job settings. When you use the SDK for Python or the AWS CLI, you pass in your job settings directly as a JSON object. When you use the other AWS SDKs, translate the JSON job settings according to the SDK documentation.

This job specification must conform to validation by the transcoding engine. This validation is more complex than the schema exposed in this API reference. The transcoding engine validations represent complex dependencies among groups of settings and dependencies between your transcoding settings and properties of your input files. The MediaConvert console functions as a tool to build valid job settings specifications in JSON.

For examples of valid job settings specifications in JSON, see Sample Job Settings Specifications in JSON.

Tip

We recommend that you *don't* construct your production job settings specifications by starting from one of the samples in this chapter and then adding settings. This approach usually results in a series of validation errors that can be frustrating to resolve. Instead, use the MediaConvert console to set up and run your initial job. Export the JSON job object to use to programmatically submit future jobs.

To construct your job specification using the MediaConvert console

1. Open the MediaConvert console at https://console.aws.amazon.com/mediaconvert/.
2. Set up your job in the console. For more information, see Setting Up a Job in the *AWS Elemental MediaConvert User Guide*.

   Consider whether a MediaConvert system job template or output preset suits your workflow. For more information, see Working with Job Templates and Working with Output Presets in the *AWS Elemental MediaConvert User Guide*.
3. On the **Create job** page, in the **Job** pane on the left, under **Job settings**, choose **Show job JSON**.

4. If you are using the SDK for Python or the AWS CLI, copy the JSON object and save it as a file to submit with your `CreateJob` request.

   If you are using one of the other AWS SDKs, translate the JSON job settings according to the SDK documentation.

Sample Job Settings Specifications in JSON

These sample AWS Elemental MediaConvert jobs are specified in JSON. When you use the Python SDK or the AWS CLI, you pass in your job settings directly as a JSON object. When you use the other SDKs, translate the job settings according to the SDK documentation.

The following examples are meant for testing purposes only. You can use them to verify that you can successfully submit your CreateJob request to MediaConvert. We recommend that you use the MediaConvert console to set up jobs for production. For more information, see Creating Your Job Specification.

> **Tip**
>
> We recommend that you *don't* construct your production job settings specifications by starting from one of the samples in this chapter and then adding settings. This approach usually results in a series of validation errors that can be frustrating to resolve. Instead, use the MediaConvert console to set up and run your initial job and then export the JSON job object to use to programmatically submit future jobs.

Simple Example

This example JSON job settings specification describes a job that creates a single file output:

```
{
    "Queue": "arn:aws:mediaconvert:us-west-2:111122223333:queues/Default",
    "UserMetadata": {
        "Customer": "Amazon"
    },
    "Role": "arn:aws:iam::111122223333:role/EMFRoleSPNames",
    "Settings": {
        "TimecodeConfig": {
            "Source": "EMBEDDED"
```

```
        },
        "OutputGroups": [{
            "Name": "File Group",
            "Outputs": [{
                "ContainerSettings": {
                    "Container": "MP4",
                    "Mp4Settings": {
                        "CslgAtom": "INCLUDE",
                        "FreeSpaceBox": "EXCLUDE",
                        "MoovPlacement": "PROGRESSIVE_DOWNLOAD"
                    }
                },
                "VideoDescription": {
                    "ScalingBehavior": "DEFAULT",
                    "TimecodeInsertion": "DISABLED",
                    "AntiAlias": "ENABLED",
                    "Sharpness": 50,
                    "CodecSettings": {
                        "Codec": "H_264",
                        "H264Settings": {
                            "InterlaceMode": "PROGRESSIVE",
                            "ParNumerator": 1,
                            "NumberReferenceFrames": 3,
                            "Syntax": "DEFAULT",
                            "Softness": 0,
                            "FramerateDenominator": 1,
                            "GopClosedCadence": 1,
                            "GopSize": 2,
                            "Slices": 1,
                            "GopBReference": "DISABLED",
                            "MaxBitrate": 25000000,
                            "SlowPal": "DISABLED",
                            "ParDenominator": 1,
                            "SpatialAdaptiveQuantization": "ENABLED",
                            "TemporalAdaptiveQuantization": "ENABLED",
                            "FlickerAdaptiveQuantization": "DISABLED",
                            "EntropyEncoding": "CABAC",
                            "FramerateControl": "SPECIFIED",
                            "RateControlMode": "QVBR",
                            "CodecProfile": "MAIN",
                            "Telecine": "NONE",
                            "FramerateNumerator": 30,
                            "MinIInterval": 0,
                            "AdaptiveQuantization": "HIGH",
```

```
                        "CodecLevel": "AUTO",
                        "FieldEncoding": "PAFF",
                        "SceneChangeDetect": "TRANSITION_DETECTION",
                        "QualityTuningLevel": "SINGLE_PASS_HQ",
                        "FramerateConversionAlgorithm": "DUPLICATE_DROP",
                        "UnregisteredSeiTimecode": "DISABLED",
                        "GopSizeUnits": "SECONDS",
                        "ParControl": "SPECIFIED",
                        "NumberBFramesBetweenReferenceFrames": 2,
                        "RepeatPps": "DISABLED"
                    }
                },
                "AfdSignaling": "NONE",
                "DropFrameTimecode": "ENABLED",
                "RespondToAfd": "NONE",
                "ColorMetadata": "INSERT"
            },
            "AudioDescriptions": [{
                "AudioTypeControl": "FOLLOW_INPUT",
                "AudioSourceName": "Audio Selector 1",
                "CodecSettings": {
                    "Codec": "AAC",
                    "AacSettings": {
                        "AudioDescriptionBroadcasterMix": "NORMAL",
                        "Bitrate": 64000,
                        "RateControlMode": "CBR",
                        "CodecProfile": "LC",
                        "CodingMode": "CODING_MODE_2_0",
                        "RawFormat": "NONE",
                        "SampleRate": 48000,
                        "Specification": "MPEG4"
                    }
                },
                "LanguageCodeControl": "FOLLOW_INPUT"
            }],
            "NameModifier": "_1"
        }],
        "OutputGroupSettings": {
            "Type": "FILE_GROUP_SETTINGS",
            "FileGroupSettings": {
                "Destination": "s3://amzn-s3-demo-bucket/output"
            }
        }
    }],
```

```
        "AdAvailOffset": 0,
        "Inputs": [{
            "AudioSelectors": {
                "Audio Selector 1": {
                    "Tracks": [1],
                    "Offset": 0,
                    "DefaultSelection": "NOT_DEFAULT",
                    "SelectorType": "TRACK",
                    "ProgramSelection": 1
                }
            },
            "VideoSelector": {
                "ColorSpace": "FOLLOW"
            },
            "FilterEnable": "AUTO",
            "PsiControl": "USE_PSI",
            "FilterStrength": 0,
            "DeblockFilter": "DISABLED",
            "DenoiseFilter": "DISABLED",
            "TimecodeSource": "EMBEDDED",
            "FileInput": "s3://amzn-s3-demo-bucket/720/example_input_720p.mov"
        }]
    },
    "AccelerationSettings": {
        "Mode": "DISABLED"
    },
    "StatusUpdateInterval": "SECONDS_60",
    "Priority": 0
}
```

Complex Example

This example JSON job settings specification describes a job that creates output in multiple packages for viewing on different device types. It uses encryption for digital rights management:

```
{
    "Queue": "arn:aws:mediaconvert:us-west-2:111122223333:queues/Default",
    "UserMetadata": {
        "Customer": "Amazon"
    },
    "Role": "arn:aws:iam::111122223333:role/MediaConvertRole",
    "Settings": {
        "TimecodeConfig": {
```

```
            "Source": "ZEROBASED"
        },
        "OutputGroups": [{
                "Name": "DASH ISO",
                "Outputs": [{
                        "ContainerSettings": {
                            "Container": "MPD"
                        },
                        "VideoDescription": {
                            "Width": 1280,
                            "ScalingBehavior": "DEFAULT",
                            "Height": 720,
                            "TimecodeInsertion": "DISABLED",
                            "AntiAlias": "ENABLED",
                            "Sharpness": 50,
                            "CodecSettings": {
                                "Codec": "H_264",
                                "H264Settings": {
                                    "InterlaceMode": "PROGRESSIVE",
                                    "NumberReferenceFrames": 3,
                                    "Syntax": "DEFAULT",
                                    "Softness": 0,
                                    "FramerateDenominator": 1,
                                    "GopClosedCadence": 1,
                                    "GopSize": 30,
                                    "Slices": 1,
                                    "GopBReference": "DISABLED",
                                    "HrdBufferSize": 10000000,
                                    "MaxBitrate": 5000000,
                                    "SpatialAdaptiveQuantization": "ENABLED",
                                    "TemporalAdaptiveQuantization": "ENABLED",
                                    "FlickerAdaptiveQuantization": "DISABLED",
                                    "EntropyEncoding": "CABAC",
                                    "FramerateControl": "SPECIFIED",
                                    "RateControlMode": "QVBR",
                                    "CodecProfile": "MAIN",
                                    "FramerateNumerator": 30,
                                    "MinIInterval": 0,
                                    "AdaptiveQuantization": "HIGH",
                                    "CodecLevel": "AUTO",
                                    "FieldEncoding": "PAFF",
                                    "SceneChangeDetect": "TRANSITION_DETECTION",
                                    "QualityTuningLevel": "SINGLE_PASS_HQ",
                                    "FramerateConversionAlgorithm": "DUPLICATE_DROP",
```

```
                            "UnregisteredSeiTimecode": "DISABLED",
                            "GopSizeUnits": "FRAMES",
                            "ParControl": "INITIALIZE_FROM_SOURCE",
                            "NumberBFramesBetweenReferenceFrames": 2,
                            "RepeatPps": "DISABLED"
                        }
                    },
                    "AfdSignaling": "NONE",
                    "DropFrameTimecode": "ENABLED",
                    "RespondToAfd": "NONE",
                    "ColorMetadata": "INSERT"
                },
                "NameModifier": "-1080"
            },
            {
                "ContainerSettings": {
                    "Container": "MPD"
                },
                "AudioDescriptions": [{
                    "AudioTypeControl": "FOLLOW_INPUT",
                    "AudioSourceName": "Audio Selector 1",
                    "CodecSettings": {
                        "Codec": "AAC",
                        "AacSettings": {
                            "AudioDescriptionBroadcasterMix": "NORMAL",
                            "Bitrate": 96000,
                            "RateControlMode": "CBR",
                            "CodecProfile": "LC",
                            "CodingMode": "CODING_MODE_2_0",
                            "RawFormat": "NONE",
                            "SampleRate": 48000,
                            "Specification": "MPEG4"
                        }
                    },
                    "LanguageCodeControl": "FOLLOW_INPUT"
                }],
                "NameModifier": "-audio"
            }
        ],
        "OutputGroupSettings": {
            "Type": "DASH_ISO_GROUP_SETTINGS",
            "DashIsoGroupSettings": {
                "SegmentLength": 30,
```

```
                        "Destination": "s3://amzn-s3-demo-bucket/drm/10/dash-drm/
master",
                        "Encryption": {
                            "SpekeKeyProvider": {
                                "ResourceId": "drm-test-1",
                                "SystemIds": [
                                    "edef8ba9-79d6-4ace-a3c8-27dcd51d21ed"
                                ],
                                "Url": "https://example.execute-api.us-
west-2.amazonaws.com/live/speke/v1.0/copyProtection"
                            }
                        },
                        "FragmentLength": 2,
                        "SegmentControl": "SINGLE_FILE",
                        "HbbtvCompliance": "NONE"
                    }
                }
            },
            {
                "Name": "Apple HLS",
                "Outputs": [{
                        "ContainerSettings": {
                            "Container": "M3U8",
                            "M3u8Settings": {
                                "AudioFramesPerPes": 4,
                                "PcrControl": "PCR_EVERY_PES_PACKET",
                                "PmtPid": 480,
                                "PrivateMetadataPid": 503,
                                "ProgramNumber": 1,
                                "PatInterval": 0,
                                "PmtInterval": 0,
                                "Scte35Source": "NONE",
                                "NielsenId3": "NONE",
                                "TimedMetadata": "NONE",
                                "VideoPid": 481,
                                "AudioPids": [
                                    482,
                                    483,
                                    484,
                                    485,
                                    486,
                                    487,
                                    488,
                                    489,
```

```
                    490,
                    491,
                    492
                ]
            }
        },
        "VideoDescription": {
            "Width": 1280,
            "ScalingBehavior": "DEFAULT",
            "Height": 720,
            "TimecodeInsertion": "DISABLED",
            "AntiAlias": "ENABLED",
            "Sharpness": 50,
            "CodecSettings": {
                "Codec": "H_264",
                "H264Settings": {
                    "InterlaceMode": "PROGRESSIVE",
                    "NumberReferenceFrames": 3,
                    "Syntax": "DEFAULT",
                    "Softness": 0,
                    "FramerateDenominator": 1,
                    "GopClosedCadence": 1,
                    "GopSize": 60,
                    "Slices": 1,
                    "GopBReference": "DISABLED",
                    "MaxBitrate": 5000000,
                    "SpatialAdaptiveQuantization": "ENABLED",
                    "TemporalAdaptiveQuantization": "ENABLED",
                    "FlickerAdaptiveQuantization": "DISABLED",
                    "EntropyEncoding": "CABAC",
                    "FramerateControl": "SPECIFIED",
                    "RateControlMode": "QVBR",
                    "CodecProfile": "MAIN",
                    "FramerateNumerator": 30,
                    "MinIInterval": 0,
                    "AdaptiveQuantization": "HIGH",
                    "CodecLevel": "AUTO",
                    "FieldEncoding": "PAFF",
                    "SceneChangeDetect": "TRANSITION_DETECTION",
                    "QualityTuningLevel": "SINGLE_PASS_HQ",
                    "FramerateConversionAlgorithm": "DUPLICATE_DROP",
                    "UnregisteredSeiTimecode": "DISABLED",
                    "GopSizeUnits": "FRAMES",
                    "ParControl": "INITIALIZE_FROM_SOURCE",
```

```
                            "NumberBFramesBetweenReferenceFrames": 2,
                            "RepeatPps": "DISABLED"
                        }
                    },
                    "AfdSignaling": "NONE",
                    "DropFrameTimecode": "ENABLED",
                    "RespondToAfd": "NONE",
                    "ColorMetadata": "INSERT"
                },
                "AudioDescriptions": [{
                    "AudioTypeControl": "FOLLOW_INPUT",
                    "CodecSettings": {
                        "Codec": "AAC",
                        "AacSettings": {
                            "AudioDescriptionBroadcasterMix": "NORMAL",
                            "RateControlMode": "CBR",
                            "CodecProfile": "LC",
                            "CodingMode": "CODING_MODE_2_0",
                            "RawFormat": "NONE",
                            "SampleRate": 48000,
                            "Specification": "MPEG4"
                        }
                    },
                    "LanguageCodeControl": "FOLLOW_INPUT"
                }],
                "OutputSettings": {
                    "HlsSettings": {
                        "AudioGroupId": "program_audio",
                        "AudioRenditionSets": "program_audio",
                        "IFrameOnlyManifest": "EXCLUDE"
                    }
                },
                "NameModifier": "_v1"
            },
            {
                "ContainerSettings": {
                    "Container": "M3U8",
                    "M3u8Settings": {
                        "AudioFramesPerPes": 4,
                        "PcrControl": "PCR_EVERY_PES_PACKET",
                        "PmtPid": 480,
                        "PrivateMetadataPid": 503,
                        "ProgramNumber": 1,
                        "PatInterval": 0,
```

```
                        "PmtInterval": 0,
                        "Scte35Source": "NONE",
                        "NielsenId3": "NONE",
                        "TimedMetadata": "NONE",
                        "VideoPid": 481,
                        "AudioPids": [
                            482,
                            483,
                            484,
                            485,
                            486,
                            487,
                            488,
                            489,
                            490,
                            491,
                            492
                        ]
                    }
                },
                "AudioDescriptions": [{
                    "AudioTypeControl": "FOLLOW_INPUT",
                    "AudioSourceName": "Audio Selector 1",
                    "CodecSettings": {
                        "Codec": "AAC",
                        "AacSettings": {
                            "AudioDescriptionBroadcasterMix": "NORMAL",
                            "Bitrate": 64000,
                            "RateControlMode": "CBR",
                            "CodecProfile": "LC",
                            "CodingMode": "CODING_MODE_2_0",
                            "RawFormat": "NONE",
                            "SampleRate": 48000,
                            "Specification": "MPEG4"
                        }
                    },
                    "StreamName": "English",
                    "LanguageCodeControl": "FOLLOW_INPUT",
                    "LanguageCode": "ENG"
                }],
                "OutputSettings": {
                    "HlsSettings": {
                        "AudioGroupId": "program_audio",
                        "AudioRenditionSets": "program_audio",
```

```
                                "AudioTrackType":
"ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT",
                                "IFrameOnlyManifest": "EXCLUDE"
                            }
                        },
                        "NameModifier": "_a1"
                    },
                    {
                        "ContainerSettings": {
                            "Container": "M3U8",
                            "M3u8Settings": {
                                "AudioFramesPerPes": 4,
                                "PcrControl": "PCR_EVERY_PES_PACKET",
                                "PmtPid": 480,
                                "PrivateMetadataPid": 503,
                                "ProgramNumber": 1,
                                "PatInterval": 0,
                                "PmtInterval": 0,
                                "Scte35Source": "NONE",
                                "NielsenId3": "NONE",
                                "TimedMetadata": "NONE",
                                "VideoPid": 481,
                                "AudioPids": [
                                    482,
                                    483,
                                    484,
                                    485,
                                    486,
                                    487,
                                    488,
                                    489,
                                    490,
                                    491,
                                    492
                                ]
                            }
                        },
                        "AudioDescriptions": [{
                            "AudioTypeControl": "FOLLOW_INPUT",
                            "AudioSourceName": "Audio Selector 2",
                            "CodecSettings": {
                                "Codec": "AAC",
                                "AacSettings": {
                                    "AudioDescriptionBroadcasterMix": "NORMAL",
```

```
                            "Bitrate": 64000,
                            "RateControlMode": "CBR",
                            "CodecProfile": "LC",
                            "CodingMode": "CODING_MODE_2_0",
                            "RawFormat": "NONE",
                            "SampleRate": 48000,
                            "Specification": "MPEG4"
                        }
                    },
                    "StreamName": "Spanish",
                    "LanguageCodeControl": "FOLLOW_INPUT",
                    "LanguageCode": "SPA"
                }],
                "OutputSettings": {
                    "HlsSettings": {
                        "AudioGroupId": "program_audio",
                        "AudioRenditionSets": "program_audio",
                        "AudioTrackType": "ALTERNATE_AUDIO_AUTO_SELECT",
                        "IFrameOnlyManifest": "EXCLUDE"
                    }
                },
                "NameModifier": "_a2"
            }
        ],
        "OutputGroupSettings": {
            "Type": "HLS_GROUP_SETTINGS",
            "HlsGroupSettings": {
                "ManifestDurationFormat": "INTEGER",
                "SegmentLength": 6,
                "TimedMetadataId3Period": 10,
                "CaptionLanguageSetting": "OMIT",
                "Destination": "s3://amzn-s3-demo-bucket/hls/no-drm/master",
                "TimedMetadataId3Frame": "PRIV",
                "CodecSpecification": "RFC_4281",
                "OutputSelection": "MANIFESTS_AND_SEGMENTS",
                "ProgramDateTimePeriod": 600,
                "MinSegmentLength": 0,
                "DirectoryStructure": "SINGLE_DIRECTORY",
                "ProgramDateTime": "EXCLUDE",
                "SegmentControl": "SEGMENTED_FILES",
                "ManifestCompression": "NONE",
                "ClientCache": "ENABLED",
                "StreamInfResolution": "INCLUDE"
            }
```

```
                }
            }
        ],
        "AdAvailOffset": 0,
        "Inputs": [{
            "AudioSelectors": {
                "Audio Selector 1": {
                    "Tracks": [
                        1
                    ],
                    "Offset": 0,
                    "DefaultSelection": "DEFAULT",
                    "SelectorType": "TRACK",
                    "ProgramSelection": 1
                },
                "Audio Selector 2": {
                    "Tracks": [
                        2
                    ],
                    "Offset": 0,
                    "DefaultSelection": "NOT_DEFAULT",
                    "SelectorType": "TRACK",
                    "ProgramSelection": 1
                }
            },
            "VideoSelector": {
                "ColorSpace": "FOLLOW"
            },
            "FilterEnable": "AUTO",
            "PsiControl": "USE_PSI",
            "FilterStrength": 0,
            "DeblockFilter": "DISABLED",
            "DenoiseFilter": "DISABLED",
            "TimecodeSource": "EMBEDDED",
            "FileInput": "s3://amzn-s3-demo-bucket/720/test_file.mp4"
        }]
    },
    "AccelerationSettings": {
        "Mode": "DISABLED"
    },
    "StatusUpdateInterval": "SECONDS_60",
    "Priority": 0
}
```

Important Notes

Using the AWS CLI

When you send requests using the AWS CLI, use PascalCase for all properties. For example, if you used the properties `settings` and `timecodeConfig` in your API call, you must change those to `Settings` and `TimecodeConfig` for your CLI call. This is required because the CLI is built on Python, which uses PascalCase for properties.

Schemas and Example Job Settings

The schemas provided in this guide are not working examples. Instead, they provide information about how to structure your job settings specification. For example job settings in JSON format, see example job settings in the *AWS Elemental MediaConvert User Guide*. You pass in job settings as the payload when you create jobs, custom output presets, and custom job templates.

If you access AWS Elemental MediaConvert directly through the API, using theAWS CLI, or using the AWS SDK for Python (Boto), you submit your job settings as a JSON file. The simplest way to generate this file is to set up your job using the MediaConvert console and then, on the **Create job** page, choose **Show job JSON**.

If you access AWS Elemental MediaConvert through one of the AWS SDKs other than Python, consult the documentation for those SDKs for information about the syntax to use to for your job settings specification. For more information about using the AWS SDKs to access MediaConvert, see Getting Started with AWS Elemental MediaConvert Using the AWS SDKs or the AWS CLI.

Resources

The AWS Elemental MediaConvert REST API includes the following resources.

Topics

- Certificates
- Certificates arn
- Endpoints
- Jobs
- Jobs id
- JobTemplates
- JobTemplates name
- Policy
- Presets
- Presets name
- Probe
- Queues
- Queues name
- ResourceShares
- Search
- Tags
- Tags arn
- Versions

Certificates

URI

```
/2017-08-29/certificates
```

HTTP methods

POST

Operation ID: `AssociateCertificate`

Associates an AWS Certificate Manager (ACM) Amazon Resource Name (ARN) with AWS Elemental MediaConvert.

Responses

Status code	Response model	Description
201	AssociateCertificateResponse	201 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.

Status code	Response model	Description
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

POST schema

```
{
  "arn": "string"
}
```

Response bodies

AssociateCertificateResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
```

```
}
```

Properties

AssociateCertificateRequest

Associates the Amazon Resource Name (ARN) of an AWS Certificate Manager (ACM) certificate with an AWS Elemental MediaConvert resource.

arn

The ARN of the ACM certificate that you want to associate with your MediaConvert resource.

Type: string
Required: True

AssociateCertificateResponse

Successful association of Certificate Manager Amazon Resource Name (ARN) with Mediaconvert returns an OK message.

ExceptionBody

message

Type: string
Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

AssociateCertificate

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Certificates arn

URI

`/2017-08-29/certificates/arn`

HTTP methods

DELETE

Operation ID: `DisassociateCertificate`

Removes an association between the Amazon Resource Name (ARN) of an AWS Certificate Manager (ACM) certificate and an AWS Elemental MediaConvert resource.

Path parameters

Name	Type	Required	Description
arn	String	True	

Responses

Status code	Response model	Description
202	DisassociateCertificateResponse	202 response
400	ExceptionBody	The service can't process your request because of a problem

Status code	Response model	Description
		in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Path parameters

Name	Type	Required	Description
arn	String	True	

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

DELETE schema

```
{
  "arn": "string"
}
```

Response bodies

DisassociateCertificateResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

DisassociateCertificateRequest

Removes an association between the Amazon Resource Name (ARN) of an AWS Certificate Manager (ACM) certificate and an AWS Elemental MediaConvert resource.

arn

The ARN of the ACM certificate that you want to disassociate from your MediaConvert resource.

Type: string

Required: False

DisassociateCertificateResponse

Successful disassociation of Certificate Manager Amazon Resource Name (ARN) with Mediaconvert returns an OK message.

ExceptionBody

message

Type: string

Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

DisassociateCertificate

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Endpoints

URI

`/2017-08-29/endpoints`

HTTP methods

POST

Operation ID: `DescribeEndpoints`

Send a request with an empty body to the regional API endpoint to get your account API endpoint. Note that DescribeEndpoints is no longer required. We recommend that you send your requests directly to the regional endpoint instead.

Responses

Status code	Response model	Description
200	DescribeEndpointsResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.

Status code	Response model	Description
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

POST schema

```
{
  "nextToken": "string",
  "maxResults": integer,
  "mode": enum
}
```

Response bodies

DescribeEndpointsResponse schema

```
{
```

```
  "endpoints": [
    {
      "url": "string"
    }
  ],
  "nextToken": "string"
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

DescribeEndpointsMode

Optional field, defaults to DEFAULT. Specify DEFAULT for this operation to return your endpoints if any exist, or to create an endpoint for you and return it if one doesn't already exist. Specify GET_ONLY to return your endpoints if any exist, or an empty list if none exist.

DEFAULT

GET_ONLY

DescribeEndpointsRequest

Send a request with an empty body to the regional API endpoint to get your account API endpoint. Note that DescribeEndpoints is no longer required. We recommend that you send your requests directly to the regional endpoint instead.

nextToken

Use this string, provided with the response to a previous request, to request the next batch of endpoints.

Type: string

Required: False

maxResults

Optional. Max number of endpoints, up to twenty, that will be returned at one time.

Type: integer
Required: False
Format: int32

mode

Optional field, defaults to DEFAULT. Specify DEFAULT for this operation to return your endpoints if any exist, or to create an endpoint for you and return it if one doesn't already exist. Specify GET_ONLY to return your endpoints if any exist, or an empty list if none exist.

Type: DescribeEndpointsMode
Required: False

DescribeEndpointsResponse

Successful describe endpoints requests will return your account API endpoint.

endpoints

List of endpoints

Type: Array of type Endpoint
Required: False

nextToken

Use this string to request the next batch of endpoints.

Type: string
Required: False

Endpoint

Describes an account-specific API endpoint.

url

URL of endpoint

Type: string
Required: False

ExceptionBody

message

Type: string
Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

DescribeEndpoints

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Jobs

URI

`/2017-08-29/jobs`

HTTP methods

GET

Operation ID: `ListJobs`

Retrieve a JSON array of up to twenty of your most recently created jobs. This array includes in-process, completed, and errored jobs. This will return the jobs themselves, not just a list of the jobs. To retrieve the twenty next most recent jobs, use the nextToken string returned with the array.

Query parameters

Name	Type	Required	Description
`status`	String	False	
`nextToken`	String	False	
`maxResults`	String	False	
`order`	String	False	
`queue`	String	False	

Responses

Status code	Response model	Description
`200`	`ListJobsResponse`	200 response
`400`	`ExceptionBody`	The service can't process your request because of a problem in the request. Please check your request form and syntax.

Status code	Response model	Description
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

POST

Operation ID: `CreateJob`

Create a new transcoding job. For information about jobs and job settings, see the User Guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Responses

Status code	Response model	Description
201	CreateJobResponse	201 response
400	ExceptionBody	The service can't process your request because of a problem

Status code	Response model	Description
		in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "queue": "string",
  "status": enum,
  "order": enum,
  "nextToken": "string",
  "maxResults": integer
}
```

POST schema

```
{
  "clientRequestToken": "string",
  "jobTemplate": "string",
  "jobEngineVersion": "string",
  "queue": "string",
  "role": "string",
  "settings": {
    "timecodeConfig": {
      "anchor": "string",
      "source": enum,
      "start": "string",
      "timestampOffset": "string"
    },
    "outputGroups": [
      {
        "customName": "string",
        "name": "string",
        "outputs": [
          {
            "containerSettings": {
              "container": enum,
              "m3u8Settings": {
                "audioFramesPerPes": integer,
                "pcrControl": enum,
                "dataPTSControl": enum,
                "maxPcrInterval": integer,
                "pcrPid": integer,
```

```
            "pmtPid": integer,
            "privateMetadataPid": integer,
            "programNumber": integer,
            "patInterval": integer,
            "pmtInterval": integer,
            "scte35Source": enum,
            "scte35Pid": integer,
            "nielsenId3": enum,
            "timedMetadata": enum,
            "timedMetadataPid": integer,
            "transportStreamId": integer,
            "videoPid": integer,
            "ptsOffsetMode": enum,
            "ptsOffset": integer,
            "audioPtsOffsetDelta": integer,
            "audioPids": [
              integer
            ],
            "audioDuration": enum
          },
          "f4vSettings": {
            "moovPlacement": enum
          },
          "m2tsSettings": {
            "audioBufferModel": enum,
            "minEbpInterval": integer,
            "esRateInPes": enum,
            "patInterval": integer,
            "dvbNitSettings": {
              "nitInterval": integer,
              "networkId": integer,
              "networkName": "string"
            },
            "dvbSdtSettings": {
              "outputSdt": enum,
              "sdtInterval": integer,
              "serviceName": "string",
              "serviceProviderName": "string"
            },
            "scte35Source": enum,
            "scte35Pid": integer,
            "scte35Esam": {
              "scte35EsamPid": integer
            },
```

```
            "klvMetadata": enum,
            "videoPid": integer,
            "dvbTdtSettings": {
              "tdtInterval": integer
            },
            "pmtInterval": integer,
            "segmentationStyle": enum,
            "segmentationTime": number,
            "pmtPid": integer,
            "bitrate": integer,
            "audioPids": [
              integer
            ],
            "privateMetadataPid": integer,
            "nielsenId3": enum,
            "timedMetadataPid": integer,
            "maxPcrInterval": integer,
            "transportStreamId": integer,
            "dvbSubPids": [
              integer
            ],
            "rateMode": enum,
            "audioFramesPerPes": integer,
            "pcrControl": enum,
            "dataPTSControl": enum,
            "segmentationMarkers": enum,
            "ebpAudioInterval": enum,
            "forceTsVideoEbpOrder": enum,
            "programNumber": integer,
            "pcrPid": integer,
            "bufferModel": enum,
            "dvbTeletextPid": integer,
            "fragmentTime": number,
            "ebpPlacement": enum,
            "nullPacketBitrate": number,
            "audioDuration": enum,
            "ptsOffsetMode": enum,
            "ptsOffset": integer,
            "audioPtsOffsetDelta": integer,
            "preventBufferUnderflow": enum
          },
          "movSettings": {
            "clapAtom": enum,
            "cslgAtom": enum,
```

```
      "paddingControl": enum,
      "reference": enum,
      "mpeg2FourCCControl": enum
    },
    "mp4Settings": {
      "cslgAtom": enum,
      "cttsVersion": integer,
      "freeSpaceBox": enum,
      "mp4MajorBrand": "string",
      "moovPlacement": enum,
      "audioDuration": enum,
      "c2paManifest": enum,
      "certificateSecret": "string",
      "signingKmsKey": "string"
    },
    "mpdSettings": {
      "accessibilityCaptionHints": enum,
      "captionContainerType": enum,
      "scte35Source": enum,
      "scte35Esam": enum,
      "audioDuration": enum,
      "timedMetadata": enum,
      "timedMetadataBoxVersion": enum,
      "timedMetadataSchemeIdUri": "string",
      "timedMetadataValue": "string",
      "manifestMetadataSignaling": enum,
      "klvMetadata": enum
    },
    "cmfcSettings": {
      "scte35Source": enum,
      "scte35Esam": enum,
      "audioDuration": enum,
      "iFrameOnlyManifest": enum,
      "audioGroupId": "string",
      "audioRenditionSets": "string",
      "audioTrackType": enum,
      "descriptiveVideoServiceFlag": enum,
      "timedMetadata": enum,
      "timedMetadataBoxVersion": enum,
      "timedMetadataSchemeIdUri": "string",
      "timedMetadataValue": "string",
      "manifestMetadataSignaling": enum,
      "klvMetadata": enum
    },
```

```
        "mxfSettings": {
          "afdSignaling": enum,
          "profile": enum,
          "xavcProfileSettings": {
            "durationMode": enum,
            "maxAncDataSize": integer
          }
        }
      },
      "preset": "string",
      "videoDescription": {
        "fixedAfd": integer,
        "width": integer,
        "scalingBehavior": enum,
        "crop": {
          "height": integer,
          "width": integer,
          "x": integer,
          "y": integer
        },
        "height": integer,
        "videoPreprocessors": {
          "colorCorrector": {
            "brightness": integer,
            "colorSpaceConversion": enum,
            "sampleRangeConversion": enum,
            "clipLimits": {
              "minimumYUV": integer,
              "maximumYUV": integer,
              "minimumRGBTolerance": integer,
              "maximumRGBTolerance": integer
            },
            "sdrReferenceWhiteLevel": integer,
            "contrast": integer,
            "hue": integer,
            "saturation": integer,
            "maxLuminance": integer,
            "hdr10Metadata": {
              "redPrimaryX": integer,
              "redPrimaryY": integer,
              "greenPrimaryX": integer,
              "greenPrimaryY": integer,
              "bluePrimaryX": integer,
              "bluePrimaryY": integer,
```

```
            "whitePointX": integer,
            "whitePointY": integer,
            "maxFrameAverageLightLevel": integer,
            "maxContentLightLevel": integer,
            "maxLuminance": integer,
            "minLuminance": integer
          },
          "hdrToSdrToneMapper": enum
        },
        "deinterlacer": {
          "algorithm": enum,
          "mode": enum,
          "control": enum
        },
        "dolbyVision": {
          "profile": enum,
          "l6Mode": enum,
          "l6Metadata": {
            "maxCll": integer,
            "maxFall": integer
          },
          "mapping": enum
        },
        "hdr10Plus": {
          "masteringMonitorNits": integer,
          "targetMonitorNits": integer
        },
        "imageInserter": {
          "insertableImages": [
            {
              "width": integer,
              "height": integer,
              "imageX": integer,
              "imageY": integer,
              "duration": integer,
              "fadeIn": integer,
              "layer": integer,
              "imageInserterInput": "string",
              "startTime": "string",
              "fadeOut": integer,
              "opacity": integer
            }
          ],
          "sdrReferenceWhiteLevel": integer
```

```
      },
      "noiseReducer": {
        "filter": enum,
        "filterSettings": {
          "strength": integer
        },
        "spatialFilterSettings": {
          "strength": integer,
          "speed": integer,
          "postFilterSharpenStrength": integer
        },
        "temporalFilterSettings": {
          "strength": integer,
          "speed": integer,
          "aggressiveMode": integer,
          "postTemporalSharpening": enum,
          "postTemporalSharpeningStrength": enum
        }
      },
      "timecodeBurnin": {
        "fontSize": integer,
        "position": enum,
        "prefix": "string"
      },
      "partnerWatermarking": {
        "nexguardFileMarkerSettings": {
          "license": "string",
          "preset": "string",
          "payload": integer,
          "strength": enum
        }
      }
    },
    "timecodeInsertion": enum,
    "timecodeTrack": enum,
    "antiAlias": enum,
    "position": {
      "height": integer,
      "width": integer,
      "x": integer,
      "y": integer
    },
    "sharpness": integer,
    "codecSettings": {
```

```
      "codec": enum,
      "av1Settings": {
        "gopSize": number,
        "numberBFramesBetweenReferenceFrames": integer,
        "slices": integer,
        "bitDepth": enum,
        "rateControlMode": enum,
        "qvbrSettings": {
          "qvbrQualityLevel": integer,
          "qvbrQualityLevelFineTune": number
        },
        "maxBitrate": integer,
        "adaptiveQuantization": enum,
        "spatialAdaptiveQuantization": enum,
        "framerateControl": enum,
        "framerateConversionAlgorithm": enum,
        "framerateNumerator": integer,
        "framerateDenominator": integer,
        "filmGrainSynthesis": enum,
        "perFrameMetrics": [
          enum
        ]
      },
      "avcIntraSettings": {
        "avcIntraClass": enum,
        "avcIntraUhdSettings": {
          "qualityTuningLevel": enum
        },
        "interlaceMode": enum,
        "scanTypeConversionMode": enum,
        "framerateDenominator": integer,
        "slowPal": enum,
        "framerateControl": enum,
        "telecine": enum,
        "framerateNumerator": integer,
        "framerateConversionAlgorithm": enum,
        "perFrameMetrics": [
          enum
        ]
      },
      "frameCaptureSettings": {
        "framerateNumerator": integer,
        "framerateDenominator": integer,
        "maxCaptures": integer,
```

```
      "quality": integer
    },
    "gifSettings": {
      "framerateControl": enum,
      "framerateConversionAlgorithm": enum,
      "framerateNumerator": integer,
      "framerateDenominator": integer
    },
    "h264Settings": {
      "interlaceMode": enum,
      "scanTypeConversionMode": enum,
      "parNumerator": integer,
      "numberReferenceFrames": integer,
      "syntax": enum,
      "softness": integer,
      "framerateDenominator": integer,
      "gopClosedCadence": integer,
      "hrdBufferInitialFillPercentage": integer,
      "gopSize": number,
      "slices": integer,
      "gopBReference": enum,
      "hrdBufferSize": integer,
      "maxBitrate": integer,
      "slowPal": enum,
      "parDenominator": integer,
      "spatialAdaptiveQuantization": enum,
      "temporalAdaptiveQuantization": enum,
      "flickerAdaptiveQuantization": enum,
      "entropyEncoding": enum,
      "bitrate": integer,
      "framerateControl": enum,
      "rateControlMode": enum,
      "qvbrSettings": {
        "qvbrQualityLevel": integer,
        "qvbrQualityLevelFineTune": number,
        "maxAverageBitrate": integer
      },
      "codecProfile": enum,
      "telecine": enum,
      "framerateNumerator": integer,
      "minIInterval": integer,
      "adaptiveQuantization": enum,
      "saliencyAwareEncoding": enum,
      "codecLevel": enum,
```

```
      "fieldEncoding": enum,
      "sceneChangeDetect": enum,
      "qualityTuningLevel": enum,
      "framerateConversionAlgorithm": enum,
      "unregisteredSeiTimecode": enum,
      "gopSizeUnits": enum,
      "parControl": enum,
      "numberBFramesBetweenReferenceFrames": integer,
      "repeatPps": enum,
      "writeMp4PackagingType": enum,
      "dynamicSubGop": enum,
      "hrdBufferFinalFillPercentage": integer,
      "bandwidthReductionFilter": {
        "strength": enum,
        "sharpening": enum
      },
      "endOfStreamMarkers": enum,
      "perFrameMetrics": [
        enum
      ]
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Response bodies

ListJobsResponse schema

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      "userMetadata": {
      },
      "role": "string",
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```
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```
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                "height": integer,
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```
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      "finishTime": "string"
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            }
          }
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      "warning": [
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        "sourceQueue": "string",
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```
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    }
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  "nextToken": "string"
}
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CreateJobResponse schema

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    "id": "string",
    "createdAt": "string",
    "jobTemplate": "string",
    "jobEngineVersionRequested": "string",
    "jobEngineVersionUsed": "string",
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    "role": "string",
    "settings": {
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        "source": enum,
        "start": "string",
        "timestampOffset": "string"
      },
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          "name": "string",
          "outputs": [
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              "containerSettings": {
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              "pcrPid": integer,
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              "patInterval": integer,
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              "ptsOffset": integer,
              "audioPtsOffsetDelta": integer,
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              "esRateInPes": enum,
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        "keyFormat": "string",
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            "keyFormatVersions": "string",
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          "type": enum
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        "minSegmentLength": integer,
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        "manifestCompression": enum,
        "clientCache": enum,
        "audioOnlyHeader": enum,
        "streamInfResolution": enum,
        "imageBasedTrickPlay": enum,
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        "imageBasedTrickPlaySettings": {
          "thumbnailHeight": integer,
          "thumbnailWidth": integer,
          "tileHeight": integer,
          "tileWidth": integer,
          "intervalCadence": enum,
          "thumbnailInterval": number
        },
        "captionSegmentLengthControl": enum
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      "dashIsoGroupSettings": {
        "audioChannelConfigSchemeIdUri": enum,
        "segmentLength": integer,
        "minFinalSegmentLength": number,
        "segmentLengthControl": enum,
        "destination": "string",
        "destinationSettings": {
          "s3Settings": {
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          "kmsKeyArn": "string",
          "kmsEncryptionContext": "string"
        },
        "accessControl": {
          "cannedAcl": enum
        },
        "storageClass": enum
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    "additionalManifests": [
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        "manifestNameModifier": "string",
        "selectedOutputs": [
          "string"
        ]
      }
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        "systemIds": [
          "string"
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        "url": "string",
        "certificateArn": "string",
        "encryptionContractConfiguration": {
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          "spekeAudioPreset": enum
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      }
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    "minBufferTime": integer,
    "fragmentLength": integer,
    "baseUrl": "string",
    "segmentControl": enum,
    "ptsOffsetHandlingForBFrames": enum,
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    "mpdProfile": enum,
    "hbbtvCompliance": enum,
    "writeSegmentTimelineInRepresentation": enum,
    "imageBasedTrickPlay": enum,
```

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              "tileHeight": integer,
              "tileWidth": integer,
              "intervalCadence": enum,
              "thumbnailInterval": number
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            "videoCompositionOffsets": enum,
            "dashManifestStyle": enum
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            "destinationSettings": {
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                  "kmsKeyArn": "string",
                  "kmsEncryptionContext": "string"
                },
                "accessControl": {
                  "cannedAcl": enum
                },
                "storageClass": enum
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            }
          },
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                  "kmsKeyArn": "string",
                  "kmsEncryptionContext": "string"
                },
                "accessControl": {
                  "cannedAcl": enum
                },
                "storageClass": enum
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            },
            "additionalManifests": [
```

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                "string"
              ]
            }
          ],
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                "string"
              ],
              "url": "string",
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                "spekeAudioPreset": enum
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          "manifestEncoding": enum,
          "audioDeduplication": enum
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        "cmafGroupSettings": {
          "targetDurationCompatibilityMode": enum,
          "writeHlsManifest": enum,
          "writeDashManifest": enum,
          "segmentLength": integer,
          "segmentLengthControl": enum,
          "minFinalSegmentLength": number,
          "destination": "string",
          "destinationSettings": {
            "s3Settings": {
              "encryption": {
                "encryptionType": enum,
                "kmsKeyArn": "string",
                "kmsEncryptionContext": "string"
              },
              "accessControl": {
                "cannedAcl": enum
              },
```

```
        "storageClass": enum
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    "additionalManifests": [
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        "manifestNameModifier": "string",
        "selectedOutputs": [
          "string"
        ]
      }
    ],
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      "initializationVectorInManifest": enum,
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          "string"
        ],
        "dashSignaledSystemIds": [
          "string"
        ],
        "url": "string",
        "certificateArn": "string",
        "encryptionContractConfiguration": {
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          "spekeAudioPreset": enum
        }
      },
      "staticKeyProvider": {
        "staticKeyValue": "string",
        "keyFormat": "string",
        "keyFormatVersions": "string",
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            "manifestCompression": enum,
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            "imageBasedTrickPlaySettings": {
              "thumbnailHeight": integer,
              "thumbnailWidth": integer,
              "tileHeight": integer,
              "tileWidth": integer,
              "intervalCadence": enum,
              "thumbnailInterval": number
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            "dashManifestStyle": enum
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          "perFrameMetrics": [
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          ]
        },
        "automatedEncodingSettings": {
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            "maxQualityLevel": number,
            "maxRenditions": integer,
            "maxAbrBitrate": integer,
            "minAbrBitrate": integer,
            "rules": [
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                "type": enum,
                "minTopRenditionSize": {
                  "width": integer,
                  "height": integer
                },
                "minBottomRenditionSize": {
                  "width": integer,
                  "height": integer
                },
                "forceIncludeRenditions": [
                  {
                    "width": integer,
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```
                    "height": integer
                  }
                ],
                "allowedRenditions": [
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                    "width": integer,
                    "height": integer,
                    "required": enum
                  }
                ]
              }
            ]
          }
        }
      ],
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        "availBlankingImage": "string"
      },
      "followSource": integer,
      "timedMetadataInsertion": {
        "id3Insertions": [
          {
            "timecode": "string",
            "id3": "string"
          }
        ]
      },
      "nielsenConfiguration": {
        "breakoutCode": integer,
        "distributorId": "string"
      },
      "motionImageInserter": {
        "insertionMode": enum,
        "input": "string",
        "offset": {
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          "imageY": integer
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          "framerateDenominator": integer
        }
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        "signalProcessingNotification": {
          "sccXml": "string"
        },
        "manifestConfirmConditionNotification": {
          "mccXml": "string"
        },
        "responseSignalPreroll": integer
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      "nielsenNonLinearWatermark": {
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        "cbetSourceId": "string",
        "activeWatermarkProcess": enum,
        "assetId": "string",
        "assetName": "string",
        "episodeId": "string",
        "ticServerUrl": "string",
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        "uniqueTicPerAudioTrack": enum,
        "adiFilename": "string",
        "sourceWatermarkStatus": enum
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        "credentialsSecretName": "string",
        "channelName": "string",
        "contentReference": "string",
        "kantarServerUrl": "string",
        "kantarLicenseId": integer,
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        "fileOffset": number,
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        "metadata4": "string",
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        "metadata7": "string",
        "metadata8": "string"
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      "extendedDataServices": {
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        "copyProtectionAction": enum
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          "outputColorSpace": enum,
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              "startTimecode": "string"
            }
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          "videoSelector": {
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            "sampleRange": enum,
            "rotate": enum,
            "pid": integer,
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            "alphaBehavior": enum,
            "colorSpaceUsage": enum,
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              "redPrimaryY": integer,
              "greenPrimaryX": integer,
              "greenPrimaryY": integer,
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            "minLuminance": integer
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        "denoiseFilter": enum,
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        "timecodeStart": "string",
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              "imageX": integer,
              "imageY": integer,
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              "layer": integer,
              "imageInserterInput": "string",
              "startTime": "string",
              "fadeOut": integer,
              "opacity": integer
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          ],
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          "width": integer,
          "x": integer,
          "y": integer
```

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        },
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          "height": integer,
          "width": integer,
          "x": integer,
          "y": integer
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        "advancedInputFilterSettings": {
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          "addTexture": enum
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        "videoOverlays": [
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              "fileInput": "string",
              "inputClippings": [
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                  "startTimecode": "string"
                }
              ],
              "timecodeSource": enum,
              "timecodeStart": "string"
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            "startTimecode": "string",
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              "y": integer,
              "width": integer,
              "height": integer,
              "unit": enum
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              "yPosition": integer,
              "width": integer,
              "height": integer,
              "unit": enum
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            "transitions": [
              {
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                  "height": integer,
                  "unit": enum
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          }
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          "channels": integer
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          "initializationVector": "string",
          "kmsKeyRegion": "string"
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        "supplementalImps": [
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          "gapHandling": enum,
          "authConnectionArn": "string"
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      "finishTime": "string"
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              "heightInPx": integer
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          }
        ]
      }
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    "currentPhase": enum,
    "retryCount": integer,
    "priority": integer,
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      "warning": [
        "string"
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    "hopDestinations": [
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        "waitMinutes": integer,
        "queue": "string",
        "priority": integer
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    ],
    "queueTransitions": [
      {
```

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        "timestamp": "string",
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        "destinationQueue": "string"
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    ],
    "clientRequestToken": "string",
    "warnings": [
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        "code": integer,
        "count": integer
      }
    ],
    "shareStatus": enum,
    "lastShareDetails": "string"
  }
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD

NORMAL

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

```
LC
HEV1
HEV2
XHE
```

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

```
AD_RECEIVER_MIX
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_5_1
```

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

```
PROGRAM
```

ANCHOR

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

CBR
VBR

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

LATM_LOAS
NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix
Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality
Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode
Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000

to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False

Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

MPEG2
MPEG4

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

LOW
MEDIUM_LOW
MEDIUM_HIGH
HIGH

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED

```
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER
```

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

```
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_3_2_LFE
```

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

```
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE
```

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use

this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

FILM_STANDARD
NONE

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer
Required: False
Minimum: 64000
Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode
Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile
Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf
Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AccelerationMode

Specify whether the service runs your job with accelerated transcoding. Choose DISABLED if you don't want accelerated transcoding. Choose ENABLED if you want your job to run with accelerated transcoding and to fail if your input files or your job settings aren't compatible with accelerated transcoding. Choose PREFERRED if you want your job to run with accelerated transcoding if the job is compatible with the feature and to run at standard speed if it's not.

```
DISABLED
```

ENABLED
PREFERRED

AccelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

mode

Specify the conditions when the service will run your job with accelerated transcoding.

Type: AccelerationMode
Required: True

AccelerationStatus

Describes whether the current job is running with accelerated transcoding. For jobs that have Acceleration (AccelerationMode) set to DISABLED, AccelerationStatus is always NOT_APPLICABLE. For jobs that have Acceleration (AccelerationMode) set to ENABLED or PREFERRED, AccelerationStatus is one of the other states. AccelerationStatus is IN_PROGRESS initially, while the service determines whether the input files and job settings are compatible with accelerated transcoding. If they are, AcclerationStatus is ACCELERATED. If your input files and job settings aren't compatible with accelerated transcoding, the service either fails your job or runs it without accelerated transcoding, depending on how you set Acceleration (AccelerationMode). When the service runs your job without accelerated transcoding, AccelerationStatus is NOT_ACCELERATED.

NOT_APPLICABLE
IN_PROGRESS
ACCELERATED
NOT_ACCELERATED

AdvancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more

complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

ENABLED
DISABLED

AdvancedInputFilterAddTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

ENABLED
DISABLED

AdvancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

sharpening

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

Type: AdvancedInputFilterSharpen
Required: False

addTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for

input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

Type: AdvancedInputFilterAddTexture
Required: False

AdvancedInputFilterSharpen

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

```
OFF
LOW
HIGH
```

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

```
NONE
AUTO
FIXED
```

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False

Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AllowedRenditionSize

Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32

Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

required

Set to ENABLED to force a rendition to be included.

Type: RequiredFlag
Required: False

AlphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

```
DISCARD
REMAP_TO_LUMA
```

AncillaryConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

```
UPCONVERT
DISABLED
```

AncillarySourceSettings

Settings for ancillary captions source.

sourceAncillaryChannelNumber

Specifies the 608 channel number in the ancillary data track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: AncillaryTerminateCaptions
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: AncillaryConvert608To708
Required: False

AncillaryTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

```
END_OF_INPUT
DISABLED
```

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

DISABLED
ENABLED

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L
R
C
LFE
LS
RS
LC
RC
CS
LSD
RSD
TCS
VHL
VHC
VHR
TBL
TBC
TBR
RSL
RSR

LW
RW
LFE2
LT
RT
HI
NAR
M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag
Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

AAC
MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
VORBIS
OPUS
PASSTHROUGH
FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/

mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec
Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings
Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings
Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDefaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

DEFAULT
NOT_DEFAULT

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings
Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings

Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl
Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer
Required: False

Minimum: 0
Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode
Required: False

AudioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are

made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

```
DISABLED
AUTO
TRACK
FRAME
FORCE
```

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

```
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

```
CORRECT_AUDIO
MEASURE_ONLY
```

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

```
LOG
DONT_LOG
```

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

```
TRUE_PEAK
NONE
```

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm

Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float

Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioSelector

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

tracks

Identify a track from the input audio to include in this selector by entering the track index number. To include several tracks in a single audio selector, specify multiple tracks as follows. Using the console, enter a comma-separated list. For example, type "1,2,3" to include tracks 1 through 3.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

defaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

Type: AudioDefaultSelection
Required: False

selectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

Type: AudioSelectorType
Required: False

pids

Selects a specific PID from within an audio source (e.g. 257 selects PID 0x101).

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

programSelection

Use this setting for input streams that contain Dolby E, to have the service extract specific program data from the track. To select multiple programs, create multiple selectors with the same Track and different Program numbers. In the console, this setting is visible when you set Selector type to Track. Choose the program number from the dropdown list. If your input file has incorrect metadata, you can choose All channels instead of a program number to have the service ignore the program IDs and include all the programs in the track.

Type: integer
Required: False
Minimum: 0
Maximum: 8

customLanguageCode

Selects a specific language code from within an audio source, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

remixSettings

Use these settings to reorder the audio channels of one input to match those of another input. This allows you to combine the two files into a single output, one after the other.

Type: RemixSettings
Required: False

hlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

Type: HlsRenditionGroupSettings
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount

to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection
Required: False

AudioSelectorGroup

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

audioSelectorNames

Name of an Audio Selector within the same input to include in the group. Audio selector names are standardized, based on their order within the input (e.g., "Audio Selector 1"). The audio selector name parameter can be repeated to add any number of audio selectors to the group.

Type: Array of type string
Required: False
MinLength: 1

AudioSelectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups.

All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

```
PID
TRACK
LANGUAGE_CODE
HLS_RENDITION_GROUP
ALL_PCM
```

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AutomatedAbrRule

Specify one or more Automated ABR rule types. Note: Force include and Allowed renditions are mutually exclusive.

type

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR,

specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

Type: RuleType
Required: False

minTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

Type: MinTopRenditionSize
Required: False

minBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

Type: MinBottomRenditionSize

Required: False

forceIncludeRenditions

When customer adds the force include renditions rule for auto ABR ladder, they are required to add at leat one rendition to forceIncludeRenditions list

Type: Array of type ForceIncludeRenditionSize
Required: False

allowedRenditions

When customer adds the allowed renditions rule for auto ABR ladder, they are required to add at leat one rendition to allowedRenditions list

Type: Array of type AllowedRenditionSize
Required: False

AutomatedAbrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

maxQualityLevel

Optional. Specify the QVBR quality level to use for all renditions in your automated ABR stack. To have MediaConvert automatically determine the quality level: Leave blank. To manually specify a quality level: Enter a value from 1 to 10. MediaConvert will use a quality level up to the value that you specify, depending on your source. For more information about QVBR quality levels, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/qvbr-guidelines.html

Type: number
Required: False
Format: float
Minimum: 1.0
Maximum: 10.0

maxRenditions

Optional. The maximum number of renditions that MediaConvert will create in your automated ABR stack. The number of renditions is determined automatically, based on analysis of each job, but will never exceed this limit. When you set this to Auto in the console, which is equivalent to excluding it from your JSON job specification, MediaConvert defaults to a limit of 15.

Type: integer
Required: False
Minimum: 3
Maximum: 15

maxAbrBitrate

Specify the maximum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 8,000,000 (8 mb/s) by default. The average bitrate of your highest-quality rendition will be equal to or below this value, depending on the quality, complexity, and resolution of your content. Note that the instantaneous maximum bitrate may vary above the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

minAbrBitrate

Specify the minimum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 600,000 (600 kb/s) by default. The average bitrate of your lowest-quality rendition will be near this value. Note that the instantaneous minimum bitrate may vary below the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

rules

Optional. Use Automated ABR rules to specify restrictions for the rendition sizes MediaConvert will create in your ABR stack. You can use these rules if your ABR workflow has specific rendition size requirements, but you still want MediaConvert to optimize for video quality and overall file size.

Type: Array of type AutomatedAbrRule
Required: False

AutomatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

abrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

Type: AutomatedAbrSettings
Required: False

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
HIGHER
MAX
```

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

```
BIT_8
BIT_10
```

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

```
DISABLED
ENABLED
```

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert

will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False
Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization
Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System

* VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

AvailBlanking

Use ad avail blanking settings to specify your output content during SCTE-35 triggered ad avails. You can blank your video or overlay it with an image. MediaConvert also removes any audio and embedded captions during the ad avail. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ad-avail-blanking.html.

availBlankingImage

Blanking image to be used. Leave empty for solid black. Only bmp and png images are supported.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG))|(https?://(.*?)\.(bmp|BMP|png|PNG)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

```
CLASS_50
CLASS_100
CLASS_200
CLASS_4K_2K
```

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert

will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings:

To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass
Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the

source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When

you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when

comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

`DISABLED`

`ENABLED`

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

`NONE`

`HARD`

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in

the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS
MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel
Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening
Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

```
LOW
MEDIUM
HIGH
OFF
```

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

```
LOW
MEDIUM
HIGH
AUTO
```

OFF

BillingTagsSource

The tag type that AWS Billing and Cost Management will use to sort your AWS Elemental MediaConvert costs on any billing report that you set up.

QUEUE
PRESET
JOB_TEMPLATE
JOB

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass

through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes

Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

CENTERED

LEFT

AUTO

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY

ALL_TEXT

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE

BLACK

WHITE

AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK

```
WHITE
YELLOW
RED
GREEN
BLUE
AUTO
```

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

```
NONE
BLACK
WHITE
AUTO
```

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

```
FIXED_GRID
PROPORTIONAL
AUTO
```

CaptionDescription

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

captionSelectorName

Specifies which "Caption Selector":#inputs-caption_selector to use from each input when generating captions. The name should be of the format "Caption Selector <N>", which denotes that the Nth Caption Selector will be used from each input.

Type: string
Required: False
MinLength: 1

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z-]+)?$`

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings
Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings
Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

```
BURN_IN
DVB_SUB
EMBEDDED
EMBEDDED_PLUS_SCTE20
IMSC
SCTE20_PLUS_EMBEDDED
SCC
SRT
SMI
TELETEXT
TTML
WEBVTT
```

CaptionSelector

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

customLanguageCode

The specific language to extract from source, using the ISO 639-2 or ISO 639-3 three-letter language code. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`

MinLength: 3

MaxLength: 3

languageCode

The specific language to extract from source. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: LanguageCode

Required: False

sourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: CaptionSourceSettings

Required: False

CaptionSourceByteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

`ENABLED`

`DISABLED`

CaptionSourceConvertPaintOnToPopOn

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

ENABLED

DISABLED

CaptionSourceFramerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate denominator.

Type: integer

Required: False

Minimum: 1

Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate numerator.

Type: integer

Required: False

Minimum: 1

Maximum: 1001

CaptionSourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

Type: CaptionSourceType
Required: False

ancillarySourceSettings

Settings for ancillary captions source.

Type: AncillarySourceSettings
Required: False

dvbSubSourceSettings

DVB Sub Source Settings

Type: DvbSubSourceSettings
Required: False

embeddedSourceSettings

Settings for embedded captions Source

Type: EmbeddedSourceSettings
Required: False

fileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: FileSourceSettings
Required: False

teletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

Type: TeletextSourceSettings
Required: False

trackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

Type: TrackSourceSettings
Required: False

webvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

Type: WebvttHlsSourceSettings
Required: False

CaptionSourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

ANCILLARY
DVB_SUB

EMBEDDED

SCTE20

SCC

TTML

STL

SRT

SMI

SMPTE_TT

TELETEXT

NULL_SOURCE

IMSC

WEBVTT

CaptionSourceUpconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

UPCONVERT

DISABLED

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

AUTO
FORCE_CENTER
FORCE_TOP_LEFT

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5
Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90

Maximum: 105

CmafAdditionalManifest

Specify the details for each pair of HLS and DASH additional manifests that you want the service to generate for this CMAF output group. Each pair of manifests can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

CmafClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

CmafCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

RFC_6381
RFC_4281

CmafEncryptionSettings

Settings for CMAF encryption

encryptionMethod

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

Type: CmafEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{32}$`
MinLength: 32
MaxLength: 32

initializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

Type: CmafInitializationVectorInManifest
Required: False

spekeKeyProvider

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

Type: SpekeKeyProviderCmaf
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: CmafKeyProviderType
Required: False

CmafEncryptionType

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

SAMPLE_AES
AES_CTR

CmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: CmafTargetDurationCompatibilityMode
Required: False

writeHlsManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

Type: CmafWriteHLSManifest
Required: False

writeDashManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

Type: CmafWriteDASHManifest
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: CmafSegmentLengthControl

Required: False

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number

Required: False

Format: float

Minimum: 0.0

Maximum: 2.147483647E9

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest and one top -level .mpd DASH manifest for each CMAF output group in your job. These default manifests reference every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here. For each additional manifest that you specify, the service creates one HLS manifest and one DASH manifest.

Type: Array of type CmafAdditionalManifest
Required: False

encryption

DRM settings.

Type: CmafEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Specify the length, in whole seconds, of the mp4 fragments. When you don't specify a value, MediaConvert defaults to 2. Related setting: Use Fragment length control to specify whether the encoder enforces this value strictly.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: CmafSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify

how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: CmafPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: CmafMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: CmafMpdProfile
Required: False

writeSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

Type: CmafWriteSegmentTimelineInRepresentation
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: CmafManifestDurationFormat
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: CmafStreamInfResolution
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: CmafClientCache
Required: False

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: CmafManifestCompression
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: CmafCodecSpecification

Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: CmafImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: CmafImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: CmafVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle
Required: False

CmafImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku

specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

CmafImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer

Required: False

Minimum: 1

Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer

Required: False

Minimum: 1

Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: CmafIntervalCadence

Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number

Required: False

Format: float

Minimum: 0.0

Maximum: 2.147483647E9

CmafInitializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

INCLUDE
EXCLUDE

CmafIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME
FOLLOW_CUSTOM

CmafKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE
STATIC_KEY

CmafManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP
NONE

CmafManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

```
FLOATING_POINT
INTEGER
```

CmafMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

```
AVERAGE
MAX
```

CmafMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

```
MAIN_PROFILE
ON_DEMAND_PROFILE
```

CmafPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

CmafSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

SINGLE_FILE

SEGMENTED_FILES

CmafSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

CmafStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE

EXCLUDE

CmafTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY

SPEC_COMPLIANT

CmafVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

CmafWriteDASHManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

DISABLED

ENABLED

CmafWriteHLSManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

DISABLED

ENABLED

CmafWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED
DISABLED

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA

entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE
EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED
DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH
NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration

Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video

rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag

Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string

Required: False

MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling

Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata

Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH

NONE

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

`VERSION_0`
`VERSION_1`

ColorConversion3DLUTSetting

Custom 3D lut settings

inputMasteringLuminance

Specify which inputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) inputs with a specific mastering luminance: Enter an integer from 0 to 2147483647, corresponding to the input's Maximum luminance value. To apply this 3D LUT to any input regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

inputColorSpace

Specify which inputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

outputMasteringLuminance

Specify which outputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) outputs with a specific luminance: Enter an integer from 0 to 2147483647, corresponding to the output's luminance. To apply this 3D LUT to any output regardless of its luminance: Leave blank, or enter 0.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

outputColorSpace

Specify which outputs use this 3D LUT, according to their color space.

Type: ColorSpace

Required: False

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your 3D LUT .cube file. Note that MediaConvert accepts 3D LUT files up to 8MB in size.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(cube|CUBE))|(https?://(.*?)\.(cube|CUBE)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer

Required: False

Minimum: 1

Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits

Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required. You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources,

regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper
Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

IGNORE
INSERT

ColorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

FOLLOW
REC_601
REC_709
HDR10
HLG_2020

P3DCI

P3D65_SDR

P3D65_HDR

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

NONE

FORCE_601

FORCE_709

FORCE_HDR10

FORCE_HLG_2020

FORCE_P3DCI

FORCE_P3D65_SDR

FORCE_P3D65_HDR

ColorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

FORCE

FALLBACK

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings
Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings

Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings
Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD
MXF
OGG
WEBM
RAW
Y4M

CopyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

CreateJobRequest

Send your create job request with your job settings and IAM role. Optionally, include user metadata and the ARN for the queue.

clientRequestToken

Prevent duplicate jobs from being created and ensure idempotency for your requests. A client request token can be any string that includes up to 64 ASCII characters. If you reuse a client request

token within one minute of a successful request, the API returns the job details of the original request instead. For more information see https://docs.aws.amazon.com/mediaconvert/latest/apireference/idempotency.html.

Type: string
Required: False

jobTemplate

Optional. When you create a job, you can either specify a job template or specify the transcoding settings individually.

Type: string
Required: False

jobEngineVersion

Use Job engine versions to run jobs for your production workflow on one version, while you test and validate the latest version. Job engine versions represent periodically grouped MediaConvert releases with new features, updates, improvements, and fixes. Job engine versions are in a YYYY-MM-DD format. Note that the Job engine version feature is not publicly available at this time. To request access, contact AWS support.

Type: string
Required: False

queue

Optional. When you create a job, you can specify a queue to send it to. If you don't specify, the job will go to the default queue. For more about queues, see the User Guide topic at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html.

Type: string
Required: False

role

Required. The IAM role you use for creating this job. For details about permissions, see the User Guide topic at the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html.

Type: string
Required: True

settings

JobSettings contains all the transcode settings for a job.

Type: JobSettings
Required: True

userMetadata

Optional. User-defined metadata that you want to associate with an MediaConvert job. You specify metadata in key/value pairs. Use only for existing integrations or workflows that rely on job metadata tags. Otherwise, we recommend that you use standard AWS tags.

Type: object
Required: False

billingTagsSource

Optionally choose a Billing tags source that AWS Billing and Cost Management will use to display tags for individual output costs on any billing report that you set up. Leave blank to use the default value, Job.

Type: BillingTagsSource
Required: False

tags

Optional. The tags that you want to add to the resource. You can tag resources with a key-value pair or with only a key. Use standard AWS tags on your job for automatic integration with AWS services and for custom integrations and workflows.

Type: object

Required: False

accelerationSettings

Optional. Accelerated transcoding can significantly speed up jobs with long, visually complex content. Outputs that use this feature incur pro-tier pricing. For information about feature limitations, see the AWS Elemental MediaConvert User Guide.

Type: AccelerationSettings

Required: False

statusUpdateInterval

Optional. Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval

Required: False

priority

Optional. Specify the relative priority for this job. In any given queue, the service begins processing the job with the highest value first. When more than one job has the same priority, the service begins processing the job that you submitted first. If you don't specify a priority, the service uses the default value 0.

Type: integer

Required: False

Format: int32

Minimum: -50

Maximum: 50

simulateReservedQueue

Optional. Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

Type: SimulateReservedQueue
Required: False

hopDestinations

Optional. Use queue hopping to avoid overly long waits in the backlog of the queue that you submit your job to. Specify an alternate queue and the maximum time that your job will wait in the initial queue before hopping. For more information about this feature, see the AWS Elemental MediaConvert User Guide.

Type: Array of type HopDestination
Required: False

CreateJobResponse

Successful create job requests will return the job JSON.

job

Each job converts an input file into an output file or files. For more information, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: Job
Required: False

DashAdditionalManifest

Specify the details for each additional DASH manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your DASH group is film-name.mpd. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.mpd.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

DashIsoEncryptionSettings

Specifies DRM settings for DASH outputs.

playbackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

Type: DashIsoPlaybackDeviceCompatibility
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

DashIsoGroupAudioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

```
MPEG_CHANNEL_CONFIGURATION
DOLBY_CHANNEL_CONFIGURATION
```

DashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

audioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

Type: DashIsoGroupAudioChannelConfigSchemeIdUri

Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 30. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the

next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: DashIsoSegmentLengthControl
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .mpd DASH manifest for each DASH ISO output group in your job. This default manifest references every output in the output group. To create additional DASH manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type DashAdditionalManifest

Required: False

encryption

DRM settings.

Type: DashIsoEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Length of fragments to generate (in seconds). Fragment length must be compatible with GOP size and Framerate. Note that fragments will end on the next keyframe after this number of seconds, so actual fragment length may be longer. When Emit Single File is checked, the fragmentation is internal to a single output file and it does not cause the creation of many output files as in other output types.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest (.mpd) file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: DashIsoSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: DashIsoPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: DashIsoMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd.

When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: DashIsoMpdProfile
Required: False

hbbtvCompliance

Supports HbbTV specification as indicated

Type: DashIsoHbbtvCompliance
Required: False

writeSegmentTimelineInRepresentation

If you get an HTTP error in the 400 range when you play back your DASH output, enable this setting and run your transcoding job again. When you enable this setting, the service writes precise segment durations in the DASH manifest. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When you don't enable this setting, the service writes approximate segment durations in your DASH manifest.

Type: DashIsoWriteSegmentTimelineInRepresentation
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: DashIsoImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: DashIsoImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: DashIsoVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle
Required: False

DashIsoHbbtvCompliance

Supports HbbTV specification as indicated

```
HBBTV_1_5
NONE
```

DashIsoImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

```
NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED
```

DashIsoImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: DashIsoIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

DashIsoIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

```
FOLLOW_IFRAME
FOLLOW_CUSTOM
```

DashIsoMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max

bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

```
AVERAGE
MAX
```

DashIsoMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

```
MAIN_PROFILE
ON_DEMAND_PROFILE
```

DashIsoPlaybackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

```
CENC_V1
UNENCRYPTED_SEI
```

DashIsoPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

DashIsoSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
SEGMENTED_FILES
```

DashIsoSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

```
EXACT
GOP_MULTIPLE
MATCH
```

DashIsoVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment

using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED
UNSIGNED

DashIsoWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED
DISABLED

DashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

BASIC
COMPACT
DISTINCT

DecryptionMode

Specify the encryption mode that you used to encrypt your input files.

AES_CTR
AES_CBC

AES_GCM

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

INTERPOLATE
INTERPOLATE_TICKER
BLEND
BLEND_TICKER
LINEAR_INTERPOLATION

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm
Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode

Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

```
FORCE_ALL_FRAMES
NORMAL
```

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

```
DEINTERLACE
INVERSE_TELECINE
ADAPTIVE
```

DestinationSettings

Settings associated with the destination. Will vary based on the type of destination

s3Settings

Settings associated with S3 destination

Type: S3DestinationSettings
Required: False

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode
Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata

Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

```
PASSTHROUGH
RECALCULATE
SPECIFY
```

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

```
HDR10_NOMAP
HDR10_1000
```

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

```
PROFILE_5
PROFILE_8_1
```

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

DISABLED

ENABLED

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer
Required: False
Minimum: 0
Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string

Required: False

MinLength: 1

MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: -2147483648

Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese

(HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of

1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is

set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType
Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling
Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False

Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSourceSettings

DVB Sub Source Settings

pid

When using DVB-Sub with Burn-in, use this PID for the source content. Unused for DVB-Sub passthrough. All DVB-Sub content is passed through, regardless of selectors.

Type: integer

Required: False
Minimum: 1
Maximum: 2147483647

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

```
BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF
```

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

```
CENTERED
LEFT
AUTO
```

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input

captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

NONE
BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more

accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID
PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED
STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or

less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

```
NONE
SPECIFIED
NO_DISPLAY_WINDOW
SPECIFIED_OPTIMAL
```

DynamicAudioSelector

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an audio track within that output for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

selectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

Type: DynamicAudioSelectorType
Required: False

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection

Required: False

DynamicAudioSelectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

ALL_TRACKS
LANGUAGE_CODE

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

```
SPECIFIED
INITIALIZE_FROM_SOURCE
```

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

```
NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
```

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range

Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer
Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False

Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine
Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl
Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl
Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

```
NOT_INDICATED
STEREO
SURROUND
DPL2
```

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

```
NOT_INDICATED
ENABLED
DISABLED
```

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

```
ATTENUATE_3_DB
NONE
```

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

```
COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED
```

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and

profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

LFE
NO_LFE

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and

non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

WHEN_POSSIBLE
NO_PASSTHROUGH

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you

choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

NOT_INDICATED
LO_RO
LT_RT
DPL2

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

EmbeddedSourceSettings

Settings for embedded captions Source

source608ChannelNumber

Specifies the 608/708 channel number within the video track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

source608TrackNumber

Specifies the video track index used for extracting captions. The system only supports one input video track, so this should always be set to '1'.

Type: integer
Required: False
Minimum: 1
Maximum: 1

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: EmbeddedConvert608To708
Required: False

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: EmbeddedTerminateCaptions
Required: False

EmbeddedTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

```
END_OF_INPUT
DISABLED
```

EmbeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

```
NONE
USE_MDPM
```

EncryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

spekeVideoPreset

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

Type: PresetSpeke20Video
Required: False

spekeAudioPreset

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

Type: PresetSpeke20Audio
Required: False

EsamManifestConfirmConditionNotification

ESAM ManifestConfirmConditionNotification defined by OC-SP-ESAM-API-I03-131025.

mccXml

Provide your ESAM ManifestConfirmConditionNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the Manifest Conditioning instructions in the message that you supply.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*ManifestConfirmConditionNotification(.|\n)*>\s*$`

EsamSettings

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

signalProcessingNotification

Specifies an ESAM SignalProcessingNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the signal processing instructions that you provide in the setting SCC XML.

Type: EsamSignalProcessingNotification

Required: False

manifestConfirmConditionNotification

Specifies an ESAM ManifestConfirmConditionNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the manifest conditioning instructions that you provide in the setting MCC XML.

Type: EsamManifestConfirmConditionNotification
Required: False

responseSignalPreroll

Specifies the stream distance, in milliseconds, between the SCTE 35 messages that the transcoder places and the splice points that they refer to. If the time between the start of the asset and the SCTE-35 message is less than this value, then the transcoder places the SCTE-35 marker at the beginning of the stream.

Type: integer
Required: False
Minimum: 0
Maximum: 30000

EsamSignalProcessingNotification

ESAM SignalProcessingNotification data defined by OC-SP-ESAM-API-I03-131025.

sccXml

Provide your ESAM SignalProcessingNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the signal processing instructions in the message that you supply. For your MPEG2-TS file outputs, if you want the service to place SCTE-35 markers at the insertion points you specify in the XML document, you must also enable SCTE-35 ESAM. Note that you can either specify an ESAM XML document or enable SCTE-35 passthrough. You can't do both.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*SignalProcessingNotification(.|\n)*>\s*$`

ExceptionBody

message

Type: string
Required: False

ExtendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

vchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: VchipAction
Required: False

copyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: CopyProtectionAction
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

FileSourceConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608

data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT

DISABLED

FileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceFile

External caption file used for loading captions. Accepted file extensions are 'scc', 'ttml', 'dfxp', 'stl', 'srt', 'xml', 'smi', 'webvtt', and 'vtt'.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT))|(https?://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

timeDelta

Optional. Use this setting when you need to adjust the sync between your sidecar captions and your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/time-delta-use-cases.html. Enter a positive or negative number to modify the times in the captions file. For example, type 15 to add 15 seconds to all the times in the captions file. Type -5 to subtract 5 seconds from the times in the captions file. You can optionally specify your time delta in milliseconds instead of seconds. When you do so, set the related setting, Time delta units to Milliseconds. Note that, when you specify a time delta for timecode-based caption sources, such as SCC and STL, and your time delta isn't a multiple of the input frame rate, MediaConvert snaps the captions to the nearest frame. For example, when your input video frame rate is 25 fps and you specify 1010ms for time delta, MediaConvert delays your captions by 1000 ms.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

timeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

Type: FileSourceTimeDeltaUnits
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: FileSourceConvert608To708
Required: False

framerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

Type: CaptionSourceFramerate
Required: False

convertPaintToPop

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose

Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

Type: CaptionSourceConvertPaintOnToPopOn
Required: False

byteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

Type: CaptionSourceByteRateLimit
Required: False

upconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

Type: CaptionSourceUpconvertSTLToTeletext
Required: False

FileSourceTimeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

`SECONDS`
`MILLISECONDS`

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

AUTOMATIC
HANS
HANT

ForceIncludeRenditionSize

Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

```
DUPLICATE_DROP
INTERPOLATE
```

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want

to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl
Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

`OFF`
`AUTO`
`LOW`
`MEDIUM`
`HIGH`
`HIGHER`
`MAX`

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

`AUTO`
`LEVEL_1`
`LEVEL_1_1`

LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

BASELINE
HIGH
HIGH_10BIT
HIGH_422
HIGH_422_10BIT
MAIN

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE
SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC
CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

PAFF
FORCE_FIELD
MBAFF

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you

enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER

```
MAINTAIN_FRAME_COUNT
```

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer

Required: False

Minimum: 1000

Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR

CBR

QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED

ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

DISABLED

PREFERRED

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator.

When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH,

or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization

and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting

Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization
Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000

Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To

disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer

Required: False

Minimum: 0

Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization

Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding

Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect
Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps
Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but

not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT

RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1

AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

AUTO

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

DISABLED
ENABLED

H265CodecLevel

H.265 Level.

AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1
LEVEL_6_2

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH

MAIN_422_8BIT_MAIN

MAIN_422_8BIT_HIGH

MAIN_422_10BIT_MAIN

MAIN_422_10BIT_HIGH

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

ENABLED

DISABLED

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

DISABLED

ENABLED

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow,

default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

DEFAULT
ADAPTIVE
OFF

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

```
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing,

MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low,

Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid

stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization

depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE

SOFT

HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

```
DISABLED
ENABLED
```

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

```
DISABLED
ENABLED
```

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

```
DISABLED
ENABLED
```

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer

Required: False

Minimum: 0

Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0

Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

HlsAdMarkers

Ad marker for Apple HLS manifest.

ELEMENTAL
ELEMENTAL_SCTE35

HlsAdditionalManifest

Specify the details for each additional HLS manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

HlsAudioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create a raw audio-only file with no container. Regardless of the value that you specify here, if this output has video, the service will place outputs into an MPEG2-TS container.

`AUTOMATIC`
`M2TS`

HlsAudioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

INCLUDE
EXCLUDE

HlsAudioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

HlsCaptionLanguageMapping

Caption Language Mapping

captionChannel

Caption channel.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

customLanguageCode

Specify the language for this captions channel, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string

Required: False

Pattern: `^[A-Za-z]{3}$`

MinLength: 3

MaxLength: 3

languageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

Type: LanguageCode

Required: False

languageDescription

Caption language description.

Type: string

Required: False

HlsCaptionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

`INSERT`

`OMIT`

`NONE`

HlsCaptionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

LARGE_SEGMENTS
MATCH_VIDEO

HlsClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

DISABLED
ENABLED

HlsCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

RFC_6381
RFC_4281

HlsDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

HlsDirectoryStructure

Indicates whether segments should be placed in subdirectories.

SINGLE_DIRECTORY
SUBDIRECTORY_PER_STREAM

HlsEncryptionSettings

Settings for HLS encryption

encryptionMethod

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

Type: HlsEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: ^[0-9a-fA-F]{32}$
MinLength: 32
MaxLength: 32

initializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

Type: HlsInitializationVectorInManifest
Required: False

offlineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

Type: HlsOfflineEncrypted
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: HlsKeyProviderType
Required: False

HlsEncryptionType

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

AES128

SAMPLE_AES

HlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: HlsTargetDurationCompatibilityMode
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: HlsManifestDurationFormat
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: HlsSegmentLengthControl
Required: False

timedMetadataId3Period

Specify the interval in seconds to write ID3 timestamps in your output. The first timestamp starts at the output timecode and date, and increases incrementally with each ID3 timestamp. To use the default interval of 10 seconds: Leave blank. To include this metadata in your output: Set ID3 timestamp frame type to PRIV or TDRL, and set ID3 metadata to Passthrough.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

captionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will

not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

Type: HlsCaptionLanguageSetting
Required: False

captionLanguageMappings

Language to be used on Caption outputs

Type: Array of type HlsCaptionLanguageMapping
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest for each HLS output group in your job. This default manifest references every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type HlsAdditionalManifest

Required: False

encryption

DRM settings.

Type: HlsEncryptionSettings
Required: False

timedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

Type: HlsTimedMetadataId3Frame
Required: False

baseUrl

A partial URI prefix that will be prepended to each output in the media .m3u8 file. Can be used if base manifest is delivered from a different URL than the main .m3u8 file.

Type: string
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: HlsCodecSpecification
Required: False

outputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

Type: HlsOutputSelection
Required: False

programDateTimePeriod

Period of insertion of EXT-X-PROGRAM-DATE-TIME entry, in seconds.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

segmentsPerSubdirectory

Specify the number of segments to write to a subdirectory before starting a new one. You must also set Directory structure to Subdirectory per stream for this setting to have an effect.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minSegmentLength

When set, Minimum Segment Size is enforced by looking ahead and back within the specified range for a nearby avail and extending the segment size if needed.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds

without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

directoryStructure

Indicates whether segments should be placed in subdirectories.

Type: HlsDirectoryStructure
Required: False

programDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

Type: HlsProgramDateTime
Required: False

adMarkers

Choose one or more ad marker types to decorate your Apple HLS manifest. This setting does not determine whether SCTE-35 markers appear in the outputs themselves.

Type: Array of type HlsAdMarkers
Required: False

segmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

Type: HlsSegmentControl
Required: False

timestampDeltaMilliseconds

Provides an extra millisecond delta offset to fine tune the timestamps.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: HlsManifestCompression
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: HlsClientCache
Required: False

audioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

Type: HlsAudioOnlyHeader
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: HlsStreamInfResolution
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: HlsImageBasedTrickPlay
Required: False

progressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

Type: HlsProgressiveWriteHlsManifest
Required: False

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: HlsImageBasedTrickPlaySettings
Required: False

captionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

Type: HlsCaptionSegmentLengthControl
Required: False

HlsIFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

```
INCLUDE
INCLUDE_AS_TS
EXCLUDE
```

HlsImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

HlsImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: HlsIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

HlsInitializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

INCLUDE

EXCLUDE

HlsIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME

FOLLOW_CUSTOM

HlsKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE

STATIC_KEY

HlsManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP

NONE

HlsManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT

INTEGER

HlsOfflineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

ENABLED
DISABLED

HlsOutputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

MANIFESTS_AND_SEGMENTS
SEGMENTS_ONLY

HlsProgramDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

INCLUDE
EXCLUDE

HlsProgressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

ENABLED

DISABLED

HlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

HlsSegmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

SINGLE_FILE

SEGMENTED_FILES

HlsSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

HlsSettings

Settings for HLS output groups

audioGroupId

Specifies the group to which the audio rendition belongs.

Type: string

Required: False

audioRenditionSets

List all the audio groups that are used with the video output stream. Input all the audio GROUP-IDs that are associated to the video, separate by ','.

Type: string
Required: False

audioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

Type: HlsAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: HlsDescriptiveVideoServiceFlag
Required: False

iFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as

single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

Type: HlsIFrameOnlyManifest
Required: False

segmentModifier

Use this setting to add an identifying string to the filename of each segment. The service adds this string between the name modifier and segment index number. You can use format identifiers in the string. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html

Type: string
Required: False

audioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create an audio-only file in a raw container. Regardless of the value that you specify here, if this output has video, the service will place the output into an MPEG2-TS container.

Type: HlsAudioOnlyContainer
Required: False

HlsStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE
EXCLUDE

HlsTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target

duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY
SPEC_COMPLIANT

HlsTimedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

NONE
PRIV
TDRL

HopDestination

Optional. Configuration for a destination queue to which the job can hop once a customer-defined minimum wait time has passed.

waitMinutes

Required for setting up a job to use queue hopping. Minimum wait time in minutes until the job can hop to the destination queue. Valid range is 1 to 4320 minutes, inclusive.

Type: integer
Required: False

queue

Optional unless the job is submitted on the default queue. When you set up a job to use queue hopping, you can specify a destination queue. This queue cannot be the original queue to which the job is submitted. If the original queue isn't the default queue and you don't specify the destination queue, the job will move to the default queue.

Type: string
Required: False

priority

Optional. When you set up a job to use queue hopping, you can specify a different relative priority for the job in the destination queue. If you don't specify, the relative priority will remain the same as in the previous queue.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

Id3Insertion

To insert ID3 tags in your output, specify two values. Use ID3 tag to specify the base 64 encoded string and use Timecode to specify the time when the tag should be inserted. To insert multiple ID3 tags in your output, create multiple instances of ID3 insertion.

timecode

Provide a Timecode in HH:MM:SS:FF or HH:MM:SS;FF format.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

id3

Use ID3 tag to provide a fully formed ID3 tag in base64-encode format.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the

following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

DISABLED
ENABLED

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

ENABLED
DISABLED

Input

Use inputs to define the source files used in your transcoding job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/specify-input-settings.html. You can use multiple video inputs to do input stitching. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html

inputClippings

Contains sets of start and end times that together specify a portion of the input to be used in the outputs. If you provide only a start time, the clip will be the entire input from that point to the end. If you provide only an end time, it will be the entire input up to that point. When you specify more than one input clip, the transcoding service creates the job outputs by stringing the clips together in the order you specify them.

Type: Array of type InputClipping
Required: False

audioSelectors

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

Type: object
Required: False

dynamicAudioSelectors

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in

your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an output audio track for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

Type: object
Required: False

audioSelectorGroups

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

Type: object
Required: False

programNumber

Use Program to select a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported. Default is the first program within the transport stream. If the program you specify doesn't exist, the transcoding service will use this default.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

videoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

Type: VideoSelector
Required: False

filterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

Type: InputFilterEnable
Required: False

psiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

Type: InputPsiControl
Required: False

filterStrength

Specify the strength of the input filter. To apply an automatic amount of filtering based the compression artifacts measured in your input: We recommend that you leave Filter strength blank and set Filter enable to Auto. To manually apply filtering: Enter a value from 1 to 5, where 1 is the least amount of filtering and 5 is the most. The value that you enter applies to the strength of the Deblock or Denoise filters, or to the strength of the Advanced input filter.

Type: integer
Required: False
Minimum: 0
Maximum: 5

deblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

Type: InputDeblockFilter
Required: False

denoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

Type: InputDenoiseFilter
Required: False

inputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

Type: InputScanType
Required: False

timecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the timecode that you want the service to use for this input's initial frame. To use this setting, you must set the Timecode source setting, located under the input settings, to Specified

start. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

captionSelectors

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

Type: object
Required: False

imageInserter

Enable the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input individually. This setting is disabled by default.

Type: ImageInserter
Required: False

dolbyVisionMetadataXml

Use this setting only when your video source has Dolby Vision studio mastering metadata that is carried in a separate XML file. Specify the Amazon S3 location for the metadata XML file. MediaConvert uses this file to provide global and frame-level metadata for Dolby Vision preprocessing. When you specify a file here and your input also has interleaved global and frame level metadata, MediaConvert ignores the interleaved metadata and uses only the the metadata from this external XML file. Note that your IAM service role must grant MediaConvert read permissions to this file. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html.

Type: string
Required: False

Pattern: `^((s3://(.*?)\.(xml|XML))|(https?://(.*?)\.(xml|XML)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

crop

Use Cropping selection to specify the video area that the service will include in the output video frame. If you specify a value here, it will override any value that you specify in the output setting Cropping selection.

Type: Rectangle
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black. If you specify a value here, it will override any value that you specify in the output setting Selection placement. If you specify a value here, this will override any AFD values in your input, even if you set Respond to AFD to Respond. If you specify a value here, this will ignore anything that you specify for the setting Scaling Behavior.

Type: Rectangle
Required: False

advancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

Type: AdvancedInputFilter
Required: False

advancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

Type: AdvancedInputFilterSettings
Required: False

videoOverlays

Contains an array of video overlays.

Type: Array of type VideoOverlay
Required: False

fileInput

Specify the source file for your transcoding job. You can use multiple inputs in a single job. The service concatenates these inputs, in the order that you specify them in the job, to create the outputs. For standard inputs, provide the path to your S3, HTTP, or HTTPS source file. For example, s3://amzn-s3-demo-bucket/input.mp4 for an Amazon S3 input or https://example.com/input.mp4 for an HTTPS input. For TAMS inputs, specify the HTTPS endpoint of your TAMS server. For example, https://tams-server.example.com . When you do, also specify Source ID, Timerange, GAP handling, and the Authorization connection ARN under TAMS settings. (Don't include these parameters in the Input file URL.) For IMF inputs, specify your input by providing the path to your CPL. For example, s3://amzn-s3-demo-bucket/vf/cpl.xml . If the CPL is in an incomplete IMP, make sure to use Supplemental IMPsto specify any supplemental IMPs that contain assets referenced by the CPL.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*)))|^https?://[^\/].*[^&]$`
MaxLength: 2048

videoGenerator

When you include Video generator, MediaConvert creates a video input with black frames. Use this setting if you do not have a video input or if you want to add black video frames before, or after, other inputs. You can specify Video generator, or you can specify an Input file, but you cannot

specify both. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-generator.html

Type: InputVideoGenerator
Required: False

decryptionSettings

Settings for decrypting any input files that you encrypt before you upload them to Amazon S3. MediaConvert can decrypt files only when you use AWS Key Management Service (KMS) to encrypt the data key that you use to encrypt your content.

Type: InputDecryptionSettings
Required: False

supplementalImps

Provide a list of any necessary supplemental IMPs. You need supplemental IMPs if the CPL that you're using for your input is in an incomplete IMP. Specify either the supplemental IMP directories with a trailing slash or the ASSETMAP.xml files. For example ["s3://bucket/ov/", "s3://bucket/vf2/ASSETMAP.xml"]. You don't need to specify the IMP that contains your input CPL, because the service automatically detects it.

Type: Array of type string
Required: False
Pattern: `^s3:\/\/.*\/(ASSETMAP.xml)?$`

tamsSettings

Specify a Time Addressable Media Store (TAMS) server as an input source. TAMS is an open-source API specification that provides access to time-segmented media content. Use TAMS to retrieve specific time ranges from live or archived media streams. When you specify TAMS settings, MediaConvert connects to your TAMS server, retrieves the media segments for your specified time range, and processes them as a single input. This enables workflows like extracting clips from live streams or processing specific portions of archived content. To use TAMS, you must: 1. Have access to a TAMS-compliant server 2. Specify the server URL in the Input file URL field 3. Provide the required SourceId and Timerange parameters 4. Configure authentication, if your TAMS server requires it

Type: InputTamsSettings
Required: False

InputClipping

To transcode only portions of your input, include one input clip for each part of your input that you want in your output. All input clips that you specify will be included in every output of the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html.

endTimecode

Set End timecode to the end of the portion of the input you are clipping. The frame corresponding to the End timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for timecode source under input settings. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to end six minutes into the video, use 01:06:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Set Start timecode to the beginning of the portion of the input you are clipping. The frame corresponding to the Start timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for Input timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to begin five minutes into the video, use 01:05:00:00.

Type: string
Required: False

Format: timecode

Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

InputDeblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

`ENABLED`

`DISABLED`

InputDecryptionSettings

Settings for decrypting any input files that you encrypt before you upload them to Amazon S3. MediaConvert can decrypt files only when you use AWS Key Management Service (KMS) to encrypt the data key that you use to encrypt your content.

decryptionMode

Specify the encryption mode that you used to encrypt your input files.

Type: DecryptionMode

Required: False

encryptedDecryptionKey

Warning! Don't provide your encryption key in plaintext. Your job settings could be intercepted, making your encrypted content vulnerable. Specify the encrypted version of the data key that you used to encrypt your content. The data key must be encrypted by AWS Key Management Service (KMS). The key can be 128, 192, or 256 bits.

Type: string

Required: False

Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

MinLength: 24

MaxLength: 512

initializationVector

Specify the initialization vector that you used when you encrypted your content before uploading it to Amazon S3. You can use a 16-byte initialization vector with any encryption mode. Or, you can use a 12-byte initialization vector with GCM or CTR. MediaConvert accepts only initialization vectors that are base64-encoded.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]{22}==$|^[A-Za-z0-9+\/]{16}$`
MinLength: 16
MaxLength: 24

kmsKeyRegion

Specify the AWS Region for AWS Key Management Service (KMS) that you used to encrypt your data key, if that Region is different from the one you are using for AWS Elemental MediaConvert.

Type: string
Required: False
Pattern: `^[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}$`
MinLength: 9
MaxLength: 19

InputDenoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

`ENABLED`
`DISABLED`

InputFilterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose

Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

```
AUTO
DISABLE
FORCE
```

InputPsiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

```
IGNORE_PSI
USE_PSI
```

InputRotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

```
DEGREE_0
DEGREES_90
DEGREES_180
DEGREES_270
AUTO
```

InputSampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample

range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

FOLLOW
FULL_RANGE
LIMITED_RANGE

InputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

AUTO
PSF

InputTamsSettings

Specify a Time Addressable Media Store (TAMS) server as an input source. TAMS is an open-source API specification that provides access to time-segmented media content. Use TAMS to retrieve specific time ranges from live or archived media streams. When you specify TAMS settings, MediaConvert connects to your TAMS server, retrieves the media segments for your specified time range, and processes them as a single input. This enables workflows like extracting clips from live streams or processing specific portions of archived content. To use TAMS, you must: 1. Have access to a TAMS-compliant server 2. Specify the server URL in the Input file URL field 3. Provide the required SourceId and Timerange parameters 4. Configure authentication, if your TAMS server requires it

sourceId

Specify the unique identifier for the media source in your TAMS server. MediaConvert uses this source ID to locate the appropriate flows containing the media segments you want to process.

The source ID corresponds to a specific media source registered in your TAMS server. This source must be of type urn:x-nmos:format:multi, and can can reference multiple flows for audio, video, or combined audio/video content. MediaConvert automatically selects the highest quality flows available for your job. This setting is required when you include TAMS settings in your job.

Type: string
Required: False

timerange

Specify the time range of media segments to retrieve from your TAMS server. MediaConvert fetches only the segments that fall within this range. Use the format specified by your TAMS server implementation. This must be two timestamp values with the format {sign?}{seconds}:{nanoseconds}, separated by an underscore, surrounded by either parentheses or square brackets. Example: [15:0_35:0) This setting is required when you include TAMS settings in your job.

Type: string
Required: False
Pattern: `^(\[|\()(-?(0|[1-9][0-9]*):(0|[1-9][0-9]{0,8}))_(-?(0|[1-9][0-9]*):(0|[1-9][0-9]{0,8}))(\]|\))$`

gapHandling

Specify how MediaConvert handles gaps between media segments in your TAMS source. Gaps can occur in live streams due to network issues or other interruptions. Choose from the following options: * Skip gaps - Default. Skip over gaps and join segments together. This creates a continuous output with no blank frames, but may cause timeline discontinuities. * Fill with black - Insert black frames to fill gaps between segments. This maintains timeline continuity but adds black frames where content is missing. * Hold last frame - Repeat the last frame before a gap until the next segment begins. This maintains visual continuity during gaps.

Type: TamsGapHandling
Required: False

authConnectionArn

Specify the ARN (Amazon Resource Name) of an EventBridge Connection to authenticate with your TAMS server. The EventBridge Connection stores your authentication credentials

securely. MediaConvert assumes your job's IAM role to access this connection, so ensure the role has the events:RetrieveConnectionCredentials, secretsmanager:DescribeSecret, and secretsmanager:GetSecretValue permissions. Format: arn:aws:events:region:account-id:connection/connection-name/unique-id This setting is required when you include TAMS settings in your job.

Type: string

Required: False

Pattern: `^arn:aws[a-z0-9-]*:events:[a-z0-9-]+:[0-9]{12}:connection/[a-zA-Z0-9-]+/[a-f0-9-]{36}$`

InputTimecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

`EMBEDDED`

`ZEROBASED`

`SPECIFIEDSTART`

InputVideoGenerator

When you include Video generator, MediaConvert creates a video input with black frames. Use this setting if you do not have a video input or if you want to add black video frames before, or after, other inputs. You can specify Video generator, or you can specify an Input file, but you cannot specify both. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-generator.html

duration

Specify the duration, in milliseconds, for your video generator input. Enter an integer from 50 to 86400000.

Type: integer
Required: False
Minimum: 50
Maximum: 86400000

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for your video generator input. When you do, you must also specify a value for Frame rate denominator. MediaConvert uses a default frame rate of 29.97 when you leave Frame rate numerator and Frame rate denominator blank.

Type: integer
Required: False
Minimum: 1
Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for your video generator input. When you do, you must also specify a value for Frame rate numerator. MediaConvert uses a default frame rate of 29.97 when you leave Frame rate numerator and Frame rate denominator blank.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

sampleRate

Specify the audio sample rate, in Hz, for the silent audio in your video generator input. Enter an integer from 32000 to 48000.

Type: integer
Required: False
Minimum: 32000

Maximum: 48000

channels

Specify the number of audio channels to include in your video generator input. MediaConvert creates these audio channels as silent audio within a single audio track. Enter an integer from 1 to 32.

Type: integer
Required: False
Minimum: 1
Maximum: 32

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer
Required: False
Minimum: 0
Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If

you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer
Required: False
Minimum: 0
Maximum: 100

Job

Each job converts an input file into an output file or files. For more information, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

id

A portion of the job's ARN, unique within your AWS Elemental MediaConvert resources

Type: string
Required: False

createdAt

The time, in Unix epoch format in seconds, when the job got created.

Type: string
Required: False
Format: date-time

jobTemplate

The job template that the job is created from, if it is created from a job template.

Type: string
Required: False

jobEngineVersionRequested

The Job engine version that you requested for your job. Valid versions are in a YYYY-MM-DD format.

Type: string
Required: False

jobEngineVersionUsed

The Job engine version that your job used. Job engine versions are in a YYYY-MM-DD format. When you request an expired version, the response for this property will be empty. Requests to create jobs with an expired version result in a regular job, as if no specific Job engine version was requested. When you request an invalid version, the response for this property will be empty. Requests to create jobs with an invalid version result in a 400 error message, and no job is created.

Type: string
Required: False

queue

When you create a job, you can specify a queue to send it to. If you don't specify, the job will go to the default queue. For more about queues, see the User Guide topic at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: string
Required: False

userMetadata

User-defined metadata that you want to associate with an MediaConvert job. You specify metadata in key/value pairs.

Type: object
Required: False

role

The IAM role you use for creating this job. For details about permissions, see the User Guide topic at the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: True

settings

JobSettings contains all the transcode settings for a job.

Type: JobSettings
Required: True

status

A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

Type: JobStatus
Required: False

errorCode

Error code for the job

Type: integer

Required: False
Format: int32

errorMessage

Error message of Job

Type: string
Required: False

timing

Information about when jobs are submitted, started, and finished is specified in Unix epoch format in seconds.

Type: Timing
Required: False

outputGroupDetails

List of output group details

Type: Array of type OutputGroupDetail
Required: False

billingTagsSource

The tag type that AWS Billing and Cost Management will use to sort your AWS Elemental MediaConvert costs on any billing report that you set up.

Type: BillingTagsSource
Required: False

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

Type: AccelerationSettings

Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval
Required: False

jobPercentComplete

An estimate of how far your job has progressed. This estimate is shown as a percentage of the total time from when your job leaves its queue to when your output files appear in your output Amazon S3 bucket. AWS Elemental MediaConvert provides jobPercentComplete in CloudWatch STATUS_UPDATE events and in the response to GetJob and ListJobs requests. The jobPercentComplete estimate is reliable for the following input containers: Quicktime, Transport Stream, MP4, and MXF. For some jobs, the service can't provide information about job progress. In those cases, jobPercentComplete returns a null value.

Type: integer
Required: False

currentPhase

A job's phase can be PROBING, TRANSCODING OR UPLOADING

Type: JobPhase
Required: False

retryCount

The number of times that the service automatically attempted to process your job after encountering an error.

Type: integer

Required: False

priority

Relative priority on the job.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

simulateReservedQueue

Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

Type: SimulateReservedQueue
Required: False

accelerationStatus

Describes whether the current job is running with accelerated transcoding. For jobs that have Acceleration (AccelerationMode) set to DISABLED, AccelerationStatus is always NOT_APPLICABLE. For jobs that have Acceleration (AccelerationMode) set to ENABLED or PREFERRED, AccelerationStatus is one of the other states. AccelerationStatus is IN_PROGRESS initially, while the service determines whether the input files and job settings are compatible with accelerated transcoding. If they are, AcclerationStatus is ACCELERATED. If your input files and job settings aren't compatible with accelerated transcoding, the service either fails your job or runs it without accelerated transcoding, depending on how you set Acceleration (AccelerationMode). When the service runs your job without accelerated transcoding, AccelerationStatus is NOT_ACCELERATED.

Type: AccelerationStatus
Required: False

messages

Provides messages from the service about jobs that you have already successfully submitted.

Type: JobMessages
Required: False

hopDestinations

Optional list of hop destinations.

Type: Array of type HopDestination
Required: False

queueTransitions

The job's queue hopping history.

Type: Array of type QueueTransition
Required: False

clientRequestToken

Prevent duplicate jobs from being created and ensure idempotency for your requests. A client request token can be any string that includes up to 64 ASCII characters. If you reuse a client request token within one minute of a successful request, the API returns the job details of the original request instead. For more information see https://docs.aws.amazon.com/mediaconvert/latest/apireference/idempotency.html.

Type: string
Required: False

warnings

Contains any warning messages for the job. Use to help identify potential issues with your input, output, or job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/warning_codes.html

Type: Array of type WarningGroup

Required: False

shareStatus

A job's share status can be NOT_SHARED, INITIATED, or SHARED

Type: string
Required: False
Values: `NOT_SHARED | INITIATED | SHARED`

lastShareDetails

Contains information about the most recent share attempt for the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/creating-resource-share.html

Type: string
Required: False

JobMessages

Provides messages from the service about jobs that you have already successfully submitted.

info

List of messages that are informational only and don't indicate a problem with your job.

Type: Array of type string
Required: False

warning

List of messages that warn about conditions that might cause your job not to run or to fail.

Type: Array of type string
Required: False

JobPhase

A job's phase can be PROBING, TRANSCODING OR UPLOADING

PROBING

TRANSCODING

UPLOADING

JobSettings

JobSettings contains all the transcode settings for a job.

timecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

Type: TimecodeConfig
Required: False

outputGroups

Contains one group of settings for each set of outputs that share a common package type. All unpackaged files (MPEG-4, MPEG-2 TS, Quicktime, MXF, and no container) are grouped in a single output group as well. Required in is a group of settings that apply to the whole group. This required object depends on the value you set for Type. Type, settings object pairs are as follows. * FILE_GROUP_SETTINGS, FileGroupSettings * HLS_GROUP_SETTINGS, HlsGroupSettings * DASH_ISO_GROUP_SETTINGS, DashIsoGroupSettings * MS_SMOOTH_GROUP_SETTINGS, MsSmoothGroupSettings * CMAF_GROUP_SETTINGS, CmafGroupSettings

Type: Array of type OutputGroup
Required: False

adAvailOffset

When specified, this offset (in milliseconds) is added to the input Ad Avail PTS time.

Type: integer
Required: False
Minimum: -1000
Maximum: 1000

availBlanking

Settings for ad avail blanking. Video can be blanked or overlaid with an image, and audio muted during SCTE-35 triggered ad avails.

Type: AvailBlanking
Required: False

followSource

Specify the input that MediaConvert references for your default output settings. MediaConvert uses this input's Resolution, Frame rate, and Pixel aspect ratio for all outputs that you don't manually specify different output settings for. Enabling this setting will disable "Follow source" for all other inputs. If MediaConvert cannot follow your source, for example if you specify an audio-only input, MediaConvert uses the first followable input instead. In your JSON job specification, enter an integer from 1 to 150 corresponding to the order of your inputs.

Type: integer
Required: False
Minimum: 1
Maximum: 150

timedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

Type: TimedMetadataInsertion
Required: False

nielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

Type: NielsenConfiguration
Required: False

motionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

Type: MotionImageInserter
Required: False

esam

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

Type: EsamSettings
Required: False

nielsenNonLinearWatermark

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

Type: NielsenNonLinearWatermarkSettings
Required: False

kantarWatermark

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

Type: KantarWatermarkSettings

Required: False

extendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

Type: ExtendedDataServices
Required: False

colorConversion3DLUTSettings

Use 3D LUTs to specify custom color mapping behavior when you convert from one color space into another. You can include up to 8 different 3D LUTs. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/3d-luts.html

Type: Array of type ColorConversion3DLUTSetting
Required: False

inputs

Use Inputs to define source file used in the transcode job. There can be multiple inputs add in a job. These inputs will be concantenated together to create the output.

Type: Array of type Input
Required: False

JobStatus

A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

```
SUBMITTED
PROGRESSING
COMPLETE
CANCELED
ERROR
```

KantarWatermarkSettings

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

credentialsSecretName

Provide the name of the AWS Secrets Manager secret where your Kantar credentials are stored. Note that your MediaConvert service role must provide access to this secret. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/granting-permissions-for-mediaconvert-to-access-secrets-manager-secret.html. For instructions on creating a secret, see https://docs.aws.amazon.com/secretsmanager/latest/userguide/tutorials_basic.html, in the AWS Secrets Manager User Guide.

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

channelName

Provide an audio channel name from your Kantar audio license.

Type: string
Required: False
MinLength: 1
MaxLength: 20

contentReference

Specify a unique identifier for Kantar to use for this piece of content.

Type: string
Required: False

Pattern: ^[a-zA-Z0-9_\/_+=.@-]*$
MinLength: 1
MaxLength: 50

kantarServerUrl

Provide the HTTPS endpoint to the Kantar server. You should get this endpoint from Kantar.

Type: string
Required: False
Format: uri
Pattern: ^https:\/\/.*.kantarmedia.*$

kantarLicenseId

Provide your Kantar license ID number. You should get this number from Kantar.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

logDestination

Optional. Specify the Amazon S3 bucket where you want MediaConvert to store your Kantar watermark XML logs. When you don't specify a bucket, MediaConvert doesn't save these logs. Note that your MediaConvert service role must provide access to this location. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: False
Format: uri
Pattern: ^s3:\/\/

fileOffset

Optional. Specify an offset, in whole seconds, from the start of your output and the beginning of the watermarking. When you don't specify an offset, Kantar defaults to zero.

Type: number
Required: False
Format: float
Minimum: 0.0

metadata3

You can optionally use this field to specify the first timestamp that Kantar embeds during watermarking. Kantar suggests that you be very cautious when using this Kantar feature, and that you use it only on channels that are managed specifically for use with this feature by your Audience Measurement Operator. For more information about this feature, contact Kantar technical support.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata4

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata5

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata6

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata7

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata8

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG
SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN

RUS
POR
ITA
URD
VIE
KOR
PAN
ABK
AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA
AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS
BOS
BRE
BUL
MYA
CAT
KHM
CHA
CHE

NYA
CHU
CHV
COR
COS
CRE
HRV
CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE
FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN
GUJ
HAT
HAU
HEB
HER
HMO
HUN
ISL

IDO
IBO
IND
INA
ILE
IKU
IPK
GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK
KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB
LTZ
MKD
MLG
MSA
MAL
MLT
GLV
MRI

MAR
MAH
MON
NAU
NAV
NDE
NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI
OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO
SAG
SAN
SRD
SRB
SNA
III
SND
SIN

SLK
SLV
SOM
SOT
SUN
SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT
TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN
VOL
WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA

ZUL
ORJ
QPC
TNG
SRP

ListJobsRequest

You can send list jobs requests with an empty body. Optionally, you can filter the response by queue and/or job status by specifying them in your request body. You can also optionally specify the maximum number, up to twenty, of jobs to be returned.

queue

Optional. Provide a queue name to get back only jobs from that queue.

Type: string
Required: False

status

Optional. A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

Type: JobStatus
Required: False

order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

Type: Order
Required: False

nextToken

Optional. Use this string, provided with the response to a previous request, to request the next batch of jobs.

Type: string
Required: False

maxResults

Optional. Number of jobs, up to twenty, that will be returned at one time.

Type: integer
Required: False
Format: int32
Minimum: 1
Maximum: 20

ListJobsResponse

Successful list jobs requests return a JSON array of jobs. If you don't specify how they are ordered, you will receive the most recently created first.

jobs

List of jobs

Type: Array of type Job
Required: False

nextToken

Use this string to request the next batch of jobs.

Type: string
Required: False

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

```
MULTIPLEX
NONE
```

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than

the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR

CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH

NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

```
NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY
```

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

```
MAINTAIN_CADENCE
RESET_CADENCE
```

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel

Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings

Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False

Minimum: 32

Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False

Minimum: 0

Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False

Minimum: 0

Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer

Required: False

Minimum: 32

Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl
Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers
Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval
Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number

Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that

you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

PASSTHROUGH
NONE

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MinBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MinTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MotionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

insertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

Type: MotionImageInsertionMode
Required: False

input

Specify the .mov file or series of .png files that you want to overlay on your video. For .png files, provide the file name of the first file in the series. Make sure that the names of the .png files end with sequential numbers that specify the order that they are played in. For example, overlay_000.png, overlay_001.png, overlay_002.png, and so on. The sequence must start at zero, and each image file name must have the same number of digits. Pad your initial file names with enough zeros to complete the sequence. For example, if the first image is overlay_0.png, there can be only 10 images in the sequence, with the last image being overlay_9.png. But if the first image is overlay_00.png, there can be 100 images in the sequence.

Type: string
Required: False
Pattern: `^((s3://(.*)(\.mov|[0-9]+\.png))|(https?://(.*)(\.mov|[0-9]+\.png)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

offset

Use Offset to specify the placement of your motion graphic overlay on the video frame. Specify in pixels, from the upper-left corner of the frame. If you don't specify an offset, the service scales your overlay to the full size of the frame. Otherwise, the service inserts the overlay at its native resolution and scales the size up or down with any video scaling.

Type: MotionImageInsertionOffset

Required: False

startTime

Specify when the motion overlay begins. Use timecode format (HH:MM:SS:FF or HH:MM:SS;FF). Make sure that the timecode you provide here takes into account how you have set up your timecode configuration under both job settings and input settings. The simplest way to do that is to set both to start at 0. If you need to set up your job to follow timecodes embedded in your source that don't start at zero, make sure that you specify a start time that is after the first embedded timecode. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/setting-up-timecode.html

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

playback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

Type: MotionImagePlayback
Required: False

framerate

If your motion graphic asset is a .mov file, keep this setting unspecified. If your motion graphic asset is a series of .png files, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. Make sure that the number of images in your series matches the frame rate and your intended overlay duration. For example, if you want a 30-second overlay at 30 fps, you should have 900 .png images. This overlay frame rate doesn't need to match the frame rate of the underlying video.

Type: MotionImageInsertionFramerate
Required: False

MotionImageInsertionFramerate

For motion overlays that don't have a built-in frame rate, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. The overlay frame rate doesn't need to match the frame rate of the underlying video.

framerateNumerator

The top of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 24.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483640

framerateDenominator

The bottom of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 1.

Type: integer
Required: False
Minimum: 1
Maximum: 17895697

MotionImageInsertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

MOV
PNG

MotionImageInsertionOffset

Specify the offset between the upper-left corner of the video frame and the top left corner of the overlay.

imageX

Set the distance, in pixels, between the overlay and the left edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Set the distance, in pixels, between the overlay and the top edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

MotionImagePlayback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

ONCE
REPEAT

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE
EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM
MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON
NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED
EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom

Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD
NONE

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix
Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False

Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer

Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest

Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave

these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE
EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW
FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE

PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT

NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints
Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType
Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
```

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

```
AUTO
LOW
MAIN
HIGH1440
HIGH
```

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

```
MAIN
PROFILE_422
```

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

```
ADAPTIVE
STATIC
```

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

```
DEFAULT
D_10
```

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

MsSmoothAdditionalManifest

Specify the details for each additional Microsoft Smooth Streaming manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your Microsoft Smooth group is film-name.ismv. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.ismv.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

MsSmoothAudioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

`COMBINE_DUPLICATE_STREAMS`
`NONE`

MsSmoothEncryptionSettings

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

MsSmoothFragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

`EXACT`
`GOP_MULTIPLE`

MsSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .ism Microsoft Smooth Streaming manifest for each Microsoft Smooth Streaming output group in your job. This default manifest references every output in the output group. To create additional manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type MsSmoothAdditionalManifest
Required: False

fragmentLength

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

fragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: MsSmoothFragmentLengthControl
Required: False

encryption

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

Type: MsSmoothEncryptionSettings
Required: False

manifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

Type: MsSmoothManifestEncoding
Required: False

audioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

Type: MsSmoothAudioDeduplication
Required: False

MsSmoothManifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

```
UTF8
UTF16
```

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

```
NO_COPY
COPY_FROM_VIDEO
```

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

ALLOW_ANY_DURATION

DROP_FRAMES_FOR_COMPLIANCE

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode

Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is 1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NielsenActiveWatermarkProcessType

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

NAES2_AND_NW
CBET
NAES2_AND_NW_AND_CBET

NielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

breakoutCode

Nielsen has discontinued the use of breakout code functionality. If you must include this property, set the value to zero.

Type: integer
Required: False
Minimum: 0
Maximum: 0

distributorId

Use Distributor ID to specify the distributor ID that is assigned to your organization by Nielsen.

Type: string
Required: False

NielsenNonLinearWatermarkSettings

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

sourceId

Use the SID that Nielsen provides to you. This source ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking. This ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking.

Type: integer
Required: False
Minimum: 0
Maximum: 65534

cbetSourceId

Use the CSID that Nielsen provides to you. This CBET source ID should be unique to your Nielsen account but common to all of your output assets that have CBET watermarking. Required when you choose a value for the setting Watermark types that includes CBET.

Type: string
Required: False
Pattern: `(^0x[A-Fa-f0-9]{0,8}$|^[1-9][0-9]{0,8}$)`

activeWatermarkProcess

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a

value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

Type: NielsenActiveWatermarkProcessType
Required: False

assetId

Use the asset ID that you provide to Nielsen to uniquely identify this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 20

assetName

Use the asset name that you provide to Nielsen for this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 50

episodeId

Optional. If this asset uses an episode ID with Nielsen, provide it here.

Type: string
Required: False
MinLength: 1
MaxLength: 20

ticServerUrl

Specify the endpoint for the TIC server that you have deployed and configured in the AWS Cloud. Required for all Nielsen non-linear watermarking. MediaConvert can't connect directly to a TIC server. Instead, you must use API Gateway to provide a RESTful interface between MediaConvert and a TIC server that you deploy in your AWS account. For more information on deploying a TIC server in your AWS account and the required API Gateway, contact Nielsen support.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/`

metadataDestination

Specify the Amazon S3 location where you want MediaConvert to save your Nielsen non-linear metadata .zip file. This Amazon S3 bucket must be in the same Region as the one where you do your MediaConvert transcoding. If you want to include an ADI file in this .zip file, use the setting ADI file to specify it. MediaConvert delivers the Nielsen metadata .zip files only to your metadata destination Amazon S3 bucket. It doesn't deliver the .zip files to Nielsen. You are responsible for delivering the metadata .zip files to Nielsen.

Type: string
Required: False
Pattern: `^s3:\/\/`

uniqueTicPerAudioTrack

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

Type: NielsenUniqueTicPerAudioTrackType
Required: False

adiFilename

Optional. Use this setting when you want the service to include an ADI file in the Nielsen metadata .zip file. To provide an ADI file, store it in Amazon S3 and provide a URL to it here. The

URL should be in the following format: S3://bucket/path/ADI-file. For more information about the metadata .zip file, see the setting Metadata destination.

Type: string

Required: False

Pattern: `^s3:\/\/`

sourceWatermarkStatus

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

Type: NielsenSourceWatermarkStatusType

Required: False

NielsenSourceWatermarkStatusType

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

`CLEAN`

`WATERMARKED`

NielsenUniqueTicPerAudioTrackType

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

`RESERVE_UNIQUE_TICS_PER_TRACK`

`SAME_TICS_PER_TRACK`

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

```
DISABLED
ENABLED
AUTO
```

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
```

CONSERVE
SPATIAL
TEMPORAL

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2

Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 16000
Maximum: 48000

Order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

ASCENDING
DESCENDING

Output

Each output in your job is a collection of settings that describes how you want MediaConvert to encode a single output file or stream. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/create-outputs.html.

containerSettings

Container specific settings.

Type: ContainerSettings
Required: False

preset

Use Preset to specify a preset for your transcoding settings. Provide the system or custom preset name. You can specify either Preset or Container settings, but not both.

Type: string
Required: False
MinLength: 0

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

outputSettings

Specific settings for this type of output.

Type: OutputSettings
Required: False

extension

Use Extension to specify the file extension for outputs in File output groups. If you do not specify a value, the service will use default extensions by container type as follows * MPEG-2 transport stream, m2ts * Quicktime, mov * MXF container, mxf * MPEG-4 container, mp4 * WebM container, webm * Animated GIF container, gif * No Container, the service will use codec extensions (e.g. AAC, H265, H265, AC3)

Type: string
Required: False
MaxLength: 256

nameModifier

Use Name modifier to have the service add a string to the end of each output filename. You specify the base filename as part of your destination URI. When you create multiple outputs in the same output group, Name modifier is required. Name modifier also accepts format identifiers. For DASH ISO outputs, if you use the format identifiers $Number$ or $Time$ in one output, you must use them in the same way in all outputs of the output group.

Type: string
Required: False
MinLength: 1
MaxLength: 256

captionDescriptions

Contains groups of captions settings. For each output that has captions, include one instance of CaptionDescriptions. Can contain multiple groups of captions settings.

Type: Array of type CaptionDescription
Required: False

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer
Required: False
Minimum: -60
Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number
Required: False
Format: float
Minimum: -60.0
Maximum: 6.0

OutputDetail

Details regarding output

durationInMs

Duration in milliseconds

Type: integer
Required: False

videoDetails

Contains details about the output's video stream

Type: VideoDetail
Required: False

OutputGroup

Group of outputs

customName

Use Custom Group Name to specify a name for the output group. This value is displayed on the console and can make your job settings JSON more human-readable. It does not affect your outputs. Use up to twelve characters that are either letters, numbers, spaces, or underscores.

Type: string
Required: False

name

Name of the output group

Type: string
Required: False
MaxLength: 2048

outputs

This object holds groups of encoding settings, one group of settings per output.

Type: Array of type Output
Required: False

outputGroupSettings

Output Group settings, including type

Type: OutputGroupSettings
Required: False

automatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

Type: AutomatedEncodingSettings
Required: False

OutputGroupDetail

Contains details about the output groups specified in the job settings.

outputDetails

Details about the output

Type: Array of type OutputDetail
Required: False

OutputGroupSettings

Output Group settings, including type

type

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

Type: OutputGroupType
Required: False

hlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: HlsGroupSettings
Required: False

dashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: DashIsoGroupSettings
Required: False

fileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

Type: FileGroupSettings
Required: False

msSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: MsSmoothGroupSettings
Required: False

cmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: CmafGroupSettings
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file

to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

OutputGroupType

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

```
HLS_GROUP_SETTINGS
DASH_ISO_GROUP_SETTINGS
FILE_GROUP_SETTINGS
MS_SMOOTH_GROUP_SETTINGS
CMAF_GROUP_SETTINGS
```

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

```
SDT_FOLLOW
SDT_FOLLOW_IF_PRESENT
SDT_MANUAL
SDT_NONE
```

OutputSettings

Specific settings for this type of output.

hlsSettings

Settings for HLS output groups

Type: HlsSettings
Required: False

PadVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

DISABLED
BLACK

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings
Required: False

PresetSpeke20Audio

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

```
PRESET_AUDIO_1
PRESET_AUDIO_2
PRESET_AUDIO_3
SHARED
UNENCRYPTED
```

PresetSpeke20Video

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

```
PRESET_VIDEO_1
PRESET_VIDEO_2
PRESET_VIDEO_3
PRESET_VIDEO_4
PRESET_VIDEO_5
PRESET_VIDEO_6
PRESET_VIDEO_7
PRESET_VIDEO_8
```

SHARED
UNENCRYPTED

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

PRESERVE_444_SAMPLING
SUBSAMPLE_TO_422

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

APPLE_PRORES_422
APPLE_PRORES_422_HQ
APPLE_PRORES_422_LT
APPLE_PRORES_422_PROXY
APPLE_PRORES_4444
APPLE_PRORES_4444_XQ

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

```
SPECIFIED
```

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
```

```
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field

first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1

Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is

different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine
Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve

4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

QueueTransition

Description of the source and destination queues between which the job has moved, along with the timestamp of the move

timestamp

The time, in Unix epoch format, that the job moved from the source queue to the destination queue.

Type: string
Required: False
Format: date-time

sourceQueue

The queue that the job was on before the transition.

Type: string
Required: False

destinationQueue

The queue that the job was on after the transition.

Type: string

Required: False

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping

Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer

Required: False

Minimum: 1

Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False

Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

DISABLED
ENABLED

RequiredFlag

Set to ENABLED to force a rendition to be included.

ENABLED
DISABLED

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE
RESPOND
PASSTHROUGH

RuleType

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter.

For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

```
MIN_TOP_RENDITION_SIZE
MIN_BOTTOM_RENDITION_SIZE
FORCE_INCLUDE_RENDITIONS
ALLOWED_RENDITIONS
```

S3DestinationAccessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

cannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

Type: S3ObjectCannedAcl
Required: False

S3DestinationSettings

Settings associated with S3 destination

encryption

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

Type: S3EncryptionSettings
Required: False

accessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

Type: S3DestinationAccessControl
Required: False

storageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

Type: S3StorageClass
Required: False

S3EncryptionSettings

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

encryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the

encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

Type: S3ServerSideEncryptionType

Required: False

kmsKeyArn

Optionally, specify the customer master key (CMK) that you want to use to encrypt the data key that AWS uses to encrypt your output content. Enter the Amazon Resource Name (ARN) of the CMK. To use this setting, you must also set Server-side encryption to AWS KMS. If you set Server-side encryption to AWS KMS but don't specify a CMK here, AWS uses the AWS managed CMK associated with Amazon S3.

Type: string

Required: False

Pattern: `^arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32})$`

kmsEncryptionContext

Optionally, specify the encryption context that you want to use alongside your KMS key. AWS KMS uses this encryption context as additional authenticated data (AAD) to support authenticated encryption. This value must be a base64-encoded UTF-8 string holding JSON which represents a string-string map. To use this setting, you must also set Server-side encryption to AWS KMS. For more information about encryption context, see: https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#encrypt_context.

Type: string

Required: False

Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

S3ObjectCannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

PUBLIC_READ
AUTHENTICATED_READ
BUCKET_OWNER_READ
BUCKET_OWNER_FULL_CONTROL

S3ServerSideEncryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

SERVER_SIDE_ENCRYPTION_S3
SERVER_SIDE_ENCRYPTION_KMS

S3StorageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

STANDARD
REDUCED_REDUNDANCY
STANDARD_IA
ONEZONE_IA
INTELLIGENT_TIERING
GLACIER
DEEP_ARCHIVE

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

```
LIMITED_RANGE_SQUEEZE
NONE
LIMITED_RANGE_CLIP
```

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

```
DEFAULT
STRETCH_TO_OUTPUT
FIT
FIT_NO_UPSCALE
FILL
```

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

```
FRAMERATE_23_97
```

FRAMERATE_24
FRAMERATE_25
FRAMERATE_29_97_DROPFRAME
FRAMERATE_29_97_NON_DROPFRAME

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate
Required: False

SimulateReservedQueue

Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

DISABLED
ENABLED

SpekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False

systemIds

Relates to SPEKE implementation. DRM system identifiers. DASH output groups support a max of two system ids. HLS output groups support a max of 3 system ids. Other group types support one system id. See https://dashif.org/identifiers/content_protection/ for more details.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SpekeKeyProviderCmaf

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False
Pattern: `^[\w-]+$`

hlsSignaledSystemIds

Specify up to 3 DRM system IDs that you want signaled in the HLS manifest that MediaConvert creates as part of this CMAF package. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

dashSignaledSystemIds

Specify the DRM system IDs that you want signaled in the DASH manifest that MediaConvert creates as part of this CMAF package. The DASH manifest can currently signal up to three system IDs. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/

speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

```
ENABLED
DISABLED
```

StaticKeyProvider

Use these settings to set up encryption with a static key provider.

staticKeyValue

Relates to DRM implementation. Use a 32-character hexidecimal string to specify Key Value.

Type: string
Required: False
Pattern: `^[A-Za-z0-9]{32}$`

keyFormat

Relates to DRM implementation. Sets the value of the KEYFORMAT attribute. Must be 'identity' or a reverse DNS string. May be omitted to indicate an implicit value of 'identity'.

Type: string
Required: False
Pattern: `^(identity|[A-Za-z]{2,6}(\.[A-Za-z0-9-]{1,63})+)$`

keyFormatVersions

Relates to DRM implementation. Either a single positive integer version value or a slash delimited list of version values (1/2/3).

Type: string
Required: False
Pattern: `^(\d+(\/\d+)*)$`

url

Relates to DRM implementation. The location of the license server used for protecting content.

Type: string
Required: False
Format: uri

StatusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

`SECONDS_10`

SECONDS_12
SECONDS_15
SECONDS_20
SECONDS_30
SECONDS_60
SECONDS_120
SECONDS_180
SECONDS_240
SECONDS_300
SECONDS_360
SECONDS_420
SECONDS_480
SECONDS_540
SECONDS_600

TamsGapHandling

Specify how MediaConvert handles gaps between media segments in your TAMS source. Gaps can occur in live streams due to network issues or other interruptions. Choose from the following options: * Skip gaps - Default. Skip over gaps and join segments together. This creates a continuous output with no blank frames, but may cause timeline discontinuities. * Fill with black - Insert black frames to fill gaps between segments. This maintains timeline continuity but adds black frames where content is missing. * Hold last frame - Repeat the last frame before a gap until the next segment begins. This maintains visual continuity during gaps.

SKIP_GAPS
FILL_WITH_BLACK
HOLD_LAST_FRAME

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

`PAGE_TYPE_INITIAL`
`PAGE_TYPE_SUBTITLE`
`PAGE_TYPE_ADDL_INFO`
`PAGE_TYPE_PROGRAM_SCHEDULE`
`PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE`

TeletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

pageNumber

Use Page Number to specify the three-digit hexadecimal page number that will be used for Teletext captions. Do not use this setting if you are passing through teletext from the input source to output.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: `^[ -~]+$`

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

`TOP_CENTER`
`TOP_LEFT`
`TOP_RIGHT`
`MIDDLE_LEFT`
`MIDDLE_CENTER`
`MIDDLE_RIGHT`
`BOTTOM_LEFT`
`BOTTOM_CENTER`
`BOTTOM_RIGHT`

TimecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

anchor

If you use an editing platform that relies on an anchor timecode, use Anchor Timecode to specify a timecode that will match the input video frame to the output video frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF). This setting ignores frame rate conversion. System behavior for Anchor Timecode varies depending on your setting for Source. * If Source is set to Specified Start, the first input frame is the specified value in Start Timecode. Anchor Timecode and Start Timecode are used calculate output timecode. * If Source is set to Start at 0 the first frame is 00:00:00:00. * If Source is set to Embedded, the first frame is the timecode value on the first input frame of the input.

Type: string
Required: False

Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

source

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

Type: TimecodeSource
Required: False

start

Only use when you set Source to Specified start. Use Start timecode to specify the timecode for the initial frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF).

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

timestampOffset

Only applies to outputs that support program-date-time stamp. Use Timestamp offset to overwrite the timecode date without affecting the time and frame number. Provide the new date as a string in the format "yyyy-mm-dd". To use Timestamp offset, you must also enable Insert program-date-time in the output settings. For example, if the date part of your timecodes is 2002-1-25 and you want to change it to one year later, set Timestamp offset to 2003-1-25.

Type: string
Required: False
Pattern: `^([0-9]{4})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])$`

TimecodeSource

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

```
EMBEDDED
ZEROBASED
SPECIFIEDSTART
```

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

```
DISABLED
ENABLED
```

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

```
PASSTHROUGH
NONE
```

TimedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

id3Insertions

Id3Insertions contains the array of Id3Insertion instances.

Type: Array of type Id3Insertion
Required: False

Timing

Information about when jobs are submitted, started, and finished is specified in Unix epoch format in seconds.

submitTime

The time, in Unix epoch format, that you submitted the job.

Type: string
Required: False
Format: date-time

startTime

The time, in Unix epoch format, that transcoding for the job began.

Type: string
Required: False
Format: date-time

finishTime

The time, in Unix epoch format, that the transcoding job finished

Type: string
Required: False
Format: date-time

TrackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

trackNumber

Use this setting to select a single captions track from a source. Track numbers correspond to the order in the captions source file. For IMF sources, track numbering is based on the order that the captions appear in the CPL. For example, use 1 to select the captions asset that is listed first in the CPL. To include more than one captions track in your job outputs, create multiple input captions selectors. Specify one track per selector.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

```
AUTO
SECONDS
MILLISECONDS
```

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough

Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

ENABLED

DISABLED

UncompressedFourcc

The four character code for the uncompressed video.

I420

I422

I444

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for

optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode

Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine

Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal

Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

```
NONE
HARD
```

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

```
CLASS_145_8BIT
CLASS_220_8BIT
```

CLASS_220_10BIT

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class

Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the

same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

`DISABLED`
`ENABLED`

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264
H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3
VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer
Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle
Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

Type: VideoCodecSettings
Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode
Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input

display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata
Required: False

VideoDetail

Contains details about the output's video stream

widthInPx

Width in pixels for the output

Type: integer
Required: False

heightInPx

Height in pixels for the output

Type: integer
Required: False

VideoOverlay

Overlay one or more videos on top of your input video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-overlays.html

input

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

Type: VideoOverlayInput
Required: False

endTimecode

Enter the end timecode in the base input video for this overlay. Your overlay will be active through this frame. To display your video overlay for the duration of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS isthe second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to end ten minutes into the video, enter 01:10:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Enter the start timecode in the base input video for this overlay. Your overlay will be active starting with this frame. To display your video overlay starting at the beginning of the base input

video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to begin five minutes into the video, enter 01:05:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

crop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

Type: VideoOverlayCrop
Required: False

initialPosition

Specify the Initial position of your video overlay. To specify the Initial position of your video overlay, including distance from the left or top edge of the base input video's frame, or size: Enter a value for X position, Y position, Width, or Height. To use the full frame of the base input video: Leave blank.

Type: VideoOverlayPosition
Required: False

playback

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

Type: VideoOverlayPlayBackMode

Required: False

transitions

Specify one or more transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

Type: Array of type VideoOverlayTransition
Required: False

VideoOverlayCrop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

x

Specify the distance between the cropping rectangle and the left edge of your overlay video's frame. To position the cropping rectangle along the left edge: Keep blank, or enter 0. To position the cropping rectangle to the right, relative to the left edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the left edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 192 pixels from the left edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

Specify the distance between the cropping rectangle and the top edge of your overlay video's frame. To position the cropping rectangle along the top edge: Keep blank, or enter 0. To position

the cropping rectangle down, relative to the top edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the top edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 108 pixels from the top edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width of the video overlay cropping rectangle. To use the same width as your overlay input video: Keep blank, or enter 0. To specify a different width for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels wide. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 192 pixels wide.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the video overlay cropping rectangle. To use the same height as your overlay input video: Keep blank, or enter 0. To specify a different height for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels high. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 108 pixels high.

Type: integer
Required: False
Minimum: 0

Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayInput

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your video overlay. To specify one or more Transitions for your base input video instead: Leave blank.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

inputClippings

Specify one or more clips to use from your video overlay. When you include an input clip, you must also specify its start timecode, end timecode, or both start and end timecode.

Type: Array of type VideoOverlayInputClipping
Required: False

timecodeSource

Specify the timecode source for your video overlay input clips. To use the timecode present in your video overlay: Choose Embedded. To use a zerobased timecode: Choose Start at 0. To choose a timecode: Choose Specified start. When you do, enter the starting timecode in Start timecode. If you don't specify a value for Timecode source, MediaConvert uses Embedded by default.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the starting timecode for this video overlay. To use this setting, you must set Timecode source to Specified start.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

VideoOverlayInputClipping

To transcode only portions of your video overlay, include one input clip for each part of your video overlay that you want in your output.

endTimecode

Specify the timecode of the last frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Specify the timecode of the first frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string

Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

VideoOverlayPlayBackMode

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

`ONCE`
`REPEAT`

VideoOverlayPosition

position of video overlay

xPosition

To position the left edge of your video overlay along the left edge of the base input video's frame: Keep blank, or enter 0. To position the left edge of your video overlay to the right, relative to the left edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the left edge of the base input video's frame. When you enter 10, choose Percentage, and your base input video is 1920x1080, your video overlay will be positioned 192 pixels from the left edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

yPosition

To position the top edge of your video overlay along the top edge of the base input video's frame: Keep blank, or enter 0. To position the top edge of your video overlay down, relative to the top

edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the top edge of the base input video's frame. When you enter 10, choose Percentage, and your underlying video is 1920x1080, your video overlay will be positioned 108 pixels from the top edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

width

To scale your video overlay to the same width as the base input video: Leave blank. To scale the width of your video overlay to a different width: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 640 and choose Pixels, your video overlay will scale to a height of 640 pixels. When you enter 50, choose Percentage, and your overlay's source has a width of 1920, your video overlay will scale to a width of 960. To scale your overlay to a specific width while automatically maintaining its original aspect ratio, enter a value for Width and leave Height blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

height

To scale your video overlay to the same height as the base input video: Leave blank. To scale the height of your video overlay to a different height: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 360 and choose Pixels, your video overlay will be rendered with a height of 360. When you enter 50, choose Percentage, and your overlay's source has a height of 1080, your video overlay will be rendered with a height of 540. To scale your overlay to a specific height while automatically maintaining its original aspect ratio, enter a value for Height and leave Width blank.

Type: integer

Required: False
Minimum: -1
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayTransition

Specify one or more Transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

endTimecode

Specify the timecode for when this transition ends. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Specify the timecode for when this transition begins. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False

Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

endPosition

Specify the ending position for this transition, relative to the base input video's frame. Your video overlay will move smoothly to this position, beginning at this transition's Start timecode and ending at this transition's End timecode.

Type: VideoOverlayPosition
Required: False

VideoOverlayUnit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

`PIXELS`
`PERCENTAGE`

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector
Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking
Required: False

VideoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

colorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpace
Required: False

sampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically

detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

Type: InputSampleRange
Required: False

rotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

Type: InputRotate
Required: False

pid

Use PID to select specific video data from an input file. Specify this value as an integer; the system automatically converts it to the hexidecimal value. For example, 257 selects PID 0x101. A PID, or packet identifier, is an identifier for a set of data in an MPEG-2 transport stream container.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

programNumber

Selects a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

embeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

Type: EmbeddedTimecodeOverride
Required: False

alphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

Type: AlphaBehavior
Required: False

colorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

Type: ColorSpaceUsage
Required: False

padVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

Type: PadVideo
Required: False

selectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

Type: VideoSelectorType
Required: False

streams

Specify a stream for MediaConvert to use from your HLS input. Enter an integer corresponding to the stream order in your HLS manifest.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings to provide HDR 10 metadata that is missing or inaccurate in your input video. Appropriate values vary depending on the input video and must be provided by a color grader. The color grader generates these values during the HDR 10 mastering process. The valid range for each of these settings is 0 to 50,000. Each increment represents 0.00002 in CIE1931 color coordinate. Related settings - When you specify these values, you must also set Color space to HDR 10. To specify whether the the values you specify here take precedence over the values in the metadata of your input file, set Color space usage. To specify whether color metadata is included in an output, set Color metadata. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

VideoSelectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

AUTO
STREAM

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero.

To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

```
DISABLED
PIC_TIMING_SEI
```

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer

Required: False

Minimum: -1

Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

`SPECIFIED`

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

`DUPLICATE_DROP`

`INTERPOLATE`

`FRAMEFORMER`

`MAINTAIN_FRAME_COUNT`

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

```
MULTI_PASS
MULTI_PASS_HQ
```

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

```
VBR
```

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer

Required: False

Minimum: 0

Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

```
MULTI_PASS
```

MULTI_PASS_HQ

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WarningGroup

Contains any warning codes and their count for the job.

code

Warning code that identifies a specific warning in the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/warning_codes.html

Type: integer
Required: True
Format: int32

count

The number of times this warning occurred in the job.

Type: integer
Required: True
Format: int32

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

RIFF
RF64
EXTENSIBLE

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer

Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat
Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

```
DISABLED
ENABLED
```

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or

multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

ENABLED

DISABLED
STRICT
MERGE

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass
Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass
Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200
```

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

```
HIGH
HIGH_422
```

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to

enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

```
AUTO
CABAC
CAVLC
```

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

```
DISABLED
ENABLED
```

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose

FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

```
DISABLED
ENABLED
```

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_50
CLASS_100
CLASS_200
```

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass
Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_25
BITRATE_CLASS_35
BITRATE_CLASS_50
```

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 4
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode

Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the

encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE
HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

XAVC_HD_INTRA_CBG
XAVC_4K_INTRA_CBG
XAVC_4K_INTRA_VBR
XAVC_HD
XAVC_4K

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0

Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the

viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

```
DISABLED
ENABLED
```

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default

value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

```
DISABLED
ENABLED
```

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

```
PSNR
SSIM
MS_SSIM
PSNR_HVS
VMAF
QVBR
```

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

ListJobs

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateJob

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Jobs id

URI

`/2017-08-29/jobs/id`

HTTP methods

GET

Operation ID: `GetJob`

Retrieve the JSON for a specific transcoding job.

Path parameters

Name	Type	Required	Description
id	String	True	

Responses

Status code	Response model	Description
200	GetJobResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.

Status code	Response model	Description
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

DELETE

Operation ID: CancelJob

Permanently cancel a job. Once you have canceled a job, you can't start it again.

Path parameters

Name	Type	Required	Description
id	String	True	

Responses

Status code	Response model	Description
202	CancelJobResponse	202 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict

Status code	Response model	Description
		with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Path parameters

Name	Type	Required	Description
id	String	True	

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
```

```
  "id": "string"
}
```

DELETE schema

```
{
  "id": "string"
}
```

Response bodies

GetJobResponse schema

```
{
  "job": {
    "arn": "string",
    "id": "string",
    "createdAt": "string",
    "jobTemplate": "string",
    "jobEngineVersionRequested": "string",
    "jobEngineVersionUsed": "string",
    "queue": "string",
    "userMetadata": {
    },
    "role": "string",
    "settings": {
      "timecodeConfig": {
        "anchor": "string",
        "source": enum,
        "start": "string",
        "timestampOffset": "string"
      },
      "outputGroups": [
        {
          "customName": "string",
          "name": "string",
          "outputs": [
            {
              "containerSettings": {
                "container": enum,
                "m3u8Settings": {
                  "audioFramesPerPes": integer,
                  "pcrControl": enum,
```

```
            "dataPTSControl": enum,
            "maxPcrInterval": integer,
            "pcrPid": integer,
            "pmtPid": integer,
            "privateMetadataPid": integer,
            "programNumber": integer,
            "patInterval": integer,
            "pmtInterval": integer,
            "scte35Source": enum,
            "scte35Pid": integer,
            "nielsenId3": enum,
            "timedMetadata": enum,
            "timedMetadataPid": integer,
            "transportStreamId": integer,
            "videoPid": integer,
            "ptsOffsetMode": enum,
            "ptsOffset": integer,
            "audioPtsOffsetDelta": integer,
            "audioPids": [
              integer
            ],
            "audioDuration": enum
          },
          "f4vSettings": {
            "moovPlacement": enum
          },
          "m2tsSettings": {
            "audioBufferModel": enum,
            "minEbpInterval": integer,
            "esRateInPes": enum,
            "patInterval": integer,
            "dvbNitSettings": {
              "nitInterval": integer,
              "networkId": integer,
              "networkName": "string"
            },
            "dvbSdtSettings": {
              "outputSdt": enum,
              "sdtInterval": integer,
              "serviceName": "string",
              "serviceProviderName": "string"
            },
            "scte35Source": enum,
            "scte35Pid": integer,
```

```
      "scte35Esam": {
        "scte35EsamPid": integer
      },
      "klvMetadata": enum,
      "videoPid": integer,
      "dvbTdtSettings": {
        "tdtInterval": integer
      },
      "pmtInterval": integer,
      "segmentationStyle": enum,
      "segmentationTime": number,
      "pmtPid": integer,
      "bitrate": integer,
      "audioPids": [
        integer
      ],
      "privateMetadataPid": integer,
      "nielsenId3": enum,
      "timedMetadataPid": integer,
      "maxPcrInterval": integer,
      "transportStreamId": integer,
      "dvbSubPids": [
        integer
      ],
      "rateMode": enum,
      "audioFramesPerPes": integer,
      "pcrControl": enum,
      "dataPTSControl": enum,
      "segmentationMarkers": enum,
      "ebpAudioInterval": enum,
      "forceTsVideoEbpOrder": enum,
      "programNumber": integer,
      "pcrPid": integer,
      "bufferModel": enum,
      "dvbTeletextPid": integer,
      "fragmentTime": number,
      "ebpPlacement": enum,
      "nullPacketBitrate": number,
      "audioDuration": enum,
      "ptsOffsetMode": enum,
      "ptsOffset": integer,
      "audioPtsOffsetDelta": integer,
      "preventBufferUnderflow": enum
    },
```

```
      "movSettings": {
        "clapAtom": enum,
        "cslgAtom": enum,
        "paddingControl": enum,
        "reference": enum,
        "mpeg2FourCCControl": enum
      },
      "mp4Settings": {
        "cslgAtom": enum,
        "cttsVersion": integer,
        "freeSpaceBox": enum,
        "mp4MajorBrand": "string",
        "moovPlacement": enum,
        "audioDuration": enum,
        "c2paManifest": enum,
        "certificateSecret": "string",
        "signingKmsKey": "string"
      },
      "mpdSettings": {
        "accessibilityCaptionHints": enum,
        "captionContainerType": enum,
        "scte35Source": enum,
        "scte35Esam": enum,
        "audioDuration": enum,
        "timedMetadata": enum,
        "timedMetadataBoxVersion": enum,
        "timedMetadataSchemeIdUri": "string",
        "timedMetadataValue": "string",
        "manifestMetadataSignaling": enum,
        "klvMetadata": enum
      },
      "cmfcSettings": {
        "scte35Source": enum,
        "scte35Esam": enum,
        "audioDuration": enum,
        "iFrameOnlyManifest": enum,
        "audioGroupId": "string",
        "audioRenditionSets": "string",
        "audioTrackType": enum,
        "descriptiveVideoServiceFlag": enum,
        "timedMetadata": enum,
        "timedMetadataBoxVersion": enum,
        "timedMetadataSchemeIdUri": "string",
        "timedMetadataValue": "string",
```

```
          "manifestMetadataSignaling": enum,
          "klvMetadata": enum
        },
        "mxfSettings": {
          "afdSignaling": enum,
          "profile": enum,
          "xavcProfileSettings": {
            "durationMode": enum,
            "maxAncDataSize": integer
          }
        }
      },
      "preset": "string",
      "videoDescription": {
        "fixedAfd": integer,
        "width": integer,
        "scalingBehavior": enum,
        "crop": {
          "height": integer,
          "width": integer,
          "x": integer,
          "y": integer
        },
        "height": integer,
        "videoPreprocessors": {
          "colorCorrector": {
            "brightness": integer,
            "colorSpaceConversion": enum,
            "sampleRangeConversion": enum,
            "clipLimits": {
              "minimumYUV": integer,
              "maximumYUV": integer,
              "minimumRGBTolerance": integer,
              "maximumRGBTolerance": integer
            },
            "sdrReferenceWhiteLevel": integer,
            "contrast": integer,
            "hue": integer,
            "saturation": integer,
            "maxLuminance": integer,
            "hdr10Metadata": {
              "redPrimaryX": integer,
              "redPrimaryY": integer,
              "greenPrimaryX": integer,
```

```
            "greenPrimaryY": integer,
            "bluePrimaryX": integer,
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              "manifestNameModifier": "string",
              "selectedOutputs": [
                "string"
```

```
            ]
          }
        ],
        "fragmentLength": integer,
        "fragmentLengthControl": enum,
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            "resourceId": "string",
            "systemIds": [
              "string"
            ],
            "url": "string",
            "certificateArn": "string",
            "encryptionContractConfiguration": {
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              "spekeAudioPreset": enum
            }
          }
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        "manifestEncoding": enum,
        "audioDeduplication": enum
      },
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        "writeDashManifest": enum,
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        "segmentLengthControl": enum,
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        "destinationSettings": {
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              "kmsKeyArn": "string",
              "kmsEncryptionContext": "string"
            },
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            },
            "storageClass": enum
          }
        },
        "additionalManifests": [
```

```
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          "string"
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        "url": "string",
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          "spekeAudioPreset": enum
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            "maxAbrBitrate": integer,
            "minAbrBitrate": integer,
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                  "height": integer
                },
                "minBottomRenditionSize": {
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                  "height": integer
                },
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                    "height": integer
                  }
                ],
                "allowedRenditions": [
```

```
                {
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                  "height": integer,
                  "required": enum
                }
              ]
            }
          ]
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      }
    }
  ],
  "adAvailOffset": integer,
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  },
  "followSource": integer,
  "timedMetadataInsertion": {
    "id3Insertions": [
      {
        "timecode": "string",
        "id3": "string"
      }
    ]
  },
  "nielsenConfiguration": {
    "breakoutCode": integer,
    "distributorId": "string"
  },
  "motionImageInserter": {
    "insertionMode": enum,
    "input": "string",
    "offset": {
      "imageX": integer,
      "imageY": integer
    },
    "startTime": "string",
    "playback": enum,
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      "framerateDenominator": integer
    }
  },
  "esam": {
```

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        },
        "manifestConfirmConditionNotification": {
          "mccXml": "string"
        },
        "responseSignalPreroll": integer
      },
      "nielsenNonLinearWatermark": {
        "sourceId": integer,
        "cbetSourceId": "string",
        "activeWatermarkProcess": enum,
        "assetId": "string",
        "assetName": "string",
        "episodeId": "string",
        "ticServerUrl": "string",
        "metadataDestination": "string",
        "uniqueTicPerAudioTrack": enum,
        "adiFilename": "string",
        "sourceWatermarkStatus": enum
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      "kantarWatermark": {
        "credentialsSecretName": "string",
        "channelName": "string",
        "contentReference": "string",
        "kantarServerUrl": "string",
        "kantarLicenseId": integer,
        "logDestination": "string",
        "fileOffset": number,
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        "metadata4": "string",
        "metadata5": "string",
        "metadata6": "string",
        "metadata7": "string",
        "metadata8": "string"
      },
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        "copyProtectionAction": enum
      },
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        {
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          "inputColorSpace": enum,
```

```
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          "outputColorSpace": enum,
          "fileInput": "string"
        }
      ],
      "inputs": [
        {
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            {
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              "startTimecode": "string"
            }
          ],
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          },
          "dynamicAudioSelectors": {
          },
          "audioSelectorGroups": {
          },
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          "videoSelector": {
            "colorSpace": enum,
            "sampleRange": enum,
            "rotate": enum,
            "pid": integer,
            "programNumber": integer,
            "embeddedTimecodeOverride": enum,
            "alphaBehavior": enum,
            "colorSpaceUsage": enum,
            "padVideo": enum,
            "selectorType": enum,
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            ],
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            "hdr10Metadata": {
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              "redPrimaryY": integer,
              "greenPrimaryX": integer,
              "greenPrimaryY": integer,
              "bluePrimaryX": integer,
              "bluePrimaryY": integer,
              "whitePointX": integer,
              "whitePointY": integer,
```

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            "maxContentLightLevel": integer,
            "maxLuminance": integer,
            "minLuminance": integer
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        "filterEnable": enum,
        "psiControl": enum,
        "filterStrength": integer,
        "deblockFilter": enum,
        "denoiseFilter": enum,
        "inputScanType": enum,
        "timecodeSource": enum,
        "timecodeStart": "string",
        "captionSelectors": {
        },
        "imageInserter": {
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            {
              "width": integer,
              "height": integer,
              "imageX": integer,
              "imageY": integer,
              "duration": integer,
              "fadeIn": integer,
              "layer": integer,
              "imageInserterInput": "string",
              "startTime": "string",
              "fadeOut": integer,
              "opacity": integer
            }
          ],
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        },
        "dolbyVisionMetadataXml": "string",
        "crop": {
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          "width": integer,
          "x": integer,
          "y": integer
        },
        "position": {
          "height": integer,
          "width": integer,
```

```
            "x": integer,
            "y": integer
          },
          "advancedInputFilter": enum,
          "advancedInputFilterSettings": {
            "sharpening": enum,
            "addTexture": enum
          },
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            {
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                    "startTimecode": "string"
                  }
                ],
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                "timecodeStart": "string"
              },
              "endTimecode": "string",
              "startTimecode": "string",
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                "y": integer,
                "width": integer,
                "height": integer,
                "unit": enum
              },
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                "xPosition": integer,
                "yPosition": integer,
                "width": integer,
                "height": integer,
                "unit": enum
              },
              "playback": enum,
              "transitions": [
                {
                  "endTimecode": "string",
                  "startTimecode": "string",
                  "endPosition": {
                    "xPosition": integer,
```

```
                    "yPosition": integer,
                    "width": integer,
                    "height": integer,
                    "unit": enum
                  }
                }
              ]
            }
          ],
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          "videoGenerator": {
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            "framerateNumerator": integer,
            "framerateDenominator": integer,
            "sampleRate": integer,
            "channels": integer
          },
          "decryptionSettings": {
            "decryptionMode": enum,
            "encryptedDecryptionKey": "string",
            "initializationVector": "string",
            "kmsKeyRegion": "string"
          },
          "supplementalImps": [
            "string"
          ],
          "tamsSettings": {
            "sourceId": "string",
            "timerange": "string",
            "gapHandling": enum,
            "authConnectionArn": "string"
          }
        }
      ]
    },
    "status": enum,
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    "errorMessage": "string",
    "timing": {
      "submitTime": "string",
      "startTime": "string",
      "finishTime": "string"
    },
    "outputGroupDetails": [
```

```
      {
        "outputDetails": [
          {
            "durationInMs": integer,
            "videoDetails": {
              "widthInPx": integer,
              "heightInPx": integer
            }
          }
        ]
      }
    ],
    "billingTagsSource": enum,
    "accelerationSettings": {
      "mode": enum
    },
    "statusUpdateInterval": enum,
    "jobPercentComplete": integer,
    "currentPhase": enum,
    "retryCount": integer,
    "priority": integer,
    "simulateReservedQueue": enum,
    "accelerationStatus": enum,
    "messages": {
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        "string"
      ],
      "warning": [
        "string"
      ]
    },
    "hopDestinations": [
      {
        "waitMinutes": integer,
        "queue": "string",
        "priority": integer
      }
    ],
    "queueTransitions": [
      {
        "timestamp": "string",
        "sourceQueue": "string",
        "destinationQueue": "string"
      }
```

```
    ],
    "clientRequestToken": "string",
    "warnings": [
      {
        "code": integer,
        "count": integer
      }
    ],
    "shareStatus": enum,
    "lastShareDetails": "string"
  }
}
```

CancelJobResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD

NORMAL

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

```
LC
HEV1
HEV2
XHE
```

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

```
AD_RECEIVER_MIX
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_5_1
```

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

```
PROGRAM
```

ANCHOR

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

CBR
VBR

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

LATM_LOAS
NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix
Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality
Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode
Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000

to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False

Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

MPEG2
MPEG4

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

LOW
MEDIUM_LOW
MEDIUM_HIGH
HIGH

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED

```
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER
```

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

```
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_3_2_LFE
```

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

```
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE
```

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use

this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

FILM_STANDARD
NONE

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer
Required: False
Minimum: 64000
Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode
Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile
Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf
Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AccelerationMode

Specify whether the service runs your job with accelerated transcoding. Choose DISABLED if you don't want accelerated transcoding. Choose ENABLED if you want your job to run with accelerated transcoding and to fail if your input files or your job settings aren't compatible with accelerated transcoding. Choose PREFERRED if you want your job to run with accelerated transcoding if the job is compatible with the feature and to run at standard speed if it's not.

```
DISABLED
```

ENABLED
PREFERRED

AccelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

mode

Specify the conditions when the service will run your job with accelerated transcoding.

Type: AccelerationMode
Required: True

AccelerationStatus

Describes whether the current job is running with accelerated transcoding. For jobs that have Acceleration (AccelerationMode) set to DISABLED, AccelerationStatus is always NOT_APPLICABLE. For jobs that have Acceleration (AccelerationMode) set to ENABLED or PREFERRED, AccelerationStatus is one of the other states. AccelerationStatus is IN_PROGRESS initially, while the service determines whether the input files and job settings are compatible with accelerated transcoding. If they are, AcclerationStatus is ACCELERATED. If your input files and job settings aren't compatible with accelerated transcoding, the service either fails your job or runs it without accelerated transcoding, depending on how you set Acceleration (AccelerationMode). When the service runs your job without accelerated transcoding, AccelerationStatus is NOT_ACCELERATED.

NOT_APPLICABLE
IN_PROGRESS
ACCELERATED
NOT_ACCELERATED

AdvancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more

complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

ENABLED
DISABLED

AdvancedInputFilterAddTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

ENABLED
DISABLED

AdvancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

sharpening

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

Type: AdvancedInputFilterSharpen
Required: False

addTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for

input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

Type: AdvancedInputFilterAddTexture
Required: False

AdvancedInputFilterSharpen

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

```
OFF
LOW
HIGH
```

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

```
NONE
AUTO
FIXED
```

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False

Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AllowedRenditionSize

Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32

Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

required

Set to ENABLED to force a rendition to be included.

Type: RequiredFlag
Required: False

AlphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

```
DISCARD
REMAP_TO_LUMA
```

AncillaryConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

```
UPCONVERT
DISABLED
```

AncillarySourceSettings

Settings for ancillary captions source.

sourceAncillaryChannelNumber

Specifies the 608 channel number in the ancillary data track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: AncillaryTerminateCaptions
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: AncillaryConvert608To708
Required: False

AncillaryTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

```
END_OF_INPUT
DISABLED
```

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

DISABLED
ENABLED

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L
R
C
LFE
LS
RS
LC
RC
CS
LSD
RSD
TCS
VHL
VHC
VHR
TBL
TBC
TBR
RSL
RSR

LW
RW
LFE2
LT
RT
HI
NAR
M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag
Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

AAC
MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
VORBIS
OPUS
PASSTHROUGH
FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/

mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec
Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings
Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings
Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDefaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

DEFAULT
NOT_DEFAULT

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings
Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings

Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl
Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer
Required: False

Minimum: 0
Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode
Required: False

AudioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are

made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

```
DISABLED
AUTO
TRACK
FRAME
FORCE
```

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

```
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

```
CORRECT_AUDIO
MEASURE_ONLY
```

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

```
LOG
DONT_LOG
```

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

```
TRUE_PEAK
NONE
```

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm

Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float

Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioSelector

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

tracks

Identify a track from the input audio to include in this selector by entering the track index number. To include several tracks in a single audio selector, specify multiple tracks as follows. Using the console, enter a comma-separated list. For example, type "1,2,3" to include tracks 1 through 3.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

defaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

Type: AudioDefaultSelection
Required: False

selectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

Type: AudioSelectorType
Required: False

pids

Selects a specific PID from within an audio source (e.g. 257 selects PID 0x101).

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

programSelection

Use this setting for input streams that contain Dolby E, to have the service extract specific program data from the track. To select multiple programs, create multiple selectors with the same Track and different Program numbers. In the console, this setting is visible when you set Selector type to Track. Choose the program number from the dropdown list. If your input file has incorrect metadata, you can choose All channels instead of a program number to have the service ignore the program IDs and include all the programs in the track.

Type: integer
Required: False
Minimum: 0
Maximum: 8

customLanguageCode

Selects a specific language code from within an audio source, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

remixSettings

Use these settings to reorder the audio channels of one input to match those of another input. This allows you to combine the two files into a single output, one after the other.

Type: RemixSettings
Required: False

hlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

Type: HlsRenditionGroupSettings
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount

to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection
Required: False

AudioSelectorGroup

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

audioSelectorNames

Name of an Audio Selector within the same input to include in the group. Audio selector names are standardized, based on their order within the input (e.g., "Audio Selector 1"). The audio selector name parameter can be repeated to add any number of audio selectors to the group.

Type: Array of type string
Required: False
MinLength: 1

AudioSelectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups.

All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

```
PID
TRACK
LANGUAGE_CODE
HLS_RENDITION_GROUP
ALL_PCM
```

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AutomatedAbrRule

Specify one or more Automated ABR rule types. Note: Force include and Allowed renditions are mutually exclusive.

type

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR,

specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

Type: RuleType
Required: False

minTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

Type: MinTopRenditionSize
Required: False

minBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

Type: MinBottomRenditionSize

Required: False

forceIncludeRenditions

When customer adds the force include renditions rule for auto ABR ladder, they are required to add at leat one rendition to forceIncludeRenditions list

Type: Array of type ForceIncludeRenditionSize
Required: False

allowedRenditions

When customer adds the allowed renditions rule for auto ABR ladder, they are required to add at leat one rendition to allowedRenditions list

Type: Array of type AllowedRenditionSize
Required: False

AutomatedAbrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

maxQualityLevel

Optional. Specify the QVBR quality level to use for all renditions in your automated ABR stack. To have MediaConvert automatically determine the quality level: Leave blank. To manually specify a quality level: Enter a value from 1 to 10. MediaConvert will use a quality level up to the value that you specify, depending on your source. For more information about QVBR quality levels, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/qvbr-guidelines.html

Type: number
Required: False
Format: float
Minimum: 1.0
Maximum: 10.0

maxRenditions

Optional. The maximum number of renditions that MediaConvert will create in your automated ABR stack. The number of renditions is determined automatically, based on analysis of each job, but will never exceed this limit. When you set this to Auto in the console, which is equivalent to excluding it from your JSON job specification, MediaConvert defaults to a limit of 15.

Type: integer
Required: False
Minimum: 3
Maximum: 15

maxAbrBitrate

Specify the maximum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 8,000,000 (8 mb/s) by default. The average bitrate of your highest-quality rendition will be equal to or below this value, depending on the quality, complexity, and resolution of your content. Note that the instantaneous maximum bitrate may vary above the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

minAbrBitrate

Specify the minimum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 600,000 (600 kb/s) by default. The average bitrate of your lowest-quality rendition will be near this value. Note that the instantaneous minimum bitrate may vary below the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

rules

Optional. Use Automated ABR rules to specify restrictions for the rendition sizes MediaConvert will create in your ABR stack. You can use these rules if your ABR workflow has specific rendition size requirements, but you still want MediaConvert to optimize for video quality and overall file size.

Type: Array of type AutomatedAbrRule
Required: False

AutomatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

abrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

Type: AutomatedAbrSettings
Required: False

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
HIGHER
MAX
```

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

```
BIT_8
BIT_10
```

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

```
DISABLED
ENABLED
```

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert

will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False
Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization
Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System

* VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

AvailBlanking

Use ad avail blanking settings to specify your output content during SCTE-35 triggered ad avails. You can blank your video or overlay it with an image. MediaConvert also removes any audio and embedded captions during the ad avail. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ad-avail-blanking.html.

availBlankingImage

Blanking image to be used. Leave empty for solid black. Only bmp and png images are supported.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG))|(https?://(.*?)\.(bmp|BMP|png|PNG)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

```
CLASS_50
CLASS_100
CLASS_200
CLASS_4K_2K
```

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert

will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings:

To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass
Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the

source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When

you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when

comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

`DISABLED`

`ENABLED`

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

`NONE`

`HARD`

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in

the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS
MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel
Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening
Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

```
LOW
MEDIUM
HIGH
OFF
```

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

```
LOW
MEDIUM
HIGH
AUTO
```

OFF

BillingTagsSource

The tag type that AWS Billing and Cost Management will use to sort your AWS Elemental MediaConvert costs on any billing report that you set up.

QUEUE
PRESET
JOB_TEMPLATE
JOB

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass

through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes

Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

CENTERED

LEFT

AUTO

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY

ALL_TEXT

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE

BLACK

WHITE

AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK

WHITE
YELLOW
RED
GREEN
BLUE
AUTO

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

FIXED_GRID
PROPORTIONAL
AUTO

CancelJobRequest

Cancel a job by sending a request with the job ID

id

The Job ID of the job to be cancelled.

Type: string
Required: False

CancelJobResponse

A cancel job request will receive a response with an empty body.

CaptionDescription

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

captionSelectorName

Specifies which "Caption Selector":#inputs-caption_selector to use from each input when generating captions. The name should be of the format "Caption Selector <N>", which denotes that the Nth Caption Selector will be used from each input.

Type: string
Required: False
MinLength: 1

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string

Required: False
Pattern: ^[A-Za-z]{2,3}(-[A-Za-z-]+)?$

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings

Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings

Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

BURN_IN

DVB_SUB

EMBEDDED

EMBEDDED_PLUS_SCTE20

IMSC

SCTE20_PLUS_EMBEDDED

SCC

SRT

SMI

TELETEXT

TTML

WEBVTT

CaptionSelector

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

customLanguageCode

The specific language to extract from source, using the ISO 639-2 or ISO 639-3 three-letter language code. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

The specific language to extract from source. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: LanguageCode
Required: False

sourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: CaptionSourceSettings
Required: False

CaptionSourceByteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

ENABLED
DISABLED

CaptionSourceConvertPaintOnToPopOn

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

ENABLED
DISABLED

CaptionSourceFramerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate denominator.

Type: integer
Required: False
Minimum: 1

Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate numerator.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

CaptionSourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

Type: CaptionSourceType
Required: False

ancillarySourceSettings

Settings for ancillary captions source.

Type: AncillarySourceSettings
Required: False

dvbSubSourceSettings

DVB Sub Source Settings

Type: DvbSubSourceSettings

Required: False

embeddedSourceSettings

Settings for embedded captions Source

Type: EmbeddedSourceSettings
Required: False

fileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: FileSourceSettings
Required: False

teletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

Type: TeletextSourceSettings
Required: False

trackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

Type: TrackSourceSettings
Required: False

webvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track

among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

Type: WebvttHlsSourceSettings
Required: False

CaptionSourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

ANCILLARY
DVB_SUB
EMBEDDED
SCTE20
SCC
TTML
STL
SRT
SMI
SMPTE_TT
TELETEXT
NULL_SOURCE
IMSC
WEBVTT

CaptionSourceUpconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

UPCONVERT

```
DISABLED
```

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

```
AUTO
FORCE_CENTER
FORCE_TOP_LEFT
```

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5

Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90
Maximum: 105

CmafAdditionalManifest

Specify the details for each pair of HLS and DASH additional manifests that you want the service to generate for this CMAF output group. Each pair of manifests can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

CmafClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

CmafCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

```
RFC_6381
RFC_4281
```

CmafEncryptionSettings

Settings for CMAF encryption

encryptionMethod

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

Type: CmafEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string

Required: False
Pattern: `^[0-9a-fA-F]{32}$`
MinLength: 32
MaxLength: 32

initializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

Type: CmafInitializationVectorInManifest
Required: False

spekeKeyProvider

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

Type: SpekeKeyProviderCmaf
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: CmafKeyProviderType
Required: False

CmafEncryptionType

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

SAMPLE_AES
AES_CTR

CmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: CmafTargetDurationCompatibilityMode
Required: False

writeHlsManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

Type: CmafWriteHLSManifest
Required: False

writeDashManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

Type: CmafWriteDASHManifest

Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: CmafSegmentLengthControl
Required: False

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting

to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest and one top -level .mpd DASH manifest for each CMAF output group in your job. These default manifests reference every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here. For each additional manifest that you specify, the service creates one HLS manifest and one DASH manifest.

Type: Array of type CmafAdditionalManifest
Required: False

encryption

DRM settings.

Type: CmafEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Specify the length, in whole seconds, of the mp4 fragments. When you don't specify a value, MediaConvert defaults to 2. Related setting: Use Fragment length control to specify whether the encoder enforces this value strictly.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: CmafSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: CmafPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: CmafMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd.

When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: CmafMpdProfile
Required: False

writeSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

Type: CmafWriteSegmentTimelineInRepresentation
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: CmafManifestDurationFormat
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: CmafStreamInfResolution
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: CmafClientCache
Required: False

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: CmafManifestCompression
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: CmafCodecSpecification
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: CmafImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more

information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: CmafImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: CmafVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle

Required: False

CmafImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

```
NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED
```

CmafImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: CmafIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to

align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

CmafInitializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

INCLUDE
EXCLUDE

CmafIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME
FOLLOW_CUSTOM

CmafKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE
STATIC_KEY

CmafManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP
NONE

CmafManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT
INTEGER

CmafMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

AVERAGE
MAX

CmafMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

MAIN_PROFILE
ON_DEMAND_PROFILE

CmafPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

CmafSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
SEGMENTED_FILES
```

CmafSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

CmafStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE

EXCLUDE

CmafTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY

SPEC_COMPLIANT

CmafVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

CmafWriteDASHManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

DISABLED
ENABLED

CmafWriteHLSManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

DISABLED
ENABLED

CmafWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED
DISABLED

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE

EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH

NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH
NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam

Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to

Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata
Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

ColorConversion3DLUTSetting

Custom 3D lut settings

inputMasteringLuminance

Specify which inputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) inputs with a specific mastering luminance: Enter an integer from 0 to 2147483647, corresponding to the input's Maximum luminance value. To apply this 3D LUT to any input regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

inputColorSpace

Specify which inputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

outputMasteringLuminance

Specify which outputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) outputs with a specific luminance: Enter an integer from 0 to 2147483647, corresponding to the output's luminance. To apply this 3D LUT to any output regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

outputColorSpace

Specify which outputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your 3D LUT .cube file. Note that MediaConvert accepts 3D LUT files up to 8MB in size.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(cube|CUBE))|(https?://(.*?)\.(cube|CUBE)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range

or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False

Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required.

You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper
Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

```
IGNORE
INSERT
```

ColorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the

accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

FOLLOW
REC_601
REC_709
HDR10
HLG_2020
P3DCI
P3D65_SDR
P3D65_HDR

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

NONE
FORCE_601
FORCE_709
FORCE_HDR10
FORCE_HLG_2020
FORCE_P3DCI

FORCE_P3D65_SDR
FORCE_P3D65_HDR

ColorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

FORCE
FALLBACK

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings
Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings
Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings
Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD
MXF
OGG
WEBM
RAW
Y4M

CopyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH

STRIP

DashAdditionalManifest

Specify the details for each additional DASH manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your DASH group is film-name.mpd. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.mpd.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string

Required: False

MinLength: 1

DashIsoEncryptionSettings

Specifies DRM settings for DASH outputs.

playbackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

Type: DashIsoPlaybackDeviceCompatibility
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

DashIsoGroupAudioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

`MPEG_CHANNEL_CONFIGURATION`
`DOLBY_CHANNEL_CONFIGURATION`

DashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

audioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

Type: DashIsoGroupAudioChannelConfigSchemeIdUri
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 30. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number

Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: DashIsoSegmentLengthControl
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .mpd DASH manifest for each DASH ISO output group in your job. This default manifest references every output in the output group. To create additional DASH manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type DashAdditionalManifest
Required: False

encryption

DRM settings.

Type: DashIsoEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Length of fragments to generate (in seconds). Fragment length must be compatible with GOP size and Framerate. Note that fragments will end on the next keyframe after this number of seconds, so actual fragment length may be longer. When Emit Single File is checked, the fragmentation is internal to a single output file and it does not cause the creation of many output files as in other output types.

Type: integer
Required: False

Minimum: 1

Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest (.mpd) file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string

Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: DashIsoSegmentControl

Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: DashIsoPtsOffsetHandlingForBFrames

Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible

with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: DashIsoMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: DashIsoMpdProfile
Required: False

hbbtvCompliance

Supports HbbTV specification as indicated

Type: DashIsoHbbtvCompliance
Required: False

writeSegmentTimelineInRepresentation

If you get an HTTP error in the 400 range when you play back your DASH output, enable this setting and run your transcoding job again. When you enable this setting, the service writes precise segment durations in the DASH manifest. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When you don't enable this setting, the service writes approximate segment durations in your DASH manifest.

Type: DashIsoWriteSegmentTimelineInRepresentation
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: DashIsoImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: DashIsoImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: DashIsoVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle
Required: False

DashIsoHbbtvCompliance

Supports HbbTV specification as indicated

```
HBBTV_1_5
NONE
```

DashIsoImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that

MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

DashIsoImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer

Required: False

Minimum: 1

Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer

Required: False

Minimum: 1

Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: DashIsoIntervalCadence

Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number

Required: False

Format: float

Minimum: 0.0

Maximum: 2.147483647E9

DashIsoIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME
FOLLOW_CUSTOM

DashIsoMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

AVERAGE
MAX

DashIsoMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

MAIN_PROFILE
ON_DEMAND_PROFILE

DashIsoPlaybackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you

choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

CENC_V1
UNENCRYPTED_SEI

DashIsoPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

ZERO_BASED
MATCH_INITIAL_PTS

DashIsoSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

SINGLE_FILE
SEGMENTED_FILES

DashIsoSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion

or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

DashIsoVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

DashIsoWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED

DISABLED

DashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

```
BASIC
COMPACT
DISTINCT
```

DecryptionMode

Specify the encryption mode that you used to encrypt your input files.

```
AES_CTR
AES_CBC
AES_GCM
```

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

```
INTERPOLATE
INTERPOLATE_TICKER
BLEND
BLEND_TICKER
LINEAR_INTERPOLATION
```

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm
Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode
Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those

that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

FORCE_ALL_FRAMES
NORMAL

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

DEINTERLACE
INVERSE_TELECINE
ADAPTIVE

DestinationSettings

Settings associated with the destination. Will vary based on the type of destination

s3Settings

Settings associated with S3 destination

Type: S3DestinationSettings
Required: False

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode
Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata
Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

PASSTHROUGH
RECALCULATE
SPECIFY

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

HDR10_NOMAP

HDR10_1000

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

PROFILE_5

PROFILE_8_1

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

DISABLED

ENABLED

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer

Required: False

Minimum: 25

Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer
Required: False
Minimum: 0
Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: -2147483648

Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing

Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment

Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType
Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When

you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling
Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine

whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing.

Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSourceSettings

DVB Sub Source Settings

pid

When using DVB-Sub with Burn-in, use this PID for the source content. Unused for DVB-Sub passthrough. All DVB-Sub content is passed through, regardless of selectors.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

```
BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF
```

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

CENTERED

LEFT

AUTO

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY

ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE

BLACK

WHITE

AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

```
WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO
```

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

```
BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO
```

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

```
NONE
```

BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID
PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED
STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

`NONE`
`SPECIFIED`
`NO_DISPLAY_WINDOW`
`SPECIFIED_OPTIMAL`

DynamicAudioSelector

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an audio track within that output for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

selectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

Type: DynamicAudioSelectorType
Required: False

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*)))|^https?://[^\/].*[^&]$`

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection
Required: False

DynamicAudioSelectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

```
ALL_TRACKS
LANGUAGE_CODE
```

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE

FILM_STANDARD

FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE

FILM_STANDARD

FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

```
SPECIFIED
INITIALIZE_FROM_SOURCE
```

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

```
LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The

value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer
Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine

Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl

Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl

Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

NOT_INDICATED
STEREO
SURROUND
DPL2

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

ATTENUATE_3_DB
NONE

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

```
LFE
NO_LFE
```

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

```
ENABLED
DISABLED
```

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

```
FOLLOW_INPUT
USE_CONFIGURED
```

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

```
WHEN_POSSIBLE
NO_PASSTHROUGH
```

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0:

Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode

Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

```
NOT_INDICATED
LO_RO
LT_RT
DPL2
```

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If

you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

EmbeddedSourceSettings

Settings for embedded captions Source

source608ChannelNumber

Specifies the 608/708 channel number within the video track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

source608TrackNumber

Specifies the video track index used for extracting captions. The system only supports one input video track, so this should always be set to '1'.

Type: integer
Required: False
Minimum: 1
Maximum: 1

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: EmbeddedConvert608To708
Required: False

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: EmbeddedTerminateCaptions
Required: False

EmbeddedTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

`END_OF_INPUT`
`DISABLED`

EmbeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

```
NONE
USE_MDPM
```

EncryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

spekeVideoPreset

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

Type: PresetSpeke20Video
Required: False

spekeAudioPreset

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same

content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

Type: PresetSpeke20Audio
Required: False

EsamManifestConfirmConditionNotification

ESAM ManifestConfirmConditionNotification defined by OC-SP-ESAM-API-I03-131025.

mccXml

Provide your ESAM ManifestConfirmConditionNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the Manifest Conditioning instructions in the message that you supply.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*ManifestConfirmConditionNotification(.|\n)*>\s*$`

EsamSettings

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

signalProcessingNotification

Specifies an ESAM SignalProcessingNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the signal processing instructions that you provide in the setting SCC XML.

Type: EsamSignalProcessingNotification
Required: False

manifestConfirmConditionNotification

Specifies an ESAM ManifestConfirmConditionNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the manifest conditioning instructions that you provide in the setting MCC XML.

Type: EsamManifestConfirmConditionNotification
Required: False

responseSignalPreroll

Specifies the stream distance, in milliseconds, between the SCTE 35 messages that the transcoder places and the splice points that they refer to. If the time between the start of the asset and the SCTE-35 message is less than this value, then the transcoder places the SCTE-35 marker at the beginning of the stream.

Type: integer
Required: False
Minimum: 0
Maximum: 30000

EsamSignalProcessingNotification

ESAM SignalProcessingNotification data defined by OC-SP-ESAM-API-I03-131025.

sccXml

Provide your ESAM SignalProcessingNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the signal processing instructions in the message that you supply. For your MPEG2-TS file outputs, if you want the service to place SCTE-35 markers at the insertion points you specify in the XML document, you must also enable SCTE-35 ESAM. Note that you can either specify an ESAM XML document or enable SCTE-35 passthrough. You can't do both.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*SignalProcessingNotification(.|\n)*>\s*$`

ExceptionBody

message

Type: string
Required: False

ExtendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

vchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: VchipAction
Required: False

copyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: CopyProtectionAction
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

FileSourceConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608

data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT

DISABLED

FileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceFile

External caption file used for loading captions. Accepted file extensions are 'scc', 'ttml', 'dfxp', 'stl', 'srt', 'xml', 'smi', 'webvtt', and 'vtt'.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT))|(https?://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

timeDelta

Optional. Use this setting when you need to adjust the sync between your sidecar captions and your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/time-delta-use-cases.html. Enter a positive or negative number to modify the times in the captions file. For example, type 15 to add 15 seconds to all the times in the captions file. Type -5 to subtract 5 seconds from the times in the captions file. You can optionally specify your time delta in milliseconds instead of seconds. When you do so, set the related setting, Time delta units to Milliseconds. Note that, when you specify a time delta for timecode-based caption sources, such as SCC and STL, and your time delta isn't a multiple of the input frame rate, MediaConvert snaps the captions to the nearest frame. For example, when your input video frame rate is 25 fps and you specify 1010ms for time delta, MediaConvert delays your captions by 1000 ms.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

timeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

Type: FileSourceTimeDeltaUnits
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: FileSourceConvert608To708
Required: False

framerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

Type: CaptionSourceFramerate
Required: False

convertPaintToPop

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose

Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

Type: CaptionSourceConvertPaintOnToPopOn
Required: False

byteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

Type: CaptionSourceByteRateLimit
Required: False

upconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

Type: CaptionSourceUpconvertSTLToTeletext
Required: False

FileSourceTimeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

`SECONDS`
`MILLISECONDS`

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

AUTOMATIC
HANS
HANT

ForceIncludeRenditionSize

Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GetJobRequest

Query a job by sending a request with the job ID.

id

the job ID of the job.

Type: string
Required: False

GetJobResponse

Successful get job requests will return an OK message and the job JSON.

job

Each job converts an input file into an output file or files. For more information, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: Job
Required: False

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

```
DUPLICATE_DROP
INTERPOLATE
```

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl
Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the

following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

```
AUTO
LEVEL_1
LEVEL_1_1
LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2
```

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

BASELINE

HIGH

HIGH_10BIT

HIGH_422

HIGH_422_10BIT

MAIN

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC

CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

`PAFF`

`FORCE_FIELD`

`MBAFF`

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

`DISABLED`

`ENABLED`

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

```
SPECIFIED
```

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video.

To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
```

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer

Required: False

Minimum: 1

Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED

ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

DISABLED

PREFERRED

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for

optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal

Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization

Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the

flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization
Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer

Required: False

Minimum: 0

Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization
Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding
Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition

detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect
Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer

Required: False

Minimum: 0

Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps

Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType

Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop

Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For

example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT
RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
SOFT
HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization

and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1

AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

```
OFF
LOW
MEDIUM
HIGH
HIGHER
MAX
AUTO
```

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

```
DISABLED
ENABLED
```

H265CodecLevel

H.265 Level.

```
AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
```

```
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1
LEVEL_6_2
```

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

```
MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH
MAIN_422_8BIT_MAIN
MAIN_422_8BIT_HIGH
MAIN_422_10BIT_MAIN
MAIN_422_10BIT_HIGH
```

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

```
ENABLED
DISABLED
```

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion

portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

DISABLED

ENABLED

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

```
SPECIFIED
```

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video.

To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

DEFAULT
ADAPTIVE
OFF

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer

Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics

of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video.

To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the

frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that

enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE

SOFT

HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

DISABLED

ENABLED

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

DISABLED

ENABLED

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer

Required: False
Minimum: 0
Maximum: 4000

HlsAdMarkers

Ad marker for Apple HLS manifest.

ELEMENTAL
ELEMENTAL_SCTE35

HlsAdditionalManifest

Specify the details for each additional HLS manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

HlsAudioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create a raw audio-only file with no container. Regardless of the value that you specify here, if this output has video, the service will place outputs into an MPEG2-TS container.

AUTOMATIC

M2TS

HlsAudioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

INCLUDE

EXCLUDE

HlsAudioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT

ALTERNATE_AUDIO_AUTO_SELECT

ALTERNATE_AUDIO_NOT_AUTO_SELECT

AUDIO_ONLY_VARIANT_STREAM

HlsCaptionLanguageMapping

Caption Language Mapping

captionChannel

Caption channel.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

customLanguageCode

Specify the language for this captions channel, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

Type: LanguageCode
Required: False

languageDescription

Caption language description.

Type: string
Required: False

HlsCaptionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

```
INSERT
OMIT
NONE
```

HlsCaptionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

```
LARGE_SEGMENTS
MATCH_VIDEO
```

HlsClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

HlsCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

```
RFC_6381
```

RFC_4281

HlsDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG

FLAG

HlsDirectoryStructure

Indicates whether segments should be placed in subdirectories.

SINGLE_DIRECTORY

SUBDIRECTORY_PER_STREAM

HlsEncryptionSettings

Settings for HLS encryption

encryptionMethod

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

Type: HlsEncryptionType

Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: ^[0-9a-fA-F]{32}$
MinLength: 32
MaxLength: 32

initializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

Type: HlsInitializationVectorInManifest
Required: False

offlineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

Type: HlsOfflineEncrypted
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: HlsKeyProviderType
Required: False

HlsEncryptionType

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

AES128
SAMPLE_AES

HlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: HlsTargetDurationCompatibilityMode
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: HlsManifestDurationFormat
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: HlsSegmentLengthControl
Required: False

timedMetadataId3Period

Specify the interval in seconds to write ID3 timestamps in your output. The first timestamp starts at the output timecode and date, and increases incrementally with each ID3 timestamp. To use

the default interval of 10 seconds: Leave blank. To include this metadata in your output: Set ID3 timestamp frame type to PRIV or TDRL, and set ID3 metadata to Passthrough.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

captionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

Type: HlsCaptionLanguageSetting
Required: False

captionLanguageMappings

Language to be used on Caption outputs

Type: Array of type HlsCaptionLanguageMapping
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest for each HLS output group in your job. This default manifest references every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type HlsAdditionalManifest
Required: False

encryption

DRM settings.

Type: HlsEncryptionSettings
Required: False

timedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

Type: HlsTimedMetadataId3Frame
Required: False

baseUrl

A partial URI prefix that will be prepended to each output in the media .m3u8 file. Can be used if base manifest is delivered from a different URL than the main .m3u8 file.

Type: string

Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: HlsCodecSpecification
Required: False

outputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

Type: HlsOutputSelection
Required: False

programDateTimePeriod

Period of insertion of EXT-X-PROGRAM-DATE-TIME entry, in seconds.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

segmentsPerSubdirectory

Specify the number of segments to write to a subdirectory before starting a new one. You must also set Directory structure to Subdirectory per stream for this setting to have an effect.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minSegmentLength

When set, Minimum Segment Size is enforced by looking ahead and back within the specified range for a nearby avail and extending the segment size if needed.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

directoryStructure

Indicates whether segments should be placed in subdirectories.

Type: HlsDirectoryStructure
Required: False

programDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

Type: HlsProgramDateTime
Required: False

adMarkers

Choose one or more ad marker types to decorate your Apple HLS manifest. This setting does not determine whether SCTE-35 markers appear in the outputs themselves.

Type: Array of type HlsAdMarkers
Required: False

segmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

Type: HlsSegmentControl
Required: False

timestampDeltaMilliseconds

Provides an extra millisecond delta offset to fine tune the timestamps.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: HlsManifestCompression
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: HlsClientCache
Required: False

audioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

Type: HlsAudioOnlyHeader
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: HlsStreamInfResolution
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: HlsImageBasedTrickPlay
Required: False

progressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

Type: HlsProgressiveWriteHlsManifest
Required: False

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: HlsImageBasedTrickPlaySettings
Required: False

captionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

Type: HlsCaptionSegmentLengthControl
Required: False

HlsIFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert

adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

INCLUDE
INCLUDE_AS_TS
EXCLUDE

HlsImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

HlsImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False

Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: HlsIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

HlsInitializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

`INCLUDE`
`EXCLUDE`

HlsIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

`FOLLOW_IFRAME`
`FOLLOW_CUSTOM`

HlsKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE
STATIC_KEY

HlsManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP
NONE

HlsManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT
INTEGER

HlsOfflineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

ENABLED
DISABLED

HlsOutputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

MANIFESTS_AND_SEGMENTS
SEGMENTS_ONLY

HlsProgramDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

```
INCLUDE
EXCLUDE
```

HlsProgressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

```
ENABLED
DISABLED
```

HlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

renditionGroupId

Optional. Specify alternative group ID

Type: string

Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

HlsSegmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

```
SINGLE_FILE
SEGMENTED_FILES
```

HlsSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2,

X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT
GOP_MULTIPLE
MATCH

HlsSettings

Settings for HLS output groups

audioGroupId

Specifies the group to which the audio rendition belongs.

Type: string
Required: False

audioRenditionSets

List all the audio groups that are used with the video output stream. Input all the audio GROUP-IDs that are associated to the video, separate by ','.

Type: string
Required: False

audioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

Type: HlsAudioTrackType

Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: HlsDescriptiveVideoServiceFlag
Required: False

iFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

Type: HlsIFrameOnlyManifest
Required: False

segmentModifier

Use this setting to add an identifying string to the filename of each segment. The service adds this string between the name modifier and segment index number. You can use format identifiers in the string. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html

Type: string
Required: False

audioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create an audio-only file in a raw container. Regardless of the value that you specify here, if this output has video, the service will place the output into an MPEG2-TS container.

Type: HlsAudioOnlyContainer
Required: False

HlsStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

```
INCLUDE
EXCLUDE
```

HlsTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

```
LEGACY
SPEC_COMPLIANT
```

HlsTimedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

```
NONE
PRIV
```

TDRL

HopDestination

Optional. Configuration for a destination queue to which the job can hop once a customer-defined minimum wait time has passed.

waitMinutes

Required for setting up a job to use queue hopping. Minimum wait time in minutes until the job can hop to the destination queue. Valid range is 1 to 4320 minutes, inclusive.

Type: integer
Required: False

queue

Optional unless the job is submitted on the default queue. When you set up a job to use queue hopping, you can specify a destination queue. This queue cannot be the original queue to which the job is submitted. If the original queue isn't the default queue and you don't specify the destination queue, the job will move to the default queue.

Type: string
Required: False

priority

Optional. When you set up a job to use queue hopping, you can specify a different relative priority for the job in the destination queue. If you don't specify, the relative priority will remain the same as in the previous queue.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

Id3Insertion

To insert ID3 tags in your output, specify two values. Use ID3 tag to specify the base 64 encoded string and use Timecode to specify the time when the tag should be inserted. To insert multiple ID3 tags in your output, create multiple instances of ID3 insertion.

timecode

Provide a Timecode in HH:MM:SS:FF or HH:MM:SS;FF format.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

id3

Use ID3 tag to provide a fully formed ID3 tag in base64-encode format.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

`DISABLED`
`ENABLED`

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

ENABLED
DISABLED

Input

Use inputs to define the source files used in your transcoding job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/specify-input-settings.html. You can use multiple video inputs to do input stitching. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html

inputClippings

Contains sets of start and end times that together specify a portion of the input to be used in the outputs. If you provide only a start time, the clip will be the entire input from that point to the end. If you provide only an end time, it will be the entire input up to that point. When you specify more than one input clip, the transcoding service creates the job outputs by stringing the clips together in the order you specify them.

Type: Array of type InputClipping
Required: False

audioSelectors

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

Type: object
Required: False

dynamicAudioSelectors

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an output audio track for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

Type: object
Required: False

audioSelectorGroups

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

Type: object
Required: False

programNumber

Use Program to select a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported. Default is the first program within the transport stream. If the program you specify doesn't exist, the transcoding service will use this default.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

videoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

Type: VideoSelector
Required: False

filterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

Type: InputFilterEnable
Required: False

psiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

Type: InputPsiControl
Required: False

filterStrength

Specify the strength of the input filter. To apply an automatic amount of filtering based the compression artifacts measured in your input: We recommend that you leave Filter strength blank and set Filter enable to Auto. To manually apply filtering: Enter a value from 1 to 5, where 1 is the least amount of filtering and 5 is the most. The value that you enter applies to the strength of the Deblock or Denoise filters, or to the strength of the Advanced input filter.

Type: integer
Required: False
Minimum: 0
Maximum: 5

deblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

Type: InputDeblockFilter
Required: False

denoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

Type: InputDenoiseFilter
Required: False

inputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

Type: InputScanType
Required: False

timecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the timecode that you want the service to use for this input's initial frame. To use this setting, you must set the Timecode source setting, located under the input settings, to Specified start. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

captionSelectors

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

Type: object
Required: False

imageInserter

Enable the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input individually. This setting is disabled by default.

Type: ImageInserter
Required: False

dolbyVisionMetadataXml

Use this setting only when your video source has Dolby Vision studio mastering metadata that is carried in a separate XML file. Specify the Amazon S3 location for the metadata XML file. MediaConvert uses this file to provide global and frame-level metadata for Dolby Vision preprocessing. When you specify a file here and your input also has interleaved global and frame level metadata, MediaConvert ignores the interleaved metadata and uses only the the metadata from this external XML file. Note that your IAM service role must grant MediaConvert read permissions to this file. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(xml|XML))|(https?://(.*?)\.(xml|XML)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

crop

Use Cropping selection to specify the video area that the service will include in the output video frame. If you specify a value here, it will override any value that you specify in the output setting Cropping selection.

Type: Rectangle
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black. If you specify a value here, it will override any value that you specify in the output setting Selection placement. If you specify a value here, this will override any AFD values in your input, even if you set Respond to AFD to Respond. If you specify a value here, this will ignore anything that you specify for the setting Scaling Behavior.

Type: Rectangle
Required: False

advancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

Type: AdvancedInputFilter
Required: False

advancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

Type: AdvancedInputFilterSettings
Required: False

videoOverlays

Contains an array of video overlays.

Type: Array of type VideoOverlay
Required: False

fileInput

Specify the source file for your transcoding job. You can use multiple inputs in a single job. The service concatenates these inputs, in the order that you specify them in the job, to create the outputs. For standard inputs, provide the path to your S3, HTTP, or HTTPS source file. For example, s3://amzn-s3-demo-bucket/input.mp4 for an Amazon S3 input or https://example.com/input.mp4 for an HTTPS input. For TAMS inputs, specify the HTTPS endpoint of your TAMS server. For example, https://tams-server.example.com . When you do, also specify Source ID, Timerange, GAP handling, and the Authorization connection ARN under TAMS settings. (Don't include these parameters in the Input file URL.) For IMF inputs, specify your input by providing the path to your CPL. For example, s3://amzn-s3-demo-bucket/vf/cpl.xml . If the CPL is in an incomplete IMP, make sure to use Supplemental IMPsto specify any supplemental IMPs that contain assets referenced by the CPL.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`
MaxLength: 2048

videoGenerator

When you include Video generator, MediaConvert creates a video input with black frames. Use this setting if you do not have a video input or if you want to add black video frames before, or after, other inputs. You can specify Video generator, or you can specify an Input file, but you cannot specify both. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-generator.html

Type: InputVideoGenerator
Required: False

decryptionSettings

Settings for decrypting any input files that you encrypt before you upload them to Amazon S3. MediaConvert can decrypt files only when you use AWS Key Management Service (KMS) to encrypt the data key that you use to encrypt your content.

Type: InputDecryptionSettings
Required: False

supplementalImps

Provide a list of any necessary supplemental IMPs. You need supplemental IMPs if the CPL that you're using for your input is in an incomplete IMP. Specify either the supplemental IMP directories with a trailing slash or the ASSETMAP.xml files. For example ["s3://bucket/ov/", "s3://bucket/vf2/ASSETMAP.xml"]. You don't need to specify the IMP that contains your input CPL, because the service automatically detects it.

Type: Array of type string
Required: False
Pattern: `^s3:\/\/.*\/(ASSETMAP.xml)?$`

tamsSettings

Specify a Time Addressable Media Store (TAMS) server as an input source. TAMS is an open-source API specification that provides access to time-segmented media content. Use TAMS to retrieve specific time ranges from live or archived media streams. When you specify TAMS settings, MediaConvert connects to your TAMS server, retrieves the media segments for your specified time range, and processes them as a single input. This enables workflows like extracting clips from live streams or processing specific portions of archived content. To use TAMS, you must: 1. Have access to a TAMS-compliant server 2. Specify the server URL in the Input file URL field 3. Provide the required SourceId and Timerange parameters 4. Configure authentication, if your TAMS server requires it

Type: InputTamsSettings
Required: False

InputClipping

To transcode only portions of your input, include one input clip for each part of your input that you want in your output. All input clips that you specify will be included in every output of the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html.

endTimecode

Set End timecode to the end of the portion of the input you are clipping. The frame corresponding to the End timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for timecode source under input settings. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to end six minutes into the video, use 01:06:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Set Start timecode to the beginning of the portion of the input you are clipping. The frame corresponding to the Start timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for Input timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to begin five minutes into the video, use 01:05:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

InputDeblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

ENABLED
DISABLED

InputDecryptionSettings

Settings for decrypting any input files that you encrypt before you upload them to Amazon S3. MediaConvert can decrypt files only when you use AWS Key Management Service (KMS) to encrypt the data key that you use to encrypt your content.

decryptionMode

Specify the encryption mode that you used to encrypt your input files.

Type: DecryptionMode
Required: False

encryptedDecryptionKey

Warning! Don't provide your encryption key in plaintext. Your job settings could be intercepted, making your encrypted content vulnerable. Specify the encrypted version of the data key that you used to encrypt your content. The data key must be encrypted by AWS Key Management Service (KMS). The key can be 128, 192, or 256 bits.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`
MinLength: 24
MaxLength: 512

initializationVector

Specify the initialization vector that you used when you encrypted your content before uploading it to Amazon S3. You can use a 16-byte initialization vector with any encryption mode. Or, you

can use a 12-byte initialization vector with GCM or CTR. MediaConvert accepts only initialization vectors that are base64-encoded.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]{22}==$|^[A-Za-z0-9+\/]{16}$`
MinLength: 16
MaxLength: 24

kmsKeyRegion

Specify the AWS Region for AWS Key Management Service (KMS) that you used to encrypt your data key, if that Region is different from the one you are using for AWS Elemental MediaConvert.

Type: string
Required: False
Pattern: `^[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}$`
MinLength: 9
MaxLength: 19

InputDenoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

`ENABLED`
`DISABLED`

InputFilterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

`AUTO`

```
DISABLE
FORCE
```

InputPsiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

```
IGNORE_PSI
USE_PSI
```

InputRotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

```
DEGREE_0
DEGREES_90
DEGREES_180
DEGREES_270
AUTO
```

InputSampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

FOLLOW
FULL_RANGE
LIMITED_RANGE

InputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

AUTO
PSF

InputTamsSettings

Specify a Time Addressable Media Store (TAMS) server as an input source. TAMS is an open-source API specification that provides access to time-segmented media content. Use TAMS to retrieve specific time ranges from live or archived media streams. When you specify TAMS settings, MediaConvert connects to your TAMS server, retrieves the media segments for your specified time range, and processes them as a single input. This enables workflows like extracting clips from live streams or processing specific portions of archived content. To use TAMS, you must: 1. Have access to a TAMS-compliant server 2. Specify the server URL in the Input file URL field 3. Provide the required SourceId and Timerange parameters 4. Configure authentication, if your TAMS server requires it

sourceId

Specify the unique identifier for the media source in your TAMS server. MediaConvert uses this source ID to locate the appropriate flows containing the media segments you want to process. The source ID corresponds to a specific media source registered in your TAMS server. This source must be of type urn:x-nmos:format:multi, and can can reference multiple flows for audio, video, or combined audio/video content. MediaConvert automatically selects the highest quality flows available for your job. This setting is required when you include TAMS settings in your job.

Type: string

Required: False

timerange

Specify the time range of media segments to retrieve from your TAMS server. MediaConvert fetches only the segments that fall within this range. Use the format specified by your TAMS server implementation. This must be two timestamp values with the format {sign?}{seconds}:{nanoseconds}, separated by an underscore, surrounded by either parentheses or square brackets. Example: [15:0_35:0) This setting is required when you include TAMS settings in your job.

Type: string
Required: False
Pattern: `^(\[|\()(-?(0|[1-9][0-9]*):(0|[1-9][0-9]{0,8}))_(-?(0|[1-9][0-9]*):(0|[1-9][0-9]{0,8}))(\]|\))$`

gapHandling

Specify how MediaConvert handles gaps between media segments in your TAMS source. Gaps can occur in live streams due to network issues or other interruptions. Choose from the following options: * Skip gaps - Default. Skip over gaps and join segments together. This creates a continuous output with no blank frames, but may cause timeline discontinuities. * Fill with black - Insert black frames to fill gaps between segments. This maintains timeline continuity but adds black frames where content is missing. * Hold last frame - Repeat the last frame before a gap until the next segment begins. This maintains visual continuity during gaps.

Type: TamsGapHandling
Required: False

authConnectionArn

Specify the ARN (Amazon Resource Name) of an EventBridge Connection to authenticate with your TAMS server. The EventBridge Connection stores your authentication credentials securely. MediaConvert assumes your job's IAM role to access this connection, so ensure the role has the events:RetrieveConnectionCredentials, secretsmanager:DescribeSecret, and secretsmanager:GetSecretValue permissions. Format: arn:aws:events:region:account-id:connection/connection-name/unique-id This setting is required when you include TAMS settings in your job.

Type: string

Required: False

Pattern: `^arn:aws[a-z0-9-]*:events:[a-z0-9-]+:[0-9]{12}:connection/[a-zA-Z0-9-]+/[a-f0-9-]{36}$`

InputTimecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

`EMBEDDED`

`ZEROBASED`

`SPECIFIEDSTART`

InputVideoGenerator

When you include Video generator, MediaConvert creates a video input with black frames. Use this setting if you do not have a video input or if you want to add black video frames before, or after, other inputs. You can specify Video generator, or you can specify an Input file, but you cannot specify both. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-generator.html

duration

Specify the duration, in milliseconds, for your video generator input. Enter an integer from 50 to 86400000.

Type: integer

Required: False

Minimum: 50

Maximum: 86400000

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for your video generator input. When you do, you must also specify a value for Frame rate denominator. MediaConvert uses a default frame rate of 29.97 when you leave Frame rate numerator and Frame rate denominator blank.

Type: integer
Required: False
Minimum: 1
Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for your video generator input. When you do, you must also specify a value for Frame rate numerator. MediaConvert uses a default frame rate of 29.97 when you leave Frame rate numerator and Frame rate denominator blank.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

sampleRate

Specify the audio sample rate, in Hz, for the silent audio in your video generator input. Enter an integer from 32000 to 48000.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

channels

Specify the number of audio channels to include in your video generator input. MediaConvert creates these audio channels as silent audio within a single audio track. Enter an integer from 1 to 32.

Type: integer
Required: False
Minimum: 1
Maximum: 32

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer
Required: False
Minimum: 0
Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If

you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer
Required: False
Minimum: 0
Maximum: 100

Job

Each job converts an input file into an output file or files. For more information, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

id

A portion of the job's ARN, unique within your AWS Elemental MediaConvert resources

Type: string
Required: False

createdAt

The time, in Unix epoch format in seconds, when the job got created.

Type: string
Required: False
Format: date-time

jobTemplate

The job template that the job is created from, if it is created from a job template.

Type: string
Required: False

jobEngineVersionRequested

The Job engine version that you requested for your job. Valid versions are in a YYYY-MM-DD format.

Type: string
Required: False

jobEngineVersionUsed

The Job engine version that your job used. Job engine versions are in a YYYY-MM-DD format. When you request an expired version, the response for this property will be empty. Requests to create jobs with an expired version result in a regular job, as if no specific Job engine version was requested. When you request an invalid version, the response for this property will be empty. Requests to create jobs with an invalid version result in a 400 error message, and no job is created.

Type: string
Required: False

queue

When you create a job, you can specify a queue to send it to. If you don't specify, the job will go to the default queue. For more about queues, see the User Guide topic at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: string
Required: False

userMetadata

User-defined metadata that you want to associate with an MediaConvert job. You specify metadata in key/value pairs.

Type: object
Required: False

role

The IAM role you use for creating this job. For details about permissions, see the User Guide topic at the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: True

settings

JobSettings contains all the transcode settings for a job.

Type: JobSettings
Required: True

status

A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

Type: JobStatus
Required: False

errorCode

Error code for the job

Type: integer

Required: False
Format: int32

errorMessage

Error message of Job

Type: string
Required: False

timing

Information about when jobs are submitted, started, and finished is specified in Unix epoch format in seconds.

Type: Timing
Required: False

outputGroupDetails

List of output group details

Type: Array of type OutputGroupDetail
Required: False

billingTagsSource

The tag type that AWS Billing and Cost Management will use to sort your AWS Elemental MediaConvert costs on any billing report that you set up.

Type: BillingTagsSource
Required: False

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

Type: AccelerationSettings

Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval
Required: False

jobPercentComplete

An estimate of how far your job has progressed. This estimate is shown as a percentage of the total time from when your job leaves its queue to when your output files appear in your output Amazon S3 bucket. AWS Elemental MediaConvert provides jobPercentComplete in CloudWatch STATUS_UPDATE events and in the response to GetJob and ListJobs requests. The jobPercentComplete estimate is reliable for the following input containers: Quicktime, Transport Stream, MP4, and MXF. For some jobs, the service can't provide information about job progress. In those cases, jobPercentComplete returns a null value.

Type: integer
Required: False

currentPhase

A job's phase can be PROBING, TRANSCODING OR UPLOADING

Type: JobPhase
Required: False

retryCount

The number of times that the service automatically attempted to process your job after encountering an error.

Type: integer

Required: False

priority

Relative priority on the job.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

simulateReservedQueue

Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

Type: SimulateReservedQueue
Required: False

accelerationStatus

Describes whether the current job is running with accelerated transcoding. For jobs that have Acceleration (AccelerationMode) set to DISABLED, AccelerationStatus is always NOT_APPLICABLE. For jobs that have Acceleration (AccelerationMode) set to ENABLED or PREFERRED, AccelerationStatus is one of the other states. AccelerationStatus is IN_PROGRESS initially, while the service determines whether the input files and job settings are compatible with accelerated transcoding. If they are, AcclerationStatus is ACCELERATED. If your input files and job settings aren't compatible with accelerated transcoding, the service either fails your job or runs it without accelerated transcoding, depending on how you set Acceleration (AccelerationMode). When the service runs your job without accelerated transcoding, AccelerationStatus is NOT_ACCELERATED.

Type: AccelerationStatus
Required: False

messages

Provides messages from the service about jobs that you have already successfully submitted.

Type: JobMessages
Required: False

hopDestinations

Optional list of hop destinations.

Type: Array of type HopDestination
Required: False

queueTransitions

The job's queue hopping history.

Type: Array of type QueueTransition
Required: False

clientRequestToken

Prevent duplicate jobs from being created and ensure idempotency for your requests. A client request token can be any string that includes up to 64 ASCII characters. If you reuse a client request token within one minute of a successful request, the API returns the job details of the original request instead. For more information see https://docs.aws.amazon.com/mediaconvert/latest/apireference/idempotency.html.

Type: string
Required: False

warnings

Contains any warning messages for the job. Use to help identify potential issues with your input, output, or job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/warning_codes.html

Type: Array of type WarningGroup

Required: False

shareStatus

A job's share status can be NOT_SHARED, INITIATED, or SHARED

Type: string
Required: False
Values: `NOT_SHARED | INITIATED | SHARED`

lastShareDetails

Contains information about the most recent share attempt for the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/creating-resource-share.html

Type: string
Required: False

JobMessages

Provides messages from the service about jobs that you have already successfully submitted.

info

List of messages that are informational only and don't indicate a problem with your job.

Type: Array of type string
Required: False

warning

List of messages that warn about conditions that might cause your job not to run or to fail.

Type: Array of type string
Required: False

JobPhase

A job's phase can be PROBING, TRANSCODING OR UPLOADING

PROBING

TRANSCODING

UPLOADING

JobSettings

JobSettings contains all the transcode settings for a job.

timecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

Type: TimecodeConfig
Required: False

outputGroups

Contains one group of settings for each set of outputs that share a common package type. All unpackaged files (MPEG-4, MPEG-2 TS, Quicktime, MXF, and no container) are grouped in a single output group as well. Required in is a group of settings that apply to the whole group. This required object depends on the value you set for Type. Type, settings object pairs are as follows. * FILE_GROUP_SETTINGS, FileGroupSettings * HLS_GROUP_SETTINGS, HlsGroupSettings * DASH_ISO_GROUP_SETTINGS, DashIsoGroupSettings * MS_SMOOTH_GROUP_SETTINGS, MsSmoothGroupSettings * CMAF_GROUP_SETTINGS, CmafGroupSettings

Type: Array of type OutputGroup
Required: False

adAvailOffset

When specified, this offset (in milliseconds) is added to the input Ad Avail PTS time.

Type: integer
Required: False
Minimum: -1000
Maximum: 1000

availBlanking

Settings for ad avail blanking. Video can be blanked or overlaid with an image, and audio muted during SCTE-35 triggered ad avails.

Type: AvailBlanking
Required: False

followSource

Specify the input that MediaConvert references for your default output settings. MediaConvert uses this input's Resolution, Frame rate, and Pixel aspect ratio for all outputs that you don't manually specify different output settings for. Enabling this setting will disable "Follow source" for all other inputs. If MediaConvert cannot follow your source, for example if you specify an audio-only input, MediaConvert uses the first followable input instead. In your JSON job specification, enter an integer from 1 to 150 corresponding to the order of your inputs.

Type: integer
Required: False
Minimum: 1
Maximum: 150

timedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

Type: TimedMetadataInsertion
Required: False

nielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

Type: NielsenConfiguration
Required: False

motionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

Type: MotionImageInserter
Required: False

esam

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

Type: EsamSettings
Required: False

nielsenNonLinearWatermark

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

Type: NielsenNonLinearWatermarkSettings
Required: False

kantarWatermark

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

Type: KantarWatermarkSettings

Required: False

extendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

Type: ExtendedDataServices
Required: False

colorConversion3DLUTSettings

Use 3D LUTs to specify custom color mapping behavior when you convert from one color space into another. You can include up to 8 different 3D LUTs. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/3d-luts.html

Type: Array of type ColorConversion3DLUTSetting
Required: False

inputs

Use Inputs to define source file used in the transcode job. There can be multiple inputs add in a job. These inputs will be concantenated together to create the output.

Type: Array of type Input
Required: False

JobStatus

A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

```
SUBMITTED
PROGRESSING
COMPLETE
CANCELED
ERROR
```

KantarWatermarkSettings

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

credentialsSecretName

Provide the name of the AWS Secrets Manager secret where your Kantar credentials are stored. Note that your MediaConvert service role must provide access to this secret. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/granting-permissions-for-mediaconvert-to-access-secrets-manager-secret.html. For instructions on creating a secret, see https://docs.aws.amazon.com/secretsmanager/latest/userguide/tutorials_basic.html, in the AWS Secrets Manager User Guide.

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

channelName

Provide an audio channel name from your Kantar audio license.

Type: string
Required: False
MinLength: 1
MaxLength: 20

contentReference

Specify a unique identifier for Kantar to use for this piece of content.

Type: string
Required: False

Pattern: ^[a-zA-Z0-9_\/_+=.@-]*$
MinLength: 1
MaxLength: 50

kantarServerUrl

Provide the HTTPS endpoint to the Kantar server. You should get this endpoint from Kantar.

Type: string
Required: False
Format: uri
Pattern: ^https:\/\/.*.kantarmedia.*$

kantarLicenseId

Provide your Kantar license ID number. You should get this number from Kantar.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

logDestination

Optional. Specify the Amazon S3 bucket where you want MediaConvert to store your Kantar watermark XML logs. When you don't specify a bucket, MediaConvert doesn't save these logs. Note that your MediaConvert service role must provide access to this location. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: False
Format: uri
Pattern: ^s3:\/\/

fileOffset

Optional. Specify an offset, in whole seconds, from the start of your output and the beginning of the watermarking. When you don't specify an offset, Kantar defaults to zero.

Type: number
Required: False
Format: float
Minimum: 0.0

metadata3

You can optionally use this field to specify the first timestamp that Kantar embeds during watermarking. Kantar suggests that you be very cautious when using this Kantar feature, and that you use it only on channels that are managed specifically for use with this feature by your Audience Measurement Operator. For more information about this feature, contact Kantar technical support.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata4

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata5

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata6

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata7

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata8

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG
SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN

RUS
POR
ITA
URD
VIE
KOR
PAN
ABK
AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA
AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS
BOS
BRE
BUL
MYA
CAT
KHM
CHA

CHE
NYA
CHU
CHV
COR
COS
CRE
HRV
CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE
FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN
GUJ
HAT
HAU
HEB
HER
HMO

HUN
ISL
IDO
IBO
IND
INA
ILE
IKU
IPK
GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK
KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB
LTZ
MKD
MLG
MSA

MAL
MLT
GLV
MRI
MAR
MAH
MON
NAU
NAV
NDE
NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI
OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO
SAG
SAN

SRD
SRB
SNA
III
SND
SIN
SLK
SLV
SOM
SOT
SUN
SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT
TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN
VOL

WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA
ZUL
ORJ
QPC
TNG
SRP

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

MULTIPLEX
NONE

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

AUTO
ALIGN_TO_VIDEO

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR
CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32

Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH
NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a

segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

MAINTAIN_CADENCE
RESET_CADENCE

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel
Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings
Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32

Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl

Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl

Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers

Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval

Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number
Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

```
INSERT
NONE
```

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

```
PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD
```

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

```
PASSTHROUGH
NONE
```

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False

Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer

Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer

Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MinBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MinTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer

Required: False

Minimum: 32

Maximum: 8192

MotionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

insertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

Type: MotionImageInsertionMode

Required: False

input

Specify the .mov file or series of .png files that you want to overlay on your video. For .png files, provide the file name of the first file in the series. Make sure that the names of the .png files end with sequential numbers that specify the order that they are played in. For example, overlay_000.png, overlay_001.png, overlay_002.png, and so on. The sequence must start at zero, and each image file name must have the same number of digits. Pad your initial file names with enough zeros to complete the sequence. For example, if the first image is overlay_0.png, there can be only 10 images in the sequence, with the last image being overlay_9.png. But if the first image is overlay_00.png, there can be 100 images in the sequence.

Type: string

Required: False

Pattern: `^((s3://(.*)(\.mov|[0-9]+\.png))|(https?://(.*)(\.mov|[0-9]+\.png)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

offset

Use Offset to specify the placement of your motion graphic overlay on the video frame. Specify in pixels, from the upper-left corner of the frame. If you don't specify an offset, the service scales your overlay to the full size of the frame. Otherwise, the service inserts the overlay at its native resolution and scales the size up or down with any video scaling.

Type: MotionImageInsertionOffset
Required: False

startTime

Specify when the motion overlay begins. Use timecode format (HH:MM:SS:FF or HH:MM:SS;FF). Make sure that the timecode you provide here takes into account how you have set up your timecode configuration under both job settings and input settings. The simplest way to do that is to set both to start at 0. If you need to set up your job to follow timecodes embedded in your source that don't start at zero, make sure that you specify a start time that is after the first embedded timecode. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/setting-up-timecode.html

Type: string
Required: False
Pattern: `^(([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

playback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

Type: MotionImagePlayback
Required: False

framerate

If your motion graphic asset is a .mov file, keep this setting unspecified. If your motion graphic asset is a series of .png files, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. Make sure that the number of images in your series

matches the frame rate and your intended overlay duration. For example, if you want a 30-second overlay at 30 fps, you should have 900 .png images. This overlay frame rate doesn't need to match the frame rate of the underlying video.

Type: MotionImageInsertionFramerate
Required: False

MotionImageInsertionFramerate

For motion overlays that don't have a built-in frame rate, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. The overlay frame rate doesn't need to match the frame rate of the underlying video.

framerateNumerator

The top of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 24.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483640

framerateDenominator

The bottom of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 1.

Type: integer
Required: False
Minimum: 1
Maximum: 17895697

MotionImageInsertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

MOV
PNG

MotionImageInsertionOffset

Specify the offset between the upper-left corner of the video frame and the top left corner of the overlay.

imageX

Set the distance, in pixels, between the overlay and the left edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Set the distance, in pixels, between the overlay and the top edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

MotionImagePlayback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

ONCE
REPEAT

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE

EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM
MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON
NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED
EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom
Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

```
BROADCASTER_MIXED_AD
NONE
```

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix

Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer
Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest
Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE

EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION

MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW

FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE
PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED
DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints

Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType

Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source

Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
```

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

```
AUTO
LOW
MAIN
HIGH1440
HIGH
```

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

```
MAIN
PROFILE_422
```

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

```
ADAPTIVE
STATIC
```

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

DEFAULT
D_10

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

MsSmoothAdditionalManifest

Specify the details for each additional Microsoft Smooth Streaming manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your Microsoft Smooth group is film-name.ismv. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.ismv.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

MsSmoothAudioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

`COMBINE_DUPLICATE_STREAMS`
`NONE`

MsSmoothEncryptionSettings

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

MsSmoothFragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

`EXACT`
`GOP_MULTIPLE`

MsSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .ism Microsoft Smooth Streaming manifest for each Microsoft Smooth Streaming output group in your job. This default manifest references every output in the output group. To create additional manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type MsSmoothAdditionalManifest
Required: False

fragmentLength

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

fragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: MsSmoothFragmentLengthControl
Required: False

encryption

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

Type: MsSmoothEncryptionSettings
Required: False

manifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

Type: MsSmoothManifestEncoding
Required: False

audioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

Type: MsSmoothAudioDeduplication
Required: False

MsSmoothManifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

```
UTF8
UTF16
```

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

```
NO_COPY
COPY_FROM_VIDEO
```

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

ALLOW_ANY_DURATION

DROP_FRAMES_FOR_COMPLIANCE

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode

Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is 1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NielsenActiveWatermarkProcessType

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

NAES2_AND_NW
CBET
NAES2_AND_NW_AND_CBET

NielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

breakoutCode

Nielsen has discontinued the use of breakout code functionality. If you must include this property, set the value to zero.

Type: integer
Required: False
Minimum: 0
Maximum: 0

distributorId

Use Distributor ID to specify the distributor ID that is assigned to your organization by Nielsen.

Type: string
Required: False

NielsenNonLinearWatermarkSettings

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

sourceId

Use the SID that Nielsen provides to you. This source ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking. This ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking.

Type: integer
Required: False
Minimum: 0
Maximum: 65534

cbetSourceId

Use the CSID that Nielsen provides to you. This CBET source ID should be unique to your Nielsen account but common to all of your output assets that have CBET watermarking. Required when you choose a value for the setting Watermark types that includes CBET.

Type: string
Required: False
Pattern: `(^0x[A-Fa-f0-9]{0,8}$|^[1-9][0-9]{0,8}$)`

activeWatermarkProcess

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a

value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

Type: NielsenActiveWatermarkProcessType
Required: False

assetId

Use the asset ID that you provide to Nielsen to uniquely identify this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 20

assetName

Use the asset name that you provide to Nielsen for this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 50

episodeId

Optional. If this asset uses an episode ID with Nielsen, provide it here.

Type: string
Required: False
MinLength: 1
MaxLength: 20

ticServerUrl

Specify the endpoint for the TIC server that you have deployed and configured in the AWS Cloud. Required for all Nielsen non-linear watermarking. MediaConvert can't connect directly to a TIC server. Instead, you must use API Gateway to provide a RESTful interface between MediaConvert and a TIC server that you deploy in your AWS account. For more information on deploying a TIC server in your AWS account and the required API Gateway, contact Nielsen support.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/`

metadataDestination

Specify the Amazon S3 location where you want MediaConvert to save your Nielsen non-linear metadata .zip file. This Amazon S3 bucket must be in the same Region as the one where you do your MediaConvert transcoding. If you want to include an ADI file in this .zip file, use the setting ADI file to specify it. MediaConvert delivers the Nielsen metadata .zip files only to your metadata destination Amazon S3 bucket. It doesn't deliver the .zip files to Nielsen. You are responsible for delivering the metadata .zip files to Nielsen.

Type: string
Required: False
Pattern: `^s3:\/\/`

uniqueTicPerAudioTrack

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

Type: NielsenUniqueTicPerAudioTrackType
Required: False

adiFilename

Optional. Use this setting when you want the service to include an ADI file in the Nielsen metadata .zip file. To provide an ADI file, store it in Amazon S3 and provide a URL to it here. The

URL should be in the following format: S3://bucket/path/ADI-file. For more information about the metadata .zip file, see the setting Metadata destination.

Type: string
Required: False
Pattern: `^s3:\/\/`

sourceWatermarkStatus

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

Type: NielsenSourceWatermarkStatusType
Required: False

NielsenSourceWatermarkStatusType

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

`CLEAN`
`WATERMARKED`

NielsenUniqueTicPerAudioTrackType

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

`RESERVE_UNIQUE_TICS_PER_TRACK`
`SAME_TICS_PER_TRACK`

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

```
DISABLED
ENABLED
AUTO
```

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
```

CONSERVE
SPATIAL
TEMPORAL

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2

Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 16000
Maximum: 48000

Output

Each output in your job is a collection of settings that describes how you want MediaConvert to encode a single output file or stream. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/create-outputs.html.

containerSettings

Container specific settings.

Type: ContainerSettings
Required: False

preset

Use Preset to specify a preset for your transcoding settings. Provide the system or custom preset name. You can specify either Preset or Container settings, but not both.

Type: string
Required: False
MinLength: 0

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

outputSettings

Specific settings for this type of output.

Type: OutputSettings
Required: False

extension

Use Extension to specify the file extension for outputs in File output groups. If you do not specify a value, the service will use default extensions by container type as follows * MPEG-2 transport stream, m2ts * Quicktime, mov * MXF container, mxf * MPEG-4 container, mp4 * WebM container, webm * Animated GIF container, gif * No Container, the service will use codec extensions (e.g. AAC, H265, H265, AC3)

Type: string
Required: False
MaxLength: 256

nameModifier

Use Name modifier to have the service add a string to the end of each output filename. You specify the base filename as part of your destination URI. When you create multiple outputs in the same output group, Name modifier is required. Name modifier also accepts format identifiers. For DASH ISO outputs, if you use the format identifiers $Number$ or $Time$ in one output, you must use them in the same way in all outputs of the output group.

Type: string
Required: False
MinLength: 1
MaxLength: 256

captionDescriptions

Contains groups of captions settings. For each output that has captions, include one instance of CaptionDescriptions. Can contain multiple groups of captions settings.

Type: Array of type CaptionDescription
Required: False

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer
Required: False
Minimum: -60
Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number
Required: False
Format: float
Minimum: -60.0
Maximum: 6.0

OutputDetail

Details regarding output

durationInMs

Duration in milliseconds

Type: integer
Required: False

videoDetails

Contains details about the output's video stream

Type: VideoDetail
Required: False

OutputGroup

Group of outputs

customName

Use Custom Group Name to specify a name for the output group. This value is displayed on the console and can make your job settings JSON more human-readable. It does not affect your outputs. Use up to twelve characters that are either letters, numbers, spaces, or underscores.

Type: string
Required: False

name

Name of the output group

Type: string
Required: False
MaxLength: 2048

outputs

This object holds groups of encoding settings, one group of settings per output.

Type: Array of type Output
Required: False

outputGroupSettings

Output Group settings, including type

Type: OutputGroupSettings
Required: False

automatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

Type: AutomatedEncodingSettings
Required: False

OutputGroupDetail

Contains details about the output groups specified in the job settings.

outputDetails

Details about the output

Type: Array of type OutputDetail
Required: False

OutputGroupSettings

Output Group settings, including type

type

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

Type: OutputGroupType
Required: False

hlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: HlsGroupSettings
Required: False

dashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: DashIsoGroupSettings
Required: False

fileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

Type: FileGroupSettings
Required: False

msSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: MsSmoothGroupSettings
Required: False

cmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: CmafGroupSettings
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System

* VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

OutputGroupType

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

```
HLS_GROUP_SETTINGS
DASH_ISO_GROUP_SETTINGS
FILE_GROUP_SETTINGS
MS_SMOOTH_GROUP_SETTINGS
CMAF_GROUP_SETTINGS
```

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

```
SDT_FOLLOW
SDT_FOLLOW_IF_PRESENT
SDT_MANUAL
SDT_NONE
```

OutputSettings

Specific settings for this type of output.

hlsSettings

Settings for HLS output groups

Type: HlsSettings

Required: False

PadVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

```
DISABLED
BLACK
```

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings
Required: False

PresetSpeke20Audio

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

PRESET_AUDIO_1
PRESET_AUDIO_2
PRESET_AUDIO_3
SHARED
UNENCRYPTED

PresetSpeke20Video

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

PRESET_VIDEO_1
PRESET_VIDEO_2
PRESET_VIDEO_3
PRESET_VIDEO_4
PRESET_VIDEO_5
PRESET_VIDEO_6
PRESET_VIDEO_7
PRESET_VIDEO_8
SHARED
UNENCRYPTED

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and

your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

PRESERVE_444_SAMPLING
SUBSAMPLE_TO_422

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

APPLE_PRORES_422
APPLE_PRORES_422_HQ
APPLE_PRORES_422_LT
APPLE_PRORES_422_PROXY
APPLE_PRORES_4444
APPLE_PRORES_4444_XQ

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated

interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile

Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal

Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine
Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

HARD

QueueTransition

Description of the source and destination queues between which the job has moved, along with the timestamp of the move

timestamp

The time, in Unix epoch format, that the job moved from the source queue to the destination queue.

Type: string
Required: False
Format: date-time

sourceQueue

The queue that the job was on before the transition.

Type: string
Required: False

destinationQueue

The queue that the job was on after the transition.

Type: string
Required: False

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping

Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer

Required: False

Minimum: 1

Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

DISABLED
ENABLED

RequiredFlag

Set to ENABLED to force a rendition to be included.

ENABLED
DISABLED

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE
RESPOND
PASSTHROUGH

RuleType

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size

to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

```
MIN_TOP_RENDITION_SIZE
MIN_BOTTOM_RENDITION_SIZE
FORCE_INCLUDE_RENDITIONS
ALLOWED_RENDITIONS
```

S3DestinationAccessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

cannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

Type: S3ObjectCannedAcl
Required: False

S3DestinationSettings

Settings associated with S3 destination

encryption

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

Type: S3EncryptionSettings
Required: False

accessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

Type: S3DestinationAccessControl
Required: False

storageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

Type: S3StorageClass
Required: False

S3EncryptionSettings

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

encryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when

you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

Type: S3ServerSideEncryptionType
Required: False

kmsKeyArn

Optionally, specify the customer master key (CMK) that you want to use to encrypt the data key that AWS uses to encrypt your output content. Enter the Amazon Resource Name (ARN) of the CMK. To use this setting, you must also set Server-side encryption to AWS KMS. If you set Server-side encryption to AWS KMS but don't specify a CMK here, AWS uses the AWS managed CMK associated with Amazon S3.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32})$`

kmsEncryptionContext

Optionally, specify the encryption context that you want to use alongside your KMS key. AWS KMS uses this encryption context as additional authenticated data (AAD) to support authenticated encryption. This value must be a base64-encoded UTF-8 string holding JSON which represents a string-string map. To use this setting, you must also set Server-side encryption to AWS KMS. For more information about encryption context, see: https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#encrypt_context.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

S3ObjectCannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

PUBLIC_READ

AUTHENTICATED_READ

BUCKET_OWNER_READ

BUCKET_OWNER_FULL_CONTROL

S3ServerSideEncryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

SERVER_SIDE_ENCRYPTION_S3

SERVER_SIDE_ENCRYPTION_KMS

S3StorageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

STANDARD

REDUCED_REDUNDANCY

STANDARD_IA

ONEZONE_IA

INTELLIGENT_TIERING

GLACIER

DEEP_ARCHIVE

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

```
LIMITED_RANGE_SQUEEZE
NONE
LIMITED_RANGE_CLIP
```

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

```
DEFAULT
STRETCH_TO_OUTPUT
FIT
FIT_NO_UPSCALE
FILL
```

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

```
FRAMERATE_23_97
```

FRAMERATE_24
FRAMERATE_25
FRAMERATE_29_97_DROPFRAME
FRAMERATE_29_97_NON_DROPFRAME

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate
Required: False

SimulateReservedQueue

Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

DISABLED
ENABLED

SpekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False

systemIds

Relates to SPEKE implementation. DRM system identifiers. DASH output groups support a max of two system ids. HLS output groups support a max of 3 system ids. Other group types support one system id. See https://dashif.org/identifiers/content_protection/ for more details.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SpekeKeyProviderCmaf

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False
Pattern: `^[\w-]+$`

hlsSignaledSystemIds

Specify up to 3 DRM system IDs that you want signaled in the HLS manifest that MediaConvert creates as part of this CMAF package. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

dashSignaledSystemIds

Specify the DRM system IDs that you want signaled in the DASH manifest that MediaConvert creates as part of this CMAF package. The DASH manifest can currently signal up to three system IDs. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/

speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

```
ENABLED
DISABLED
```

StaticKeyProvider

Use these settings to set up encryption with a static key provider.

staticKeyValue

Relates to DRM implementation. Use a 32-character hexidecimal string to specify Key Value.

Type: string
Required: False
Pattern: `^[A-Za-z0-9]{32}$`

keyFormat

Relates to DRM implementation. Sets the value of the KEYFORMAT attribute. Must be 'identity' or a reverse DNS string. May be omitted to indicate an implicit value of 'identity'.

Type: string
Required: False
Pattern: `^(identity|[A-Za-z]{2,6}(\.[A-Za-z0-9-]{1,63})+)$`

keyFormatVersions

Relates to DRM implementation. Either a single positive integer version value or a slash delimited list of version values (1/2/3).

Type: string
Required: False
Pattern: `^(\d+(\/\d+)*)$`

url

Relates to DRM implementation. The location of the license server used for protecting content.

Type: string
Required: False
Format: uri

StatusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

`SECONDS_10`

SECONDS_12
SECONDS_15
SECONDS_20
SECONDS_30
SECONDS_60
SECONDS_120
SECONDS_180
SECONDS_240
SECONDS_300
SECONDS_360
SECONDS_420
SECONDS_480
SECONDS_540
SECONDS_600

TamsGapHandling

Specify how MediaConvert handles gaps between media segments in your TAMS source. Gaps can occur in live streams due to network issues or other interruptions. Choose from the following options: * Skip gaps - Default. Skip over gaps and join segments together. This creates a continuous output with no blank frames, but may cause timeline discontinuities. * Fill with black - Insert black frames to fill gaps between segments. This maintains timeline continuity but adds black frames where content is missing. * Hold last frame - Repeat the last frame before a gap until the next segment begins. This maintains visual continuity during gaps.

SKIP_GAPS
FILL_WITH_BLACK
HOLD_LAST_FRAME

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

`PAGE_TYPE_INITIAL`
`PAGE_TYPE_SUBTITLE`
`PAGE_TYPE_ADDL_INFO`
`PAGE_TYPE_PROGRAM_SCHEDULE`
`PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE`

TeletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

pageNumber

Use Page Number to specify the three-digit hexadecimal page number that will be used for Teletext captions. Do not use this setting if you are passing through teletext from the input source to output.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: `^[ -~]+$`

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

`TOP_CENTER`
`TOP_LEFT`
`TOP_RIGHT`
`MIDDLE_LEFT`
`MIDDLE_CENTER`
`MIDDLE_RIGHT`
`BOTTOM_LEFT`
`BOTTOM_CENTER`
`BOTTOM_RIGHT`

TimecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

anchor

If you use an editing platform that relies on an anchor timecode, use Anchor Timecode to specify a timecode that will match the input video frame to the output video frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF). This setting ignores frame rate conversion. System behavior for Anchor Timecode varies depending on your setting for Source. * If Source is set to Specified Start, the first input frame is the specified value in Start Timecode. Anchor Timecode and Start Timecode are used calculate output timecode. * If Source is set to Start at 0 the first frame is 00:00:00:00. * If Source is set to Embedded, the first frame is the timecode value on the first input frame of the input.

Type: string
Required: False

Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

source

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

Type: TimecodeSource
Required: False

start

Only use when you set Source to Specified start. Use Start timecode to specify the timecode for the initial frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF).

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

timestampOffset

Only applies to outputs that support program-date-time stamp. Use Timestamp offset to overwrite the timecode date without affecting the time and frame number. Provide the new date as a string in the format "yyyy-mm-dd". To use Timestamp offset, you must also enable Insert program-date-time in the output settings. For example, if the date part of your timecodes is 2002-1-25 and you want to change it to one year later, set Timestamp offset to 2003-1-25.

Type: string
Required: False
Pattern: `^([0-9]{4})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])$`

TimecodeSource

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

```
EMBEDDED
ZEROBASED
SPECIFIEDSTART
```

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

```
DISABLED
ENABLED
```

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

```
PASSTHROUGH
NONE
```

TimedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

id3Insertions

Id3Insertions contains the array of Id3Insertion instances.

Type: Array of type Id3Insertion
Required: False

Timing

Information about when jobs are submitted, started, and finished is specified in Unix epoch format in seconds.

submitTime

The time, in Unix epoch format, that you submitted the job.

Type: string
Required: False
Format: date-time

startTime

The time, in Unix epoch format, that transcoding for the job began.

Type: string
Required: False
Format: date-time

finishTime

The time, in Unix epoch format, that the transcoding job finished

Type: string
Required: False
Format: date-time

TrackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

trackNumber

Use this setting to select a single captions track from a source. Track numbers correspond to the order in the captions source file. For IMF sources, track numbering is based on the order that the captions appear in the CPL. For example, use 1 to select the captions asset that is listed first in the CPL. To include more than one captions track in your job outputs, create multiple input captions selectors. Specify one track per selector.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

```
AUTO
SECONDS
MILLISECONDS
```

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough

Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

ENABLED

DISABLED

UncompressedFourcc

The four character code for the uncompressed video.

I420

I422

I444

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for

optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode

Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine

Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal

Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

```
NONE
HARD
```

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

```
CLASS_145_8BIT
CLASS_220_8BIT
```

CLASS_220_10BIT

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class

Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the

same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

`DISABLED`
`ENABLED`

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264
H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3
VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer
Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle
Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

Type: VideoCodecSettings
Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode
Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input

display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata
Required: False

VideoDetail

Contains details about the output's video stream

widthInPx

Width in pixels for the output

Type: integer
Required: False

heightInPx

Height in pixels for the output

Type: integer
Required: False

VideoOverlay

Overlay one or more videos on top of your input video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-overlays.html

input

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

Type: VideoOverlayInput
Required: False

endTimecode

Enter the end timecode in the base input video for this overlay. Your overlay will be active through this frame. To display your video overlay for the duration of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS isthe second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to end ten minutes into the video, enter 01:10:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Enter the start timecode in the base input video for this overlay. Your overlay will be active starting with this frame. To display your video overlay starting at the beginning of the base input

video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to begin five minutes into the video, enter 01:05:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

crop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

Type: VideoOverlayCrop
Required: False

initialPosition

Specify the Initial position of your video overlay. To specify the Initial position of your video overlay, including distance from the left or top edge of the base input video's frame, or size: Enter a value for X position, Y position, Width, or Height. To use the full frame of the base input video: Leave blank.

Type: VideoOverlayPosition
Required: False

playback

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

Type: VideoOverlayPlayBackMode

Required: False

transitions

Specify one or more transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

Type: Array of type VideoOverlayTransition
Required: False

VideoOverlayCrop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

x

Specify the distance between the cropping rectangle and the left edge of your overlay video's frame. To position the cropping rectangle along the left edge: Keep blank, or enter 0. To position the cropping rectangle to the right, relative to the left edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the left edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 192 pixels from the left edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

Specify the distance between the cropping rectangle and the top edge of your overlay video's frame. To position the cropping rectangle along the top edge: Keep blank, or enter 0. To position

the cropping rectangle down, relative to the top edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the top edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 108 pixels from the top edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width of the video overlay cropping rectangle. To use the same width as your overlay input video: Keep blank, or enter 0. To specify a different width for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels wide. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 192 pixels wide.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the video overlay cropping rectangle. To use the same height as your overlay input video: Keep blank, or enter 0. To specify a different height for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels high. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 108 pixels high.

Type: integer
Required: False
Minimum: 0

Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayInput

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your video overlay. To specify one or more Transitions for your base input video instead: Leave blank.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

inputClippings

Specify one or more clips to use from your video overlay. When you include an input clip, you must also specify its start timecode, end timecode, or both start and end timecode.

Type: Array of type VideoOverlayInputClipping
Required: False

timecodeSource

Specify the timecode source for your video overlay input clips. To use the timecode present in your video overlay: Choose Embedded. To use a zerobased timecode: Choose Start at 0. To choose a timecode: Choose Specified start. When you do, enter the starting timecode in Start timecode. If you don't specify a value for Timecode source, MediaConvert uses Embedded by default.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the starting timecode for this video overlay. To use this setting, you must set Timecode source to Specified start.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

VideoOverlayInputClipping

To transcode only portions of your video overlay, include one input clip for each part of your video overlay that you want in your output.

endTimecode

Specify the timecode of the last frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Specify the timecode of the first frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string

Required: False
Format: timecode
Pattern: ^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$

VideoOverlayPlayBackMode

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

ONCE
REPEAT

VideoOverlayPosition

position of video overlay

xPosition

To position the left edge of your video overlay along the left edge of the base input video's frame: Keep blank, or enter 0. To position the left edge of your video overlay to the right, relative to the left edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the left edge of the base input video's frame. When you enter 10, choose Percentage, and your base input video is 1920x1080, your video overlay will be positioned 192 pixels from the left edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

yPosition

To position the top edge of your video overlay along the top edge of the base input video's frame: Keep blank, or enter 0. To position the top edge of your video overlay down, relative to the top

edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the top edge of the base input video's frame. When you enter 10, choose Percentage, and your underlying video is 1920x1080, your video overlay will be positioned 108 pixels from the top edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

width

To scale your video overlay to the same width as the base input video: Leave blank. To scale the width of your video overlay to a different width: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 640 and choose Pixels, your video overlay will scale to a height of 640 pixels. When you enter 50, choose Percentage, and your overlay's source has a width of 1920, your video overlay will scale to a width of 960. To scale your overlay to a specific width while automatically maintaining its original aspect ratio, enter a value for Width and leave Height blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

height

To scale your video overlay to the same height as the base input video: Leave blank. To scale the height of your video overlay to a different height: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 360 and choose Pixels, your video overlay will be rendered with a height of 360. When you enter 50, choose Percentage, and your overlay's source has a height of 1080, your video overlay will be rendered with a height of 540. To scale your overlay to a specific height while automatically maintaining its original aspect ratio, enter a value for Height and leave Width blank.

Type: integer

Required: False
Minimum: -1
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayTransition

Specify one or more Transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

endTimecode

Specify the timecode for when this transition ends. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Specify the timecode for when this transition begins. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False

Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

endPosition

Specify the ending position for this transition, relative to the base input video's frame. Your video overlay will move smoothly to this position, beginning at this transition's Start timecode and ending at this transition's End timecode.

Type: VideoOverlayPosition
Required: False

VideoOverlayUnit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

`PIXELS`
`PERCENTAGE`

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector
Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking
Required: False

VideoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

colorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpace
Required: False

sampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically

detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

Type: InputSampleRange
Required: False

rotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

Type: InputRotate
Required: False

pid

Use PID to select specific video data from an input file. Specify this value as an integer; the system automatically converts it to the hexidecimal value. For example, 257 selects PID 0x101. A PID, or packet identifier, is an identifier for a set of data in an MPEG-2 transport stream container.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

programNumber

Selects a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

embeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

Type: EmbeddedTimecodeOverride
Required: False

alphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

Type: AlphaBehavior
Required: False

colorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

Type: ColorSpaceUsage
Required: False

padVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

Type: PadVideo
Required: False

selectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

Type: VideoSelectorType
Required: False

streams

Specify a stream for MediaConvert to use from your HLS input. Enter an integer corresponding to the stream order in your HLS manifest.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings to provide HDR 10 metadata that is missing or inaccurate in your input video. Appropriate values vary depending on the input video and must be provided by a color grader. The color grader generates these values during the HDR 10 mastering process. The valid range for each of these settings is 0 to 50,000. Each increment represents 0.00002 in CIE1931 color coordinate. Related settings - When you specify these values, you must also set Color space to HDR 10. To specify whether the the values you specify here take precedence over the values in the metadata of your input file, set Color space usage. To specify whether color metadata is included in an output, set Color metadata. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

VideoSelectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

AUTO
STREAM

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero.

To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

DISABLED
PIC_TIMING_SEI

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer

Required: False

Minimum: -1

Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

`SPECIFIED`

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

`DUPLICATE_DROP`

`INTERPOLATE`

`FRAMEFORMER`

`MAINTAIN_FRAME_COUNT`

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

`MULTI_PASS`
`MULTI_PASS_HQ`

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

`VBR`

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer

Required: False

Minimum: 0

Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

```
MULTI_PASS
```

MULTI_PASS_HQ

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WarningGroup

Contains any warning codes and their count for the job.

code

Warning code that identifies a specific warning in the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/warning_codes.html

Type: integer
Required: True
Format: int32

count

The number of times this warning occurred in the job.

Type: integer
Required: True
Format: int32

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

RIFF
RF64
EXTENSIBLE

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer

Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat
Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

```
DISABLED
ENABLED
```

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or

multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

ENABLED

DISABLED
STRICT
MERGE

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass
Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass
Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200
```

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

```
HIGH
HIGH_422
```

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to

enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

```
AUTO
CABAC
CAVLC
```

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

```
DISABLED
ENABLED
```

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose

FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

```
DISABLED
ENABLED
```

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_50
CLASS_100
CLASS_200
```

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass
Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_25
BITRATE_CLASS_35
BITRATE_CLASS_50
```

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 4
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode

Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the

encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE
HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

XAVC_HD_INTRA_CBG
XAVC_4K_INTRA_CBG
XAVC_4K_INTRA_VBR
XAVC_HD
XAVC_4K

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0

Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the

viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

```
DISABLED
ENABLED
```

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default

value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

```
DISABLED
ENABLED
```

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

```
PSNR
SSIM
MS_SSIM
PSNR_HVS
VMAF
QVBR
```

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

GetJob

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CancelJob

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

JobTemplates

URI

`/2017-08-29/jobTemplates`

HTTP methods

GET

Operation ID: `ListJobTemplates`

Retrieve a JSON array of up to twenty of your job templates. This will return the templates themselves, not just a list of them. To retrieve the next twenty templates, use the nextToken string returned with the array

Query parameters

Name	Type	Required	Description
category	String	False	
listBy	String	False	
nextToken	String	False	
maxResults	String	False	
order	String	False	

Responses

Status code	Response model	Description
200	ListJobTemplatesResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict

Status code	Response model	Description
		with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

POST

Operation ID: `CreateJobTemplate`

Create a new job template. For information about job templates see the User Guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Responses

Status code	Response model	Description
201	CreateJobTemplateResponse	201 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.

Status code	Response model	Description
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "listBy": enum,
  "category": "string",
  "order": enum,
```

```
  "nextToken": "string",
  "maxResults": integer
}
```

POST schema

```
{
  "description": "string",
  "category": "string",
  "queue": "string",
  "name": "string",
  "settings": {
    "timecodeConfig": {
      "anchor": "string",
      "source": enum,
      "start": "string",
      "timestampOffset": "string"
    },
    "outputGroups": [
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        "customName": "string",
        "name": "string",
        "outputs": [
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              "m3u8Settings": {
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                "dataPTSControl": enum,
                "maxPcrInterval": integer,
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                "pmtPid": integer,
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                "programNumber": integer,
                "patInterval": integer,
                "pmtInterval": integer,
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                "timedMetadata": enum,
                "timedMetadataPid": integer,
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```

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```

```
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      "pcrPid": integer,
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      "mpeg2FourCCControl": enum
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```

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            "klvMetadata": enum
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```

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```

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      ]
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```

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            "gopSizeUnits": enum,
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```

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      "telecine": enum,
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      "adaptiveQuantization": enum,
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```

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        "temporalIds": enum,
        "sampleAdaptiveOffsetFilterMode": enum,
        "writeMp4PackagingType": enum,
        "dynamicSubGop": enum,
        "hrdBufferFinalFillPercentage": integer,
        "endOfStreamMarkers": enum,
        "deblocking": enum,
        "bandwidthReductionFilter": {
          "strength": enum,
          "sharpening": enum
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        "perFrameMetrics": [
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        ]
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      "mpeg2Settings": {
        "interlaceMode": enum,
        "scanTypeConversionMode": enum,
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        "syntax": enum,
        "softness": integer,
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Response bodies

ListJobTemplatesResponse schema

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            "maxLuminance": integer,
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          "hdrToSdrToneMapper": enum
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          "control": enum
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```
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          }
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CreateJobTemplateResponse schema

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      "outputGroups": [
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                  "dataPTSControl": enum,
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          "s3Settings": {
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              "encryptionType": enum,
              "kmsKeyArn": "string",
              "kmsEncryptionContext": "string"
            },
            "accessControl": {
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            },
            "storageClass": enum
          }
        },
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          {
            "manifestNameModifier": "string",
            "selectedOutputs": [
              "string"
            ]
          }
        ],
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          "constantInitializationVector": "string",
          "initializationVectorInManifest": enum,
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            "resourceId": "string",
            "hlsSignaledSystemIds": [
              "string"
            ],
            "dashSignaledSystemIds": [
              "string"
            ],
            "url": "string",
            "certificateArn": "string",
            "encryptionContractConfiguration": {
              "spekeVideoPreset": enum,
              "spekeAudioPreset": enum
```

```
            }
          },
          "staticKeyProvider": {
            "staticKeyValue": "string",
            "keyFormat": "string",
            "keyFormatVersions": "string",
            "url": "string"
          },
          "type": enum
        },
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        "fragmentLength": integer,
        "baseUrl": "string",
        "segmentControl": enum,
        "ptsOffsetHandlingForBFrames": enum,
        "mpdManifestBandwidthType": enum,
        "mpdProfile": enum,
        "writeSegmentTimelineInRepresentation": enum,
        "manifestDurationFormat": enum,
        "streamInfResolution": enum,
        "clientCache": enum,
        "manifestCompression": enum,
        "codecSpecification": enum,
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        "dashIFrameTrickPlayNameModifier": "string",
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          "thumbnailWidth": integer,
          "tileHeight": integer,
          "tileWidth": integer,
          "intervalCadence": enum,
          "thumbnailInterval": number
        },
        "videoCompositionOffsets": enum,
        "dashManifestStyle": enum
      },
      "perFrameMetrics": [
        enum
      ]
    },
    "automatedEncodingSettings": {
      "abrSettings": {
        "maxQualityLevel": number,
        "maxRenditions": integer,
```

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            "maxAbrBitrate": integer,
            "minAbrBitrate": integer,
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              {
                "type": enum,
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                  "width": integer,
                  "height": integer
                },
                "minBottomRenditionSize": {
                  "width": integer,
                  "height": integer
                },
                "forceIncludeRenditions": [
                  {
                    "width": integer,
                    "height": integer
                  }
                ],
                "allowedRenditions": [
                  {
                    "width": integer,
                    "height": integer,
                    "required": enum
                  }
                ]
              }
            ]
          }
        }
      }
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    "availBlanking": {
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    },
    "followSource": integer,
    "timedMetadataInsertion": {
      "id3Insertions": [
        {
          "timecode": "string",
          "id3": "string"
        }
      ]
```

```
      },
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        "distributorId": "string"
      },
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        "insertionMode": enum,
        "input": "string",
        "offset": {
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          "imageY": integer
        },
        "startTime": "string",
        "playback": enum,
        "framerate": {
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          "framerateDenominator": integer
        }
      },
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          "sccXml": "string"
        },
        "manifestConfirmConditionNotification": {
          "mccXml": "string"
        },
        "responseSignalPreroll": integer
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      "nielsenNonLinearWatermark": {
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        "cbetSourceId": "string",
        "activeWatermarkProcess": enum,
        "assetId": "string",
        "assetName": "string",
        "episodeId": "string",
        "ticServerUrl": "string",
        "metadataDestination": "string",
        "uniqueTicPerAudioTrack": enum,
        "adiFilename": "string",
        "sourceWatermarkStatus": enum
      },
      "kantarWatermark": {
        "credentialsSecretName": "string",
        "channelName": "string",
```

```
        "contentReference": "string",
        "kantarServerUrl": "string",
        "kantarLicenseId": integer,
        "logDestination": "string",
        "fileOffset": number,
        "metadata3": "string",
        "metadata4": "string",
        "metadata5": "string",
        "metadata6": "string",
        "metadata7": "string",
        "metadata8": "string"
      },
      "extendedDataServices": {
        "vchipAction": enum,
        "copyProtectionAction": enum
      },
      "colorConversion3DLUTSettings": [
        {
          "inputMasteringLuminance": integer,
          "inputColorSpace": enum,
          "outputMasteringLuminance": integer,
          "outputColorSpace": enum,
          "fileInput": "string"
        }
      ],
      "inputs": [
        {
          "inputClippings": [
            {
              "endTimecode": "string",
              "startTimecode": "string"
            }
          ],
          "audioSelectors": {
          },
          "dynamicAudioSelectors": {
          },
          "audioSelectorGroups": {
          },
          "programNumber": integer,
          "videoSelector": {
            "colorSpace": enum,
            "sampleRange": enum,
            "rotate": enum,
```

```
            "pid": integer,
            "programNumber": integer,
            "embeddedTimecodeOverride": enum,
            "alphaBehavior": enum,
            "colorSpaceUsage": enum,
            "padVideo": enum,
            "selectorType": enum,
            "streams": [
              integer
            ],
            "maxLuminance": integer,
            "hdr10Metadata": {
              "redPrimaryX": integer,
              "redPrimaryY": integer,
              "greenPrimaryX": integer,
              "greenPrimaryY": integer,
              "bluePrimaryX": integer,
              "bluePrimaryY": integer,
              "whitePointX": integer,
              "whitePointY": integer,
              "maxFrameAverageLightLevel": integer,
              "maxContentLightLevel": integer,
              "maxLuminance": integer,
              "minLuminance": integer
            }
          },
          "filterEnable": enum,
          "psiControl": enum,
          "filterStrength": integer,
          "deblockFilter": enum,
          "denoiseFilter": enum,
          "inputScanType": enum,
          "timecodeSource": enum,
          "timecodeStart": "string",
          "captionSelectors": {
          },
          "imageInserter": {
            "insertableImages": [
              {
                "width": integer,
                "height": integer,
                "imageX": integer,
                "imageY": integer,
                "duration": integer,
```

```
            "fadeIn": integer,
            "layer": integer,
            "imageInserterInput": "string",
            "startTime": "string",
            "fadeOut": integer,
            "opacity": integer
          }
        ],
        "sdrReferenceWhiteLevel": integer
      },
      "dolbyVisionMetadataXml": "string",
      "crop": {
        "height": integer,
        "width": integer,
        "x": integer,
        "y": integer
      },
      "position": {
        "height": integer,
        "width": integer,
        "x": integer,
        "y": integer
      },
      "advancedInputFilter": enum,
      "advancedInputFilterSettings": {
        "sharpening": enum,
        "addTexture": enum
      },
      "videoOverlays": [
        {
          "input": {
            "fileInput": "string",
            "inputClippings": [
              {
                "endTimecode": "string",
                "startTimecode": "string"
              }
            ],
            "timecodeSource": enum,
            "timecodeStart": "string"
          },
          "endTimecode": "string",
          "startTimecode": "string",
          "crop": {
```

```
              "x": integer,
              "y": integer,
              "width": integer,
              "height": integer,
              "unit": enum
            },
            "initialPosition": {
              "xPosition": integer,
              "yPosition": integer,
              "width": integer,
              "height": integer,
              "unit": enum
            },
            "playback": enum,
            "transitions": [
              {
                "endTimecode": "string",
                "startTimecode": "string",
                "endPosition": {
                  "xPosition": integer,
                  "yPosition": integer,
                  "width": integer,
                  "height": integer,
                  "unit": enum
                }
              }
            ]
          }
        ]
      }
    ]
  },
  "accelerationSettings": {
    "mode": enum
  },
  "statusUpdateInterval": enum,
  "priority": integer,
  "hopDestinations": [
    {
      "waitMinutes": integer,
      "queue": "string",
      "priority": integer
    }
  ]
```

```
  }
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD

NORMAL

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

LC

HEV1

HEV2

XHE

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

AD_RECEIVER_MIX
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_5_1

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

PROGRAM
ANCHOR

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

CBR
VBR

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

LATM_LOAS

NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix

Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality

Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode
Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000 to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False
Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

MPEG2
MPEG4

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

LOW
MEDIUM_LOW
MEDIUM_HIGH
HIGH

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_1_1

```
CODING_MODE_2_0
CODING_MODE_3_2_LFE
```

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

```
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE
```

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

```
FILM_STANDARD
NONE
```

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range

compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default:

192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer
Required: False
Minimum: 64000
Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode
Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression

profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile
Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf
Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AccelerationMode

Specify whether the service runs your job with accelerated transcoding. Choose DISABLED if you don't want accelerated transcoding. Choose ENABLED if you want your job to run with accelerated transcoding and to fail if your input files or your job settings aren't compatible with accelerated transcoding. Choose PREFERRED if you want your job to run with accelerated transcoding if the job is compatible with the feature and to run at standard speed if it's not.

```
DISABLED
ENABLED
PREFERRED
```

AccelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

mode

Specify the conditions when the service will run your job with accelerated transcoding.

Type: AccelerationMode
Required: True

AdvancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

```
ENABLED
DISABLED
```

AdvancedInputFilterAddTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

```
ENABLED
DISABLED
```

AdvancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

sharpening

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no

sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

Type: AdvancedInputFilterSharpen
Required: False

addTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

Type: AdvancedInputFilterAddTexture
Required: False

AdvancedInputFilterSharpen

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

```
OFF
LOW
HIGH
```

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

```
NONE
AUTO
```

FIXED

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AllowedRenditionSize

Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be

included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

required

Set to ENABLED to force a rendition to be included.

Type: RequiredFlag
Required: False

AlphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

```
DISCARD
```

REMAP_TO_LUMA

AncillaryConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

AncillarySourceSettings

Settings for ancillary captions source.

sourceAncillaryChannelNumber

Specifies the 608 channel number in the ancillary data track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: AncillaryTerminateCaptions
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608

data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: AncillaryConvert608To708
Required: False

AncillaryTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

END_OF_INPUT
DISABLED

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

DISABLED
ENABLED

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L
R
C
LFE
LS
RS
LC

RC
CS
LSD
RSD
TCS
VHL
VHC
VHR
TBL
TBC
TBR
RSL
RSR
LW
RW
LFE2
LT
RT
HI
NAR
M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag
Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

```
AAC
MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
VORBIS
OPUS
PASSTHROUGH
```

FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec
Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings
Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings

Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDefaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

```
DEFAULT
NOT_DEFAULT
```

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings
Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio

layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings
Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl

Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer

Required: False

Minimum: 0

Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string

Required: False

Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode

Required: False

AudioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

```
DISABLED
AUTO
TRACK
FRAME
FORCE
```

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for

measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

```
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

```
CORRECT_AUDIO
MEASURE_ONLY
```

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

```
LOG
DONT_LOG
```

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

```
TRUE_PEAK
NONE
```

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm
Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float
Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioSelector

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

tracks

Identify a track from the input audio to include in this selector by entering the track index number. To include several tracks in a single audio selector, specify multiple tracks as follows. Using the console, enter a comma-separated list. For example, type "1,2,3" to include tracks 1 through 3.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

defaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

Type: AudioDefaultSelection
Required: False

selectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their

language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

Type: AudioSelectorType
Required: False

pids

Selects a specific PID from within an audio source (e.g. 257 selects PID 0x101).

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

programSelection

Use this setting for input streams that contain Dolby E, to have the service extract specific program data from the track. To select multiple programs, create multiple selectors with the same Track and different Program numbers. In the console, this setting is visible when you set Selector type to Track. Choose the program number from the dropdown list. If your input file has incorrect metadata, you can choose All channels instead of a program number to have the service ignore the program IDs and include all the programs in the track.

Type: integer
Required: False
Minimum: 0

Maximum: 8

customLanguageCode

Selects a specific language code from within an audio source, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

remixSettings

Use these settings to reorder the audio channels of one input to match those of another input. This allows you to combine the two files into a single output, one after the other.

Type: RemixSettings
Required: False

hlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is

chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

Type: HlsRenditionGroupSettings
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection
Required: False

AudioSelectorGroup

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

audioSelectorNames

Name of an Audio Selector within the same input to include in the group. Audio selector names are standardized, based on their order within the input (e.g., "Audio Selector 1"). The audio selector name parameter can be repeated to add any number of audio selectors to the group.

Type: Array of type string

Required: False
MinLength: 1

AudioSelectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

```
PID
TRACK
LANGUAGE_CODE
HLS_RENDITION_GROUP
ALL_PCM
```

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AutomatedAbrRule

Specify one or more Automated ABR rule types. Note: Force include and Allowed renditions are mutually exclusive.

type

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

Type: RuleType
Required: False

minTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or

greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

Type: MinTopRenditionSize
Required: False

minBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

Type: MinBottomRenditionSize
Required: False

forceIncludeRenditions

When customer adds the force include renditions rule for auto ABR ladder, they are required to add at leat one rendition to forceIncludeRenditions list

Type: Array of type ForceIncludeRenditionSize
Required: False

allowedRenditions

When customer adds the allowed renditions rule for auto ABR ladder, they are required to add at leat one rendition to allowedRenditions list

Type: Array of type AllowedRenditionSize
Required: False

AutomatedAbrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

maxQualityLevel

Optional. Specify the QVBR quality level to use for all renditions in your automated ABR stack. To have MediaConvert automatically determine the quality level: Leave blank. To manually specify a quality level: Enter a value from 1 to 10. MediaConvert will use a quality level up to the value that you specify, depending on your source. For more information about QVBR quality levels, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/qvbr-guidelines.html

Type: number
Required: False
Format: float
Minimum: 1.0
Maximum: 10.0

maxRenditions

Optional. The maximum number of renditions that MediaConvert will create in your automated ABR stack. The number of renditions is determined automatically, based on analysis of each job, but will never exceed this limit. When you set this to Auto in the console, which is equivalent to excluding it from your JSON job specification, MediaConvert defaults to a limit of 15.

Type: integer
Required: False
Minimum: 3
Maximum: 15

maxAbrBitrate

Specify the maximum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 8,000,000 (8 mb/s) by default. The average bitrate of your highest-quality rendition will be equal to or below this value, depending on the quality, complexity, and resolution of your content. Note that the instantaneous maximum bitrate may vary above the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

minAbrBitrate

Specify the minimum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 600,000 (600 kb/s) by default. The average bitrate of your lowest-quality rendition will be near this value. Note that the instantaneous minimum bitrate may vary below the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

rules

Optional. Use Automated ABR rules to specify restrictions for the rendition sizes MediaConvert will create in your ABR stack. You can use these rules if your ABR workflow has specific rendition size requirements, but you still want MediaConvert to optimize for video quality and overall file size.

Type: Array of type AutomatedAbrRule
Required: False

AutomatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

abrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

Type: AutomatedAbrSettings
Required: False

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

BIT_8

BIT_10

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

DISABLED

ENABLED

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False

Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization
Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a

part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

`DISABLED`

`ENABLED`

AvailBlanking

Use ad avail blanking settings to specify your output content during SCTE-35 triggered ad avails. You can blank your video or overlay it with an image. MediaConvert also removes any audio and embedded captions during the ad avail. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ad-avail-blanking.html.

availBlankingImage

Blanking image to be used. Leave empty for solid black. Only bmp and png images are supported.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG))|(https?://(.*?)\.(bmp|BMP|png|PNG)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

`CLASS_50`
`CLASS_100`
`CLASS_200`
`CLASS_4K_2K`

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
```

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass

Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

HARD

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS

MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel

Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening
Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

```
LOW
MEDIUM
```

HIGH
OFF

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

LOW
MEDIUM
HIGH
AUTO
OFF

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in

conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor

Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string

Required: False

Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`

MinLength: 6

MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor

Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes
Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

```
CENTERED
LEFT
AUTO
```

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

```
WHITE_TEXT_ONLY
ALL_TEXT
```

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE

BLACK

WHITE

AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH

MONOSPACED_SANSSERIF

MONOSPACED_SERIF

PROPORTIONAL_SANSSERIF

PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE

BLACK

YELLOW

RED

GREEN

BLUE

HEX

AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

FIXED_GRID
PROPORTIONAL
AUTO

CaptionDescription

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

captionSelectorName

Specifies which "Caption Selector":#inputs-caption_selector to use from each input when generating captions. The name should be of the format "Caption Selector <N>", which denotes that the Nth Caption Selector will be used from each input.

Type: string
Required: False
MinLength: 1

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z-]+)?$`

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is

DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions.

Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different

output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings
Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings

Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

```
BURN_IN
DVB_SUB
EMBEDDED
EMBEDDED_PLUS_SCTE20
IMSC
SCTE20_PLUS_EMBEDDED
SCC
SRT
SMI
TELETEXT
TTML
WEBVTT
```

CaptionSelector

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

customLanguageCode

The specific language to extract from source, using the ISO 639-2 or ISO 639-3 three-letter language code. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

The specific language to extract from source. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: LanguageCode
Required: False

sourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: CaptionSourceSettings
Required: False

CaptionSourceByteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled.

MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

ENABLED

DISABLED

CaptionSourceConvertPaintOnToPopOn

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

ENABLED

DISABLED

CaptionSourceFramerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate denominator.

Type: integer

Required: False

Minimum: 1

Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate numerator.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

CaptionSourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

Type: CaptionSourceType
Required: False

ancillarySourceSettings

Settings for ancillary captions source.

Type: AncillarySourceSettings
Required: False

dvbSubSourceSettings

DVB Sub Source Settings

Type: DvbSubSourceSettings
Required: False

embeddedSourceSettings

Settings for embedded captions Source

Type: EmbeddedSourceSettings
Required: False

fileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: FileSourceSettings
Required: False

teletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

Type: TeletextSourceSettings
Required: False

trackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

Type: TrackSourceSettings
Required: False

webvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the

rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

Type: WebvttHlsSourceSettings
Required: False

CaptionSourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

ANCILLARY
DVB_SUB
EMBEDDED
SCTE20
SCC
TTML
STL
SRT
SMI
SMPTE_TT
TELETEXT
NULL_SOURCE
IMSC
WEBVTT

CaptionSourceUpconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

UPCONVERT
DISABLED

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

AUTO
FORCE_CENTER
FORCE_TOP_LEFT

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5

Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90
Maximum: 105

CmafAdditionalManifest

Specify the details for each pair of HLS and DASH additional manifests that you want the service to generate for this CMAF output group. Each pair of manifests can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

CmafClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

CmafCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

```
RFC_6381
RFC_4281
```

CmafEncryptionSettings

Settings for CMAF encryption

encryptionMethod

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

Type: CmafEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string

Required: False
Pattern: `^[0-9a-fA-F]{32}$`
MinLength: 32
MaxLength: 32

initializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

Type: CmafInitializationVectorInManifest
Required: False

spekeKeyProvider

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

Type: SpekeKeyProviderCmaf
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: CmafKeyProviderType
Required: False

CmafEncryptionType

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

SAMPLE_AES
AES_CTR

CmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: CmafTargetDurationCompatibilityMode
Required: False

writeHlsManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

Type: CmafWriteHLSManifest
Required: False

writeDashManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

Type: CmafWriteDASHManifest

Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: CmafSegmentLengthControl
Required: False

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting

to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest and one top -level .mpd DASH manifest for each CMAF output group in your job. These default manifests reference every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here. For each additional manifest that you specify, the service creates one HLS manifest and one DASH manifest.

Type: Array of type CmafAdditionalManifest
Required: False

encryption

DRM settings.

Type: CmafEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Specify the length, in whole seconds, of the mp4 fragments. When you don't specify a value, MediaConvert defaults to 2. Related setting: Use Fragment length control to specify whether the encoder enforces this value strictly.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: CmafSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: CmafPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: CmafMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd.

When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: CmafMpdProfile
Required: False

writeSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

Type: CmafWriteSegmentTimelineInRepresentation
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: CmafManifestDurationFormat
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: CmafStreamInfResolution
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: CmafClientCache
Required: False

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: CmafManifestCompression
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: CmafCodecSpecification
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: CmafImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more

information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: CmafImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: CmafVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle

Required: False

CmafImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

```
NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED
```

CmafImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: CmafIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to

align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

CmafInitializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

INCLUDE
EXCLUDE

CmafIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME
FOLLOW_CUSTOM

CmafKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE
STATIC_KEY

CmafManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP
NONE

CmafManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT
INTEGER

CmafMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

AVERAGE
MAX

CmafMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

MAIN_PROFILE
ON_DEMAND_PROFILE

CmafPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

CmafSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
SEGMENTED_FILES
```

CmafSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

CmafStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE

EXCLUDE

CmafTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY

SPEC_COMPLIANT

CmafVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

CmafWriteDASHManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

DISABLED
ENABLED

CmafWriteHLSManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

DISABLED
ENABLED

CmafWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED
DISABLED

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE

EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH

NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH
NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam

Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to

Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata
Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

ColorConversion3DLUTSetting

Custom 3D lut settings

inputMasteringLuminance

Specify which inputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) inputs with a specific mastering luminance: Enter an integer from 0 to 2147483647, corresponding to the input's Maximum luminance value. To apply this 3D LUT to any input regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

inputColorSpace

Specify which inputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

outputMasteringLuminance

Specify which outputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) outputs with a specific luminance: Enter an integer from 0 to 2147483647, corresponding to the output's luminance. To apply this 3D LUT to any output regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

outputColorSpace

Specify which outputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your 3D LUT .cube file. Note that MediaConvert accepts 3D LUT files up to 8MB in size.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(cube|CUBE))|(https?://(.*?)\.(cube|CUBE)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range

or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False

Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required.

You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper
Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

```
IGNORE
INSERT
```

ColorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the

accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

FOLLOW
REC_601
REC_709
HDR10
HLG_2020
P3DCI
P3D65_SDR
P3D65_HDR

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

NONE
FORCE_601
FORCE_709
FORCE_HDR10
FORCE_HLG_2020
FORCE_P3DCI

FORCE_P3D65_SDR
FORCE_P3D65_HDR

ColorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

FORCE
FALLBACK

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings
Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings
Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings
Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD
MXF
OGG
WEBM
RAW
Y4M

CopyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

CreateJobTemplateRequest

Send your create job template request with the name of the template and the JSON for the template. The template JSON should include everything in a valid job, except for input location and filename, IAM role, and user metadata.

description

Optional. A description of the job template you are creating.

Type: string
Required: False

category

Optional. A category for the job template you are creating

Type: string
Required: False

queue

Optional. The queue that jobs created from this template are assigned to. If you don't specify this, jobs will go to the default queue.

Type: string
Required: False

name

The name of the job template you are creating.

Type: string

Required: True

settings

JobTemplateSettings contains all the transcode settings saved in the template that will be applied to jobs created from it.

Type: JobTemplateSettings

Required: True

tags

The tags that you want to add to the resource. You can tag resources with a key-value pair or with only a key.

Type: object

Required: False

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content. Outputs that use this feature incur pro-tier pricing. For information about feature limitations, see the AWS Elemental MediaConvert User Guide.

Type: AccelerationSettings

Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval

Required: False

priority

Specify the relative priority for this job. In any given queue, the service begins processing the job with the highest value first. When more than one job has the same priority, the service begins processing the job that you submitted first. If you don't specify a priority, the service uses the default value 0.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

hopDestinations

Optional. Use queue hopping to avoid overly long waits in the backlog of the queue that you submit your job to. Specify an alternate queue and the maximum time that your job will wait in the initial queue before hopping. For more information about this feature, see the AWS Elemental MediaConvert User Guide.

Type: Array of type HopDestination
Required: False

CreateJobTemplateResponse

Successful create job template requests will return the template JSON.

jobTemplate

A job template is a pre-made set of encoding instructions that you can use to quickly create a job.

Type: JobTemplate
Required: False

DashAdditionalManifest

Specify the details for each additional DASH manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your DASH group is film-name.mpd. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.mpd.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

DashIsoEncryptionSettings

Specifies DRM settings for DASH outputs.

playbackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

Type: DashIsoPlaybackDeviceCompatibility
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

DashIsoGroupAudioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

```
MPEG_CHANNEL_CONFIGURATION
DOLBY_CHANNEL_CONFIGURATION
```

DashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

audioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

Type: DashIsoGroupAudioChannelConfigSchemeIdUri

Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 30. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the

next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: DashIsoSegmentLengthControl
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .mpd DASH manifest for each DASH ISO output group in your job. This default manifest references every output in the output group. To create additional DASH manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type DashAdditionalManifest

Required: False

encryption

DRM settings.

Type: DashIsoEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Length of fragments to generate (in seconds). Fragment length must be compatible with GOP size and Framerate. Note that fragments will end on the next keyframe after this number of seconds, so actual fragment length may be longer. When Emit Single File is checked, the fragmentation is internal to a single output file and it does not cause the creation of many output files as in other output types.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest (.mpd) file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: DashIsoSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: DashIsoPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: DashIsoMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd.

When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: DashIsoMpdProfile
Required: False

hbbtvCompliance

Supports HbbTV specification as indicated

Type: DashIsoHbbtvCompliance
Required: False

writeSegmentTimelineInRepresentation

If you get an HTTP error in the 400 range when you play back your DASH output, enable this setting and run your transcoding job again. When you enable this setting, the service writes precise segment durations in the DASH manifest. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When you don't enable this setting, the service writes approximate segment durations in your DASH manifest.

Type: DashIsoWriteSegmentTimelineInRepresentation
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: DashIsoImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: DashIsoImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: DashIsoVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle
Required: False

DashIsoHbbtvCompliance

Supports HbbTV specification as indicated

```
HBBTV_1_5
NONE
```

DashIsoImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

```
NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED
```

DashIsoImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: DashIsoIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

DashIsoIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

```
FOLLOW_IFRAME
FOLLOW_CUSTOM
```

DashIsoMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max

bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

```
AVERAGE
MAX
```

DashIsoMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

```
MAIN_PROFILE
ON_DEMAND_PROFILE
```

DashIsoPlaybackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

```
CENC_V1
UNENCRYPTED_SEI
```

DashIsoPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

DashIsoSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
SEGMENTED_FILES
```

DashIsoSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

```
EXACT
GOP_MULTIPLE
MATCH
```

DashIsoVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment

using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

DashIsoWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED

DISABLED

DashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

BASIC

COMPACT

DISTINCT

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To

apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

```
INTERPOLATE
INTERPOLATE_TICKER
BLEND
BLEND_TICKER
LINEAR_INTERPOLATION
```

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm
Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode
Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that

the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

```
FORCE_ALL_FRAMES
NORMAL
```

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

```
DEINTERLACE
INVERSE_TELECINE
ADAPTIVE
```

DestinationSettings

Settings associated with the destination. Will vary based on the type of destination

s3Settings

Settings associated with S3 destination

Type: S3DestinationSettings

Required: False

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode
Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata
Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata

that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

PASSTHROUGH
RECALCULATE
SPECIFY

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

HDR10_NOMAP
HDR10_1000

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

PROFILE_5
PROFILE_8_1

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

DISABLED
ENABLED

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer
Required: False
Minimum: 0
Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input,

otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing

Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont

Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string

Required: False

Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`

MinLength: 6

MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor

Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor

Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 96

Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is

set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType
Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling
Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False

Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSourceSettings

DVB Sub Source Settings

pid

When using DVB-Sub with Burn-in, use this PID for the source content. Unused for DVB-Sub passthrough. All DVB-Sub content is passed through, regardless of selectors.

Type: integer

Required: False
Minimum: 1
Maximum: 2147483647

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

```
BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF
```

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

```
CENTERED
LEFT
AUTO
```

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input

captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

NONE
BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more

accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID
PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED
STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or

less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

```
NONE
SPECIFIED
NO_DISPLAY_WINDOW
SPECIFIED_OPTIMAL
```

DynamicAudioSelector

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an audio track within that output for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

selectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

Type: DynamicAudioSelectorType
Required: False

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection

Required: False

DynamicAudioSelectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

ALL_TRACKS
LANGUAGE_CODE

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range

Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer
Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False

Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine
Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl
Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl
Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

```
NOT_INDICATED
STEREO
SURROUND
DPL2
```

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

```
NOT_INDICATED
ENABLED
DISABLED
```

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

```
ATTENUATE_3_DB
NONE
```

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

```
COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED
```

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and

profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

LFE
NO_LFE

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and

non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

WHEN_POSSIBLE
NO_PASSTHROUGH

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you

choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

NOT_INDICATED
LO_RO
LT_RT
DPL2

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

EmbeddedSourceSettings

Settings for embedded captions Source

source608ChannelNumber

Specifies the 608/708 channel number within the video track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

source608TrackNumber

Specifies the video track index used for extracting captions. The system only supports one input video track, so this should always be set to '1'.

Type: integer
Required: False
Minimum: 1
Maximum: 1

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: EmbeddedConvert608To708
Required: False

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: EmbeddedTerminateCaptions
Required: False

EmbeddedTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

```
END_OF_INPUT
DISABLED
```

EmbeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

```
NONE
USE_MDPM
```

EncryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

spekeVideoPreset

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

Type: PresetSpeke20Video
Required: False

spekeAudioPreset

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

Type: PresetSpeke20Audio
Required: False

EsamManifestConfirmConditionNotification

ESAM ManifestConfirmConditionNotification defined by OC-SP-ESAM-API-I03-131025.

mccXml

Provide your ESAM ManifestConfirmConditionNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the Manifest Conditioning instructions in the message that you supply.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*ManifestConfirmConditionNotification(.|\n)*>\s*$`

EsamSettings

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

signalProcessingNotification

Specifies an ESAM SignalProcessingNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the signal processing instructions that you provide in the setting SCC XML.

Type: EsamSignalProcessingNotification

Required: False

manifestConfirmConditionNotification

Specifies an ESAM ManifestConfirmConditionNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the manifest conditioning instructions that you provide in the setting MCC XML.

Type: EsamManifestConfirmConditionNotification
Required: False

responseSignalPreroll

Specifies the stream distance, in milliseconds, between the SCTE 35 messages that the transcoder places and the splice points that they refer to. If the time between the start of the asset and the SCTE-35 message is less than this value, then the transcoder places the SCTE-35 marker at the beginning of the stream.

Type: integer
Required: False
Minimum: 0
Maximum: 30000

EsamSignalProcessingNotification

ESAM SignalProcessingNotification data defined by OC-SP-ESAM-API-I03-131025.

sccXml

Provide your ESAM SignalProcessingNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the signal processing instructions in the message that you supply. For your MPEG2-TS file outputs, if you want the service to place SCTE-35 markers at the insertion points you specify in the XML document, you must also enable SCTE-35 ESAM. Note that you can either specify an ESAM XML document or enable SCTE-35 passthrough. You can't do both.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*SignalProcessingNotification(.|\n)*>\s*$`

ExceptionBody

message

Type: string
Required: False

ExtendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

vchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: VchipAction
Required: False

copyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: CopyProtectionAction
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

```
PROGRESSIVE_DOWNLOAD
NORMAL
```

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

FileSourceConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608

data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT

DISABLED

FileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceFile

External caption file used for loading captions. Accepted file extensions are 'scc', 'ttml', 'dfxp', 'stl', 'srt', 'xml', 'smi', 'webvtt', and 'vtt'.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT))|(https?://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

timeDelta

Optional. Use this setting when you need to adjust the sync between your sidecar captions and your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/time-delta-use-cases.html. Enter a positive or negative number to modify the times in the captions file. For example, type 15 to add 15 seconds to all the times in the captions file. Type -5 to subtract 5 seconds from the times in the captions file. You can optionally specify your time delta in milliseconds instead of seconds. When you do so, set the related setting, Time delta units to Milliseconds. Note that, when you specify a time delta for timecode-based caption sources, such as SCC and STL, and your time delta isn't a multiple of the input frame rate, MediaConvert snaps the captions to the nearest frame. For example, when your input video frame rate is 25 fps and you specify 1010ms for time delta, MediaConvert delays your captions by 1000 ms.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

timeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

Type: FileSourceTimeDeltaUnits
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: FileSourceConvert608To708
Required: False

framerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

Type: CaptionSourceFramerate
Required: False

convertPaintToPop

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose

Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

Type: CaptionSourceConvertPaintOnToPopOn
Required: False

byteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

Type: CaptionSourceByteRateLimit
Required: False

upconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

Type: CaptionSourceUpconvertSTLToTeletext
Required: False

FileSourceTimeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

```
SECONDS
MILLISECONDS
```

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

AUTOMATIC
HANS
HANT

ForceIncludeRenditionSize

Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

```
DUPLICATE_DROP
INTERPOLATE
```

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want

to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl
Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

`OFF`
`AUTO`
`LOW`
`MEDIUM`
`HIGH`
`HIGHER`
`MAX`

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

`AUTO`
`LEVEL_1`
`LEVEL_1_1`

LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

BASELINE
HIGH
HIGH_10BIT
HIGH_422
HIGH_422_10BIT
MAIN

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE
SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC
CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

PAFF
FORCE_FIELD
MBAFF

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you

enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER

```
MAINTAIN_FRAME_COUNT
```

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer

Required: False

Minimum: 1000

Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR

CBR

QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED

ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

DISABLED

PREFERRED

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator.

When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH,

or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization

and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting

Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization
Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000

Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To

disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization
Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding
Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect
Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps
Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but

not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT

RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1

AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

AUTO

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

DISABLED
ENABLED

H265CodecLevel

H.265 Level.

AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1
LEVEL_6_2

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH

MAIN_422_8BIT_MAIN

MAIN_422_8BIT_HIGH

MAIN_422_10BIT_MAIN

MAIN_422_10BIT_HIGH

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

ENABLED

DISABLED

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

`DISABLED`

`ENABLED`

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

`SPECIFIED`

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow,

default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

DEFAULT
ADAPTIVE
OFF

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

```
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing,

MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low,

Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid

stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization

depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE

SOFT

HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

```
DISABLED
ENABLED
```

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

```
DISABLED
ENABLED
```

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

```
DISABLED
ENABLED
```

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer

Required: False

Minimum: 0

Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0

Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

HlsAdMarkers

Ad marker for Apple HLS manifest.

ELEMENTAL
ELEMENTAL_SCTE35

HlsAdditionalManifest

Specify the details for each additional HLS manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

HlsAudioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create a raw audio-only file with no container. Regardless of the value that you specify here, if this output has video, the service will place outputs into an MPEG2-TS container.

`AUTOMATIC`
`M2TS`

HlsAudioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

INCLUDE
EXCLUDE

HlsAudioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

HlsCaptionLanguageMapping

Caption Language Mapping

captionChannel

Caption channel.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

customLanguageCode

Specify the language for this captions channel, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string

Required: False

Pattern: `^[A-Za-z]{3}$`

MinLength: 3

MaxLength: 3

languageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

Type: LanguageCode

Required: False

languageDescription

Caption language description.

Type: string

Required: False

HlsCaptionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

`INSERT`

`OMIT`

`NONE`

HlsCaptionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

LARGE_SEGMENTS
MATCH_VIDEO

HlsClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

DISABLED
ENABLED

HlsCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

RFC_6381
RFC_4281

HlsDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

HlsDirectoryStructure

Indicates whether segments should be placed in subdirectories.

SINGLE_DIRECTORY
SUBDIRECTORY_PER_STREAM

HlsEncryptionSettings

Settings for HLS encryption

encryptionMethod

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

Type: HlsEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: ^[0-9a-fA-F]{32}$
MinLength: 32
MaxLength: 32

initializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

Type: HlsInitializationVectorInManifest
Required: False

offlineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

Type: HlsOfflineEncrypted
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: HlsKeyProviderType
Required: False

HlsEncryptionType

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

AES128

SAMPLE_AES

HlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: HlsTargetDurationCompatibilityMode
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: HlsManifestDurationFormat
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: HlsSegmentLengthControl
Required: False

timedMetadataId3Period

Specify the interval in seconds to write ID3 timestamps in your output. The first timestamp starts at the output timecode and date, and increases incrementally with each ID3 timestamp. To use the default interval of 10 seconds: Leave blank. To include this metadata in your output: Set ID3 timestamp frame type to PRIV or TDRL, and set ID3 metadata to Passthrough.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

captionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will

not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

Type: HlsCaptionLanguageSetting
Required: False

captionLanguageMappings

Language to be used on Caption outputs

Type: Array of type HlsCaptionLanguageMapping
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest for each HLS output group in your job. This default manifest references every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type HlsAdditionalManifest

Required: False

encryption

DRM settings.

Type: HlsEncryptionSettings
Required: False

timedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

Type: HlsTimedMetadataId3Frame
Required: False

baseUrl

A partial URI prefix that will be prepended to each output in the media .m3u8 file. Can be used if base manifest is delivered from a different URL than the main .m3u8 file.

Type: string
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: HlsCodecSpecification
Required: False

outputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

Type: HlsOutputSelection
Required: False

programDateTimePeriod

Period of insertion of EXT-X-PROGRAM-DATE-TIME entry, in seconds.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

segmentsPerSubdirectory

Specify the number of segments to write to a subdirectory before starting a new one. You must also set Directory structure to Subdirectory per stream for this setting to have an effect.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minSegmentLength

When set, Minimum Segment Size is enforced by looking ahead and back within the specified range for a nearby avail and extending the segment size if needed.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds

without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

directoryStructure

Indicates whether segments should be placed in subdirectories.

Type: HlsDirectoryStructure
Required: False

programDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

Type: HlsProgramDateTime
Required: False

adMarkers

Choose one or more ad marker types to decorate your Apple HLS manifest. This setting does not determine whether SCTE-35 markers appear in the outputs themselves.

Type: Array of type HlsAdMarkers
Required: False

segmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

Type: HlsSegmentControl
Required: False

timestampDeltaMilliseconds

Provides an extra millisecond delta offset to fine tune the timestamps.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: HlsManifestCompression
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: HlsClientCache
Required: False

audioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

Type: HlsAudioOnlyHeader
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: HlsStreamInfResolution
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: HlsImageBasedTrickPlay
Required: False

progressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

Type: HlsProgressiveWriteHlsManifest
Required: False

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: HlsImageBasedTrickPlaySettings
Required: False

captionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

Type: HlsCaptionSegmentLengthControl
Required: False

HlsIFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

```
INCLUDE
INCLUDE_AS_TS
EXCLUDE
```

HlsImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

HlsImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: HlsIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

HlsInitializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

INCLUDE

EXCLUDE

HlsIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME

FOLLOW_CUSTOM

HlsKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE

STATIC_KEY

HlsManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP

NONE

HlsManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT

INTEGER

HlsOfflineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

ENABLED
DISABLED

HlsOutputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

MANIFESTS_AND_SEGMENTS
SEGMENTS_ONLY

HlsProgramDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

INCLUDE
EXCLUDE

HlsProgressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

ENABLED

DISABLED

HlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

HlsSegmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

SINGLE_FILE

SEGMENTED_FILES

HlsSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

HlsSettings

Settings for HLS output groups

audioGroupId

Specifies the group to which the audio rendition belongs.

Type: string

Required: False

audioRenditionSets

List all the audio groups that are used with the video output stream. Input all the audio GROUP-IDs that are associated to the video, separate by ','.

Type: string
Required: False

audioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

Type: HlsAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: HlsDescriptiveVideoServiceFlag
Required: False

iFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as

single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

Type: HlsIFrameOnlyManifest
Required: False

segmentModifier

Use this setting to add an identifying string to the filename of each segment. The service adds this string between the name modifier and segment index number. You can use format identifiers in the string. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html

Type: string
Required: False

audioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create an audio-only file in a raw container. Regardless of the value that you specify here, if this output has video, the service will place the output into an MPEG2-TS container.

Type: HlsAudioOnlyContainer
Required: False

HlsStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE
EXCLUDE

HlsTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target

duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY
SPEC_COMPLIANT

HlsTimedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

NONE
PRIV
TDRL

HopDestination

Optional. Configuration for a destination queue to which the job can hop once a customer-defined minimum wait time has passed.

waitMinutes

Required for setting up a job to use queue hopping. Minimum wait time in minutes until the job can hop to the destination queue. Valid range is 1 to 4320 minutes, inclusive.

Type: integer
Required: False

queue

Optional unless the job is submitted on the default queue. When you set up a job to use queue hopping, you can specify a destination queue. This queue cannot be the original queue to which the job is submitted. If the original queue isn't the default queue and you don't specify the destination queue, the job will move to the default queue.

Type: string
Required: False

priority

Optional. When you set up a job to use queue hopping, you can specify a different relative priority for the job in the destination queue. If you don't specify, the relative priority will remain the same as in the previous queue.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

Id3Insertion

To insert ID3 tags in your output, specify two values. Use ID3 tag to specify the base 64 encoded string and use Timecode to specify the time when the tag should be inserted. To insert multiple ID3 tags in your output, create multiple instances of ID3 insertion.

timecode

Provide a Timecode in HH:MM:SS:FF or HH:MM:SS;FF format.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

id3

Use ID3 tag to provide a fully formed ID3 tag in base64-encode format.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the

following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

DISABLED
ENABLED

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

ENABLED
DISABLED

InputClipping

To transcode only portions of your input, include one input clip for each part of your input that you want in your output. All input clips that you specify will be included in every output of the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html.

endTimecode

Set End timecode to the end of the portion of the input you are clipping. The frame corresponding to the End timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for timecode source under input settings. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to end six minutes into the video, use 01:06:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Set Start timecode to the beginning of the portion of the input you are clipping. The frame corresponding to the Start timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value,

take into account your setting for Input timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to begin five minutes into the video, use 01:05:00:00.

Type: string

Required: False

Format: timecode

Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

InputDeblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

`ENABLED`

`DISABLED`

InputDenoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

`ENABLED`

`DISABLED`

InputFilterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

`AUTO`

`DISABLE`

`FORCE`

InputPsiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

```
IGNORE_PSI
USE_PSI
```

InputRotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

```
DEGREE_0
DEGREES_90
DEGREES_180
DEGREES_270
AUTO
```

InputSampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

```
FOLLOW
FULL_RANGE
LIMITED_RANGE
```

InputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

AUTO
PSF

InputTemplate

Specified video input in a template.

inputClippings

Contains sets of start and end times that together specify a portion of the input to be used in the outputs. If you provide only a start time, the clip will be the entire input from that point to the end. If you provide only an end time, it will be the entire input up to that point. When you specify more than one input clip, the transcoding service creates the job outputs by stringing the clips together in the order you specify them.

Type: Array of type InputClipping
Required: False

audioSelectors

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

Type: object
Required: False

dynamicAudioSelectors

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in

your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an output audio track for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

Type: object
Required: False

audioSelectorGroups

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

Type: object
Required: False

programNumber

Use Program to select a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported. Default is the first program within the transport stream. If the program you specify doesn't exist, the transcoding service will use this default.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

videoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

Type: VideoSelector
Required: False

filterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

Type: InputFilterEnable
Required: False

psiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

Type: InputPsiControl
Required: False

filterStrength

Specify the strength of the input filter. To apply an automatic amount of filtering based the compression artifacts measured in your input: We recommend that you leave Filter strength blank and set Filter enable to Auto. To manually apply filtering: Enter a value from 1 to 5, where 1 is the least amount of filtering and 5 is the most. The value that you enter applies to the strength of the Deblock or Denoise filters, or to the strength of the Advanced input filter.

Type: integer
Required: False
Minimum: 0
Maximum: 5

deblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

Type: InputDeblockFilter
Required: False

denoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

Type: InputDenoiseFilter
Required: False

inputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

Type: InputScanType
Required: False

timecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the timecode that you want the service to use for this input's initial frame. To use this setting, you must set the Timecode source setting, located under the input settings, to Specified

start. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

captionSelectors

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

Type: object
Required: False

imageInserter

Enable the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input individually. This setting is disabled by default.

Type: ImageInserter
Required: False

dolbyVisionMetadataXml

Use this setting only when your video source has Dolby Vision studio mastering metadata that is carried in a separate XML file. Specify the Amazon S3 location for the metadata XML file. MediaConvert uses this file to provide global and frame-level metadata for Dolby Vision preprocessing. When you specify a file here and your input also has interleaved global and frame level metadata, MediaConvert ignores the interleaved metadata and uses only the the metadata from this external XML file. Note that your IAM service role must grant MediaConvert read permissions to this file. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html.

Type: string
Required: False

Pattern: `^((s3://(.*?)\.(xml|XML))|(https?://(.*?)\.(xml|XML)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

crop

Use Cropping selection to specify the video area that the service will include in the output video frame. If you specify a value here, it will override any value that you specify in the output setting Cropping selection.

Type: Rectangle
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black. If you specify a value here, it will override any value that you specify in the output setting Selection placement. If you specify a value here, this will override any AFD values in your input, even if you set Respond to AFD to Respond. If you specify a value here, this will ignore anything that you specify for the setting Scaling Behavior.

Type: Rectangle
Required: False

advancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

Type: AdvancedInputFilter
Required: False

advancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

Type: AdvancedInputFilterSettings
Required: False

videoOverlays

Contains an array of video overlays.

Type: Array of type VideoOverlay
Required: False

InputTimecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

```
EMBEDDED
ZEROBASED
SPECIFIEDSTART
```

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer
Required: False
Minimum: 0
Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string

Required: False

Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer

Required: False

Minimum: 0

Maximum: 100

JobTemplate

A job template is a pre-made set of encoding instructions that you can use to quickly create a job.

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

createdAt

The timestamp in epoch seconds for Job template creation.

Type: string
Required: False
Format: date-time

lastUpdated

The timestamp in epoch seconds when the Job template was last updated.

Type: string
Required: False
Format: date-time

description

An optional description you create for each job template.

Type: string
Required: False

category

An optional category you create to organize your job templates.

Type: string

Required: False

queue

Optional. The queue that jobs created from this template are assigned to. If you don't specify this, jobs will go to the default queue.

Type: string
Required: False

name

A name you create for each job template. Each name must be unique within your account.

Type: string
Required: True

type

A job template can be of two types: system or custom. System or built-in job templates can't be modified or deleted by the user.

Type: Type
Required: False

settings

JobTemplateSettings contains all the transcode settings saved in the template that will be applied to jobs created from it.

Type: JobTemplateSettings
Required: True

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

Type: AccelerationSettings

Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval
Required: False

priority

Relative priority on the job.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

hopDestinations

Optional list of hop destinations.

Type: Array of type HopDestination
Required: False

JobTemplateListBy

Optional. When you request a list of job templates, you can choose to list them alphabetically by NAME or chronologically by CREATION_DATE. If you don't specify, the service will list them by name.

```
NAME
CREATION_DATE
SYSTEM
```

JobTemplateSettings

JobTemplateSettings contains all the transcode settings saved in the template that will be applied to jobs created from it.

timecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

Type: TimecodeConfig
Required: False

outputGroups

Contains one group of settings for each set of outputs that share a common package type. All unpackaged files (MPEG-4, MPEG-2 TS, Quicktime, MXF, and no container) are grouped in a single output group as well. Required in is a group of settings that apply to the whole group. This required object depends on the value you set for Type. Type, settings object pairs are as follows. * FILE_GROUP_SETTINGS, FileGroupSettings * HLS_GROUP_SETTINGS, HlsGroupSettings * DASH_ISO_GROUP_SETTINGS, DashIsoGroupSettings * MS_SMOOTH_GROUP_SETTINGS, MsSmoothGroupSettings * CMAF_GROUP_SETTINGS, CmafGroupSettings

Type: Array of type OutputGroup
Required: False

adAvailOffset

When specified, this offset (in milliseconds) is added to the input Ad Avail PTS time.

Type: integer
Required: False
Minimum: -1000
Maximum: 1000

availBlanking

Settings for ad avail blanking. Video can be blanked or overlaid with an image, and audio muted during SCTE-35 triggered ad avails.

Type: AvailBlanking
Required: False

followSource

Specify the input that MediaConvert references for your default output settings. MediaConvert uses this input's Resolution, Frame rate, and Pixel aspect ratio for all outputs that you don't manually specify different output settings for. Enabling this setting will disable "Follow source" for all other inputs. If MediaConvert cannot follow your source, for example if you specify an audio-only input, MediaConvert uses the first followable input instead. In your JSON job specification, enter an integer from 1 to 150 corresponding to the order of your inputs.

Type: integer
Required: False
Minimum: 1
Maximum: 150

timedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

Type: TimedMetadataInsertion
Required: False

nielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

Type: NielsenConfiguration
Required: False

motionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

Type: MotionImageInserter
Required: False

esam

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

Type: EsamSettings
Required: False

nielsenNonLinearWatermark

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

Type: NielsenNonLinearWatermarkSettings
Required: False

kantarWatermark

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

Type: KantarWatermarkSettings
Required: False

extendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

Type: ExtendedDataServices
Required: False

colorConversion3DLUTSettings

Use 3D LUTs to specify custom color mapping behavior when you convert from one color space into another. You can include up to 8 different 3D LUTs. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/3d-luts.html

Type: Array of type ColorConversion3DLUTSetting
Required: False

inputs

Use Inputs to define the source file used in the transcode job. There can only be one input in a job template. Using the API, you can include multiple inputs when referencing a job template.

Type: Array of type InputTemplate
Required: False

KantarWatermarkSettings

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

credentialsSecretName

Provide the name of the AWS Secrets Manager secret where your Kantar credentials are stored. Note that your MediaConvert service role must provide access to this secret. For more

information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/granting-permissions-for-mediaconvert-to-access-secrets-manager-secret.html. For instructions on creating a secret, see https://docs.aws.amazon.com/secretsmanager/latest/userguide/tutorials_basic.html, in the AWS Secrets Manager User Guide.

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

channelName

Provide an audio channel name from your Kantar audio license.

Type: string
Required: False
MinLength: 1
MaxLength: 20

contentReference

Specify a unique identifier for Kantar to use for this piece of content.

Type: string
Required: False
Pattern: `^[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 50

kantarServerUrl

Provide the HTTPS endpoint to the Kantar server. You should get this endpoint from Kantar.

Type: string
Required: False
Format: uri

Pattern: `^https:\/\/.*.kantarmedia.*$`

kantarLicenseId

Provide your Kantar license ID number. You should get this number from Kantar.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

logDestination

Optional. Specify the Amazon S3 bucket where you want MediaConvert to store your Kantar watermark XML logs. When you don't specify a bucket, MediaConvert doesn't save these logs. Note that your MediaConvert service role must provide access to this location. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: False
Format: uri
Pattern: `^s3:\/\/`

fileOffset

Optional. Specify an offset, in whole seconds, from the start of your output and the beginning of the watermarking. When you don't specify an offset, Kantar defaults to zero.

Type: number
Required: False
Format: float
Minimum: 0.0

metadata3

You can optionally use this field to specify the first timestamp that Kantar embeds during watermarking. Kantar suggests that you be very cautious when using this Kantar feature, and that

you use it only on channels that are managed specifically for use with this feature by your Audience Measurement Operator. For more information about this feature, contact Kantar technical support.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata4

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata5

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata6

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata7

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata8

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG
SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN
RUS
POR
ITA
URD
VIE
KOR
PAN
ABK

AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA
AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS
BOS
BRE
BUL
MYA
CAT
KHM
CHA
CHE
NYA
CHU
CHV
COR
COS
CRE
HRV

CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE
FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN
GUJ
HAT
HAU
HEB
HER
HMO
HUN
ISL
IDO
IBO
IND
INA
ILE
IKU
IPK

GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK
KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB
LTZ
MKD
MLG
MSA
MAL
MLT
GLV
MRI
MAR
MAH
MON
NAU
NAV
NDE

NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI
OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO
SAG
SAN
SRD
SRB
SNA
III
SND
SIN
SLK
SLV
SOM
SOT
SUN

SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT
TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN
VOL
WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA
ZUL
ORJ
QPC

TNG
SRP

ListJobTemplatesRequest

You can send list job templates requests with an empty body. Optionally, you can filter the response by category by specifying it in your request body. You can also optionally specify the maximum number, up to twenty, of job templates to be returned.

listBy

Optional. When you request a list of job templates, you can choose to list them alphabetically by NAME or chronologically by CREATION_DATE. If you don't specify, the service will list them by name.

Type: JobTemplateListBy
Required: False

category

Optionally, specify a job template category to limit responses to only job templates from that category.

Type: string
Required: False

order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

Type: Order
Required: False

nextToken

Use this string, provided with the response to a previous request, to request the next batch of job templates.

Type: string
Required: False

maxResults

Optional. Number of job templates, up to twenty, that will be returned at one time.

Type: integer
Required: False
Format: int32
Minimum: 1
Maximum: 20

ListJobTemplatesResponse

Successful list job templates requests return a JSON array of job templates. If you don't specify how they are ordered, you will receive them in alphabetical order by name.

jobTemplates

List of Job templates.

Type: Array of type JobTemplate
Required: False

nextToken

Use this string to request the next batch of job templates.

Type: string
Required: False

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

```
MULTIPLEX
NONE
```

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than

the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR

CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH

NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

```
NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY
```

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

```
MAINTAIN_CADENCE
RESET_CADENCE
```

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel

Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings

Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False

Minimum: 32

Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False

Minimum: 0

Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False

Minimum: 0

Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer

Required: False

Minimum: 32

Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl
Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers
Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval
Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number

Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that

you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

PASSTHROUGH
NONE

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MinBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MinTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MotionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

insertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

Type: MotionImageInsertionMode
Required: False

input

Specify the .mov file or series of .png files that you want to overlay on your video. For .png files, provide the file name of the first file in the series. Make sure that the names of the .png files end with sequential numbers that specify the order that they are played in. For example, overlay_000.png, overlay_001.png, overlay_002.png, and so on. The sequence must start at zero, and each image file name must have the same number of digits. Pad your initial file names with enough zeros to complete the sequence. For example, if the first image is overlay_0.png, there can be only 10 images in the sequence, with the last image being overlay_9.png. But if the first image is overlay_00.png, there can be 100 images in the sequence.

Type: string
Required: False
Pattern: `^((s3://(.*)(\.mov|[0-9]+\.png))|(https?://(.*)(\.mov|[0-9]+\.png)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

offset

Use Offset to specify the placement of your motion graphic overlay on the video frame. Specify in pixels, from the upper-left corner of the frame. If you don't specify an offset, the service scales your overlay to the full size of the frame. Otherwise, the service inserts the overlay at its native resolution and scales the size up or down with any video scaling.

Type: MotionImageInsertionOffset

Required: False

startTime

Specify when the motion overlay begins. Use timecode format (HH:MM:SS:FF or HH:MM:SS;FF). Make sure that the timecode you provide here takes into account how you have set up your timecode configuration under both job settings and input settings. The simplest way to do that is to set both to start at 0. If you need to set up your job to follow timecodes embedded in your source that don't start at zero, make sure that you specify a start time that is after the first embedded timecode. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/setting-up-timecode.html

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

playback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

Type: MotionImagePlayback
Required: False

framerate

If your motion graphic asset is a .mov file, keep this setting unspecified. If your motion graphic asset is a series of .png files, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. Make sure that the number of images in your series matches the frame rate and your intended overlay duration. For example, if you want a 30-second overlay at 30 fps, you should have 900 .png images. This overlay frame rate doesn't need to match the frame rate of the underlying video.

Type: MotionImageInsertionFramerate
Required: False

MotionImageInsertionFramerate

For motion overlays that don't have a built-in frame rate, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. The overlay frame rate doesn't need to match the frame rate of the underlying video.

framerateNumerator

The top of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 24.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483640

framerateDenominator

The bottom of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 1.

Type: integer
Required: False
Minimum: 1
Maximum: 17895697

MotionImageInsertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

`MOV`
`PNG`

MotionImageInsertionOffset

Specify the offset between the upper-left corner of the video frame and the top left corner of the overlay.

imageX

Set the distance, in pixels, between the overlay and the left edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Set the distance, in pixels, between the overlay and the top edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

MotionImagePlayback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

ONCE
REPEAT

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE
EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM
MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON
NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED
EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom

Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD
NONE

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix
Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False

Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer

Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest

Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave

these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE
EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW
FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE

PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT

NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints
Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType
Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
```

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

```
AUTO
LOW
MAIN
HIGH1440
HIGH
```

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

```
MAIN
PROFILE_422
```

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

```
ADAPTIVE
STATIC
```

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

DEFAULT
D_10

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

MsSmoothAdditionalManifest

Specify the details for each additional Microsoft Smooth Streaming manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your Microsoft Smooth group is film-name.ismv. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.ismv.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

MsSmoothAudioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

`COMBINE_DUPLICATE_STREAMS`
`NONE`

MsSmoothEncryptionSettings

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

MsSmoothFragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

`EXACT`
`GOP_MULTIPLE`

MsSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .ism Microsoft Smooth Streaming manifest for each Microsoft Smooth Streaming output group in your job. This default manifest references every output in the output group. To create additional manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type MsSmoothAdditionalManifest
Required: False

fragmentLength

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

fragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: MsSmoothFragmentLengthControl
Required: False

encryption

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

Type: MsSmoothEncryptionSettings
Required: False

manifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

Type: MsSmoothManifestEncoding
Required: False

audioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

Type: MsSmoothAudioDeduplication
Required: False

MsSmoothManifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

```
UTF8
UTF16
```

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

```
NO_COPY
COPY_FROM_VIDEO
```

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

ALLOW_ANY_DURATION

DROP_FRAMES_FOR_COMPLIANCE

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode

Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is 1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NielsenActiveWatermarkProcessType

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

NAES2_AND_NW
CBET
NAES2_AND_NW_AND_CBET

NielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

breakoutCode

Nielsen has discontinued the use of breakout code functionality. If you must include this property, set the value to zero.

Type: integer
Required: False
Minimum: 0
Maximum: 0

distributorId

Use Distributor ID to specify the distributor ID that is assigned to your organization by Nielsen.

Type: string
Required: False

NielsenNonLinearWatermarkSettings

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

sourceId

Use the SID that Nielsen provides to you. This source ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking. This ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking.

Type: integer
Required: False
Minimum: 0
Maximum: 65534

cbetSourceId

Use the CSID that Nielsen provides to you. This CBET source ID should be unique to your Nielsen account but common to all of your output assets that have CBET watermarking. Required when you choose a value for the setting Watermark types that includes CBET.

Type: string
Required: False
Pattern: `(^0x[A-Fa-f0-9]{0,8}$|^[1-9][0-9]{0,8}$)`

activeWatermarkProcess

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a

value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

Type: NielsenActiveWatermarkProcessType
Required: False

assetId

Use the asset ID that you provide to Nielsen to uniquely identify this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 20

assetName

Use the asset name that you provide to Nielsen for this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 50

episodeId

Optional. If this asset uses an episode ID with Nielsen, provide it here.

Type: string
Required: False
MinLength: 1
MaxLength: 20

ticServerUrl

Specify the endpoint for the TIC server that you have deployed and configured in the AWS Cloud. Required for all Nielsen non-linear watermarking. MediaConvert can't connect directly to a TIC server. Instead, you must use API Gateway to provide a RESTful interface between MediaConvert and a TIC server that you deploy in your AWS account. For more information on deploying a TIC server in your AWS account and the required API Gateway, contact Nielsen support.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/`

metadataDestination

Specify the Amazon S3 location where you want MediaConvert to save your Nielsen non-linear metadata .zip file. This Amazon S3 bucket must be in the same Region as the one where you do your MediaConvert transcoding. If you want to include an ADI file in this .zip file, use the setting ADI file to specify it. MediaConvert delivers the Nielsen metadata .zip files only to your metadata destination Amazon S3 bucket. It doesn't deliver the .zip files to Nielsen. You are responsible for delivering the metadata .zip files to Nielsen.

Type: string
Required: False
Pattern: `^s3:\/\/`

uniqueTicPerAudioTrack

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

Type: NielsenUniqueTicPerAudioTrackType
Required: False

adiFilename

Optional. Use this setting when you want the service to include an ADI file in the Nielsen metadata .zip file. To provide an ADI file, store it in Amazon S3 and provide a URL to it here. The

URL should be in the following format: S3://bucket/path/ADI-file. For more information about the metadata .zip file, see the setting Metadata destination.

Type: string

Required: False

Pattern: `^s3:\/\/`

sourceWatermarkStatus

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

Type: NielsenSourceWatermarkStatusType

Required: False

NielsenSourceWatermarkStatusType

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

`CLEAN`

`WATERMARKED`

NielsenUniqueTicPerAudioTrackType

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

`RESERVE_UNIQUE_TICS_PER_TRACK`

`SAME_TICS_PER_TRACK`

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

```
DISABLED
ENABLED
AUTO
```

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
```

CONSERVE
SPATIAL
TEMPORAL

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2

Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 16000
Maximum: 48000

Order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

ASCENDING
DESCENDING

Output

Each output in your job is a collection of settings that describes how you want MediaConvert to encode a single output file or stream. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/create-outputs.html.

containerSettings

Container specific settings.

Type: ContainerSettings
Required: False

preset

Use Preset to specify a preset for your transcoding settings. Provide the system or custom preset name. You can specify either Preset or Container settings, but not both.

Type: string
Required: False
MinLength: 0

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

outputSettings

Specific settings for this type of output.

Type: OutputSettings
Required: False

extension

Use Extension to specify the file extension for outputs in File output groups. If you do not specify a value, the service will use default extensions by container type as follows * MPEG-2 transport stream, m2ts * Quicktime, mov * MXF container, mxf * MPEG-4 container, mp4 * WebM container, webm * Animated GIF container, gif * No Container, the service will use codec extensions (e.g. AAC, H265, H265, AC3)

Type: string
Required: False
MaxLength: 256

nameModifier

Use Name modifier to have the service add a string to the end of each output filename. You specify the base filename as part of your destination URI. When you create multiple outputs in the same output group, Name modifier is required. Name modifier also accepts format identifiers. For DASH ISO outputs, if you use the format identifiers $Number$ or $Time$ in one output, you must use them in the same way in all outputs of the output group.

Type: string
Required: False
MinLength: 1
MaxLength: 256

captionDescriptions

Contains groups of captions settings. For each output that has captions, include one instance of CaptionDescriptions. Can contain multiple groups of captions settings.

Type: Array of type CaptionDescription

Required: False

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer
Required: False
Minimum: -60
Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number
Required: False
Format: float
Minimum: -60.0
Maximum: 6.0

OutputGroup

Group of outputs

customName

Use Custom Group Name to specify a name for the output group. This value is displayed on the console and can make your job settings JSON more human-readable. It does not affect your outputs. Use up to twelve characters that are either letters, numbers, spaces, or underscores.

Type: string
Required: False

name

Name of the output group

Type: string
Required: False
MaxLength: 2048

outputs

This object holds groups of encoding settings, one group of settings per output.

Type: Array of type Output
Required: False

outputGroupSettings

Output Group settings, including type

Type: OutputGroupSettings
Required: False

automatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

Type: AutomatedEncodingSettings
Required: False

OutputGroupSettings

Output Group settings, including type

type

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

Type: OutputGroupType
Required: False

hlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: HlsGroupSettings
Required: False

dashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: DashIsoGroupSettings
Required: False

fileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

Type: FileGroupSettings
Required: False

msSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: MsSmoothGroupSettings
Required: False

cmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: CmafGroupSettings
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

OutputGroupType

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

```
HLS_GROUP_SETTINGS
DASH_ISO_GROUP_SETTINGS
FILE_GROUP_SETTINGS
MS_SMOOTH_GROUP_SETTINGS
CMAF_GROUP_SETTINGS
```

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

```
SDT_FOLLOW
SDT_FOLLOW_IF_PRESENT
SDT_MANUAL
SDT_NONE
```

OutputSettings

Specific settings for this type of output.

hlsSettings

Settings for HLS output groups

Type: HlsSettings
Required: False

PadVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

```
DISABLED
BLACK
```

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings

Required: False

PresetSpeke20Audio

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

```
PRESET_AUDIO_1
PRESET_AUDIO_2
PRESET_AUDIO_3
SHARED
UNENCRYPTED
```

PresetSpeke20Video

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

```
PRESET_VIDEO_1
PRESET_VIDEO_2
PRESET_VIDEO_3
PRESET_VIDEO_4
```

PRESET_VIDEO_5
PRESET_VIDEO_6
PRESET_VIDEO_7
PRESET_VIDEO_8
SHARED
UNENCRYPTED

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

PRESERVE_444_SAMPLING
SUBSAMPLE_TO_422

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

APPLE_PRORES_422
APPLE_PRORES_422_HQ
APPLE_PRORES_422_LT
APPLE_PRORES_422_PROXY
APPLE_PRORES_4444
APPLE_PRORES_4444_XQ

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want

to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the

output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is

different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal

Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine
Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the

same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer

Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the

mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping
Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also

specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

```
DISABLED
ENABLED
```

RequiredFlag

Set to ENABLED to force a rendition to be included.

```
ENABLED
DISABLED
```

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE
RESPOND
PASSTHROUGH

RuleType

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting

Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

```
MIN_TOP_RENDITION_SIZE
MIN_BOTTOM_RENDITION_SIZE
FORCE_INCLUDE_RENDITIONS
ALLOWED_RENDITIONS
```

S3DestinationAccessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

cannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

Type: S3ObjectCannedAcl
Required: False

S3DestinationSettings

Settings associated with S3 destination

encryption

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

Type: S3EncryptionSettings
Required: False

accessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

Type: S3DestinationAccessControl
Required: False

storageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

Type: S3StorageClass
Required: False

S3EncryptionSettings

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

encryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

Type: S3ServerSideEncryptionType
Required: False

kmsKeyArn

Optionally, specify the customer master key (CMK) that you want to use to encrypt the data key that AWS uses to encrypt your output content. Enter the Amazon Resource Name (ARN) of the CMK. To use this setting, you must also set Server-side encryption to AWS KMS. If you set Server-side encryption to AWS KMS but don't specify a CMK here, AWS uses the AWS managed CMK associated with Amazon S3.

Type: string

Required: False

Pattern: `^arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32})$`

kmsEncryptionContext

Optionally, specify the encryption context that you want to use alongside your KMS key. AWS KMS uses this encryption context as additional authenticated data (AAD) to support authenticated encryption. This value must be a base64-encoded UTF-8 string holding JSON which represents a string-string map. To use this setting, you must also set Server-side encryption to AWS KMS. For more information about encryption context, see: https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#encrypt_context.

Type: string

Required: False

Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

S3ObjectCannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

`PUBLIC_READ`

`AUTHENTICATED_READ`

`BUCKET_OWNER_READ`

`BUCKET_OWNER_FULL_CONTROL`

S3ServerSideEncryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with

Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

```
SERVER_SIDE_ENCRYPTION_S3
SERVER_SIDE_ENCRYPTION_KMS
```

S3StorageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

```
STANDARD
REDUCED_REDUNDANCY
STANDARD_IA
ONEZONE_IA
INTELLIGENT_TIERING
GLACIER
DEEP_ARCHIVE
```

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

```
LIMITED_RANGE_SQUEEZE
NONE
```

```
LIMITED_RANGE_CLIP
```

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

```
DEFAULT
STRETCH_TO_OUTPUT
FIT
FIT_NO_UPSCALE
FILL
```

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

```
FRAMERATE_23_97
FRAMERATE_24
FRAMERATE_25
FRAMERATE_29_97_DROPFRAME
FRAMERATE_29_97_NON_DROPFRAME
```

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video

frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate
Required: False

SpekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False

systemIds

Relates to SPEKE implementation. DRM system identifiers. DASH output groups support a max of two system ids. HLS output groups support a max of 3 system ids. Other group types support one system id. See https://dashif.org/identifiers/content_protection/ for more details.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SpekeKeyProviderCmaf

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False
Pattern: `^[\w-]+$`

hlsSignaledSystemIds

Specify up to 3 DRM system IDs that you want signaled in the HLS manifest that MediaConvert creates as part of this CMAF package. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

dashSignaledSystemIds

Specify the DRM system IDs that you want signaled in the DASH manifest that MediaConvert creates as part of this CMAF package. The DASH manifest can currently signal up to three system IDs. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string

Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

`ENABLED`
`DISABLED`

StaticKeyProvider

Use these settings to set up encryption with a static key provider.

staticKeyValue

Relates to DRM implementation. Use a 32-character hexidecimal string to specify Key Value.

Type: string
Required: False
Pattern: `^[A-Za-z0-9]{32}$`

keyFormat

Relates to DRM implementation. Sets the value of the KEYFORMAT attribute. Must be 'identity' or a reverse DNS string. May be omitted to indicate an implicit value of 'identity'.

Type: string
Required: False
Pattern: `^(identity|[A-Za-z]{2,6}(\.[A-Za-z0-9-]{1,63})+)$`

keyFormatVersions

Relates to DRM implementation. Either a single positive integer version value or a slash delimited list of version values (1/2/3).

Type: string
Required: False
Pattern: `^(\d+(\/\d+)*)$`

url

Relates to DRM implementation. The location of the license server used for protecting content.

Type: string
Required: False
Format: uri

StatusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

SECONDS_10
SECONDS_12
SECONDS_15
SECONDS_20
SECONDS_30
SECONDS_60
SECONDS_120
SECONDS_180
SECONDS_240
SECONDS_300
SECONDS_360
SECONDS_420
SECONDS_480
SECONDS_540
SECONDS_600

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string
Required: False
Pattern: ^[1-8][0-9a-fA-F][0-9a-eA-E]$

MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

```
PAGE_TYPE_INITIAL
PAGE_TYPE_SUBTITLE
PAGE_TYPE_ADDL_INFO
PAGE_TYPE_PROGRAM_SCHEDULE
PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE
```

TeletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

pageNumber

Use Page Number to specify the three-digit hexadecimal page number that will be used for Teletext captions. Do not use this setting if you are passing through teletext from the input source to output.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: `^[ -~]+$`

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

`TOP_CENTER`
`TOP_LEFT`

```
TOP_RIGHT
MIDDLE_LEFT
MIDDLE_CENTER
MIDDLE_RIGHT
BOTTOM_LEFT
BOTTOM_CENTER
BOTTOM_RIGHT
```

TimecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

anchor

If you use an editing platform that relies on an anchor timecode, use Anchor Timecode to specify a timecode that will match the input video frame to the output video frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF). This setting ignores frame rate conversion. System behavior for Anchor Timecode varies depending on your setting for Source. * If Source is set to Specified Start, the first input frame is the specified value in Start Timecode. Anchor Timecode and Start Timecode are used calculate output timecode. * If Source is set to Start at 0 the first frame is 00:00:00:00. * If Source is set to Embedded, the first frame is the timecode value on the first input frame of the input.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

source

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

Type: TimecodeSource
Required: False

start

Only use when you set Source to Specified start. Use Start timecode to specify the timecode for the initial frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF).

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

timestampOffset

Only applies to outputs that support program-date-time stamp. Use Timestamp offset to overwrite the timecode date without affecting the time and frame number. Provide the new date as a string in the format "yyyy-mm-dd". To use Timestamp offset, you must also enable Insert program-date-time in the output settings. For example, if the date part of your timecodes is 2002-1-25 and you want to change it to one year later, set Timestamp offset to 2003-1-25.

Type: string
Required: False
Pattern: `^([0-9]{4})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])$`

TimecodeSource

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

`EMBEDDED`
`ZEROBASED`

SPECIFIEDSTART

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

DISABLED
ENABLED

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

TimedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

id3Insertions

Id3Insertions contains the array of Id3Insertion instances.

Type: Array of type Id3Insertion
Required: False

TrackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

trackNumber

Use this setting to select a single captions track from a source. Track numbers correspond to the order in the captions source file. For IMF sources, track numbering is based on the order that the captions appear in the CPL. For example, use 1 to select the captions asset that is listed first in the CPL. To include more than one captions track in your job outputs, create multiple input captions selectors. Specify one track per selector.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

`AUTO`
`SECONDS`
`MILLISECONDS`

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough

Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

ENABLED

DISABLED

Type

SYSTEM

CUSTOM

UncompressedFourcc

The four character code for the uncompressed video.

I420

I422

I444

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for

optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode

Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine

Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal

Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

```
NONE
HARD
```

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

```
CLASS_145_8BIT
CLASS_220_8BIT
```

CLASS_220_10BIT

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class

Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the

same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

`DISABLED`
`ENABLED`

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264
H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3
VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer
Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle
Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

Type: VideoCodecSettings
Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode
Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input

display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata
Required: False

VideoOverlay

Overlay one or more videos on top of your input video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-overlays.html

input

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

Type: VideoOverlayInput

Required: False

endTimecode

Enter the end timecode in the base input video for this overlay. Your overlay will be active through this frame. To display your video overlay for the duration of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS isthe second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to end ten minutes into the video, enter 01:10:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Enter the start timecode in the base input video for this overlay. Your overlay will be active starting with this frame. To display your video overlay starting at the beginning of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to begin five minutes into the video, enter 01:05:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

crop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

Type: VideoOverlayCrop

Required: False

initialPosition

Specify the Initial position of your video overlay. To specify the Initial position of your video overlay, including distance from the left or top edge of the base input video's frame, or size: Enter a value for X position, Y position, Width, or Height. To use the full frame of the base input video: Leave blank.

Type: VideoOverlayPosition
Required: False

playback

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

Type: VideoOverlayPlayBackMode
Required: False

transitions

Specify one or more transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

Type: Array of type VideoOverlayTransition
Required: False

VideoOverlayCrop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

x

Specify the distance between the cropping rectangle and the left edge of your overlay video's frame. To position the cropping rectangle along the left edge: Keep blank, or enter 0. To position the cropping rectangle to the right, relative to the left edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the left edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 192 pixels from the left edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

Specify the distance between the cropping rectangle and the top edge of your overlay video's frame. To position the cropping rectangle along the top edge: Keep blank, or enter 0. To position the cropping rectangle down, relative to the top edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the top edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 108 pixels from the top edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width of the video overlay cropping rectangle. To use the same width as your overlay input video: Keep blank, or enter 0. To specify a different width for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels wide. When you enter

10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 192 pixels wide.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the video overlay cropping rectangle. To use the same height as your overlay input video: Keep blank, or enter 0. To specify a different height for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels high. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 108 pixels high.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayInput

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your video overlay. To specify one or more Transitions for your base input video instead: Leave blank.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*)))|^https?://[^\/].*[^&]$`

inputClippings

Specify one or more clips to use from your video overlay. When you include an input clip, you must also specify its start timecode, end timecode, or both start and end timecode.

Type: Array of type VideoOverlayInputClipping
Required: False

timecodeSource

Specify the timecode source for your video overlay input clips. To use the timecode present in your video overlay: Choose Embedded. To use a zerobased timecode: Choose Start at 0. To choose a timecode: Choose Specified start. When you do, enter the starting timecode in Start timecode. If you don't specify a value for Timecode source, MediaConvert uses Embedded by default.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the starting timecode for this video overlay. To use this setting, you must set Timecode source to Specified start.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

VideoOverlayInputClipping

To transcode only portions of your video overlay, include one input clip for each part of your video overlay that you want in your output.

endTimecode

Specify the timecode of the last frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Specify the timecode of the first frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

VideoOverlayPlayBackMode

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

`ONCE`
`REPEAT`

VideoOverlayPosition

position of video overlay

xPosition

To position the left edge of your video overlay along the left edge of the base input video's frame: Keep blank, or enter 0. To position the left edge of your video overlay to the right, relative to the left edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the left edge of the base input video's frame. When you enter 10, choose Percentage, and your base input video is 1920x1080, your video overlay will be positioned 192 pixels from the left edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

yPosition

To position the top edge of your video overlay along the top edge of the base input video's frame: Keep blank, or enter 0. To position the top edge of your video overlay down, relative to the top edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the top edge of the base input video's frame. When you enter 10, choose Percentage, and your underlying video is 1920x1080, your video overlay will be positioned 108 pixels from the top edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

width

To scale your video overlay to the same width as the base input video: Leave blank. To scale the width of your video overlay to a different width: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 640 and choose Pixels, your video overlay will scale to a height of 640 pixels. When you enter 50, choose Percentage, and your overlay's source has a width of 1920, your video overlay will scale to a width of 960. To scale your

overlay to a specific width while automatically maintaining its original aspect ratio, enter a value for Width and leave Height blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

height

To scale your video overlay to the same height as the base input video: Leave blank. To scale the height of your video overlay to a different height: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 360 and choose Pixels, your video overlay will be rendered with a height of 360. When you enter 50, choose Percentage, and your overlay's source has a height of 1080, your video overlay will be rendered with a height of 540. To scale your overlay to a specific height while automatically maintaining its original aspect ratio, enter a value for Height and leave Width blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayTransition

Specify one or more Transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

endTimecode

Specify the timecode for when this transition ends. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Specify the timecode for when this transition begins. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

endPosition

Specify the ending position for this transition, relative to the base input video's frame. Your video overlay will move smoothly to this position, beginning at this transition's Start timecode and ending at this transition's End timecode.

Type: VideoOverlayPosition
Required: False

VideoOverlayUnit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

`PIXELS`
`PERCENTAGE`

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector
Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking
Required: False

VideoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

colorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the

accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpace
Required: False

sampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

Type: InputSampleRange
Required: False

rotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

Type: InputRotate

Required: False

pid

Use PID to select specific video data from an input file. Specify this value as an integer; the system automatically converts it to the hexidecimal value. For example, 257 selects PID 0x101. A PID, or packet identifier, is an identifier for a set of data in an MPEG-2 transport stream container.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

programNumber

Selects a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

embeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

Type: EmbeddedTimecodeOverride
Required: False

alphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input

MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

Type: AlphaBehavior
Required: False

colorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

Type: ColorSpaceUsage
Required: False

padVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

Type: PadVideo
Required: False

selectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

Type: VideoSelectorType
Required: False

streams

Specify a stream for MediaConvert to use from your HLS input. Enter an integer corresponding to the stream order in your HLS manifest.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings to provide HDR 10 metadata that is missing or inaccurate in your input video. Appropriate values vary depending on the input video and must be provided by a color grader. The color grader generates these values during the HDR 10 mastering process. The valid range for each of these settings is 0 to 50,000. Each increment represents 0.00002 in CIE1931 color coordinate. Related settings - When you specify these values, you must also set Color space to HDR 10. To specify whether the the values you specify here take precedence over the values in the metadata of your input file, set Color space usage. To specify whether color metadata is included in an output, set Color metadata. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

VideoSelectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

AUTO
STREAM

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

DISABLED
PIC_TIMING_SEI

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1

Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer
Required: False
Minimum: -1
Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend

that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

MULTI_PASS
MULTI_PASS_HQ

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend

that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False

Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False

Minimum: 1

Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

`SPECIFIED`

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

`DUPLICATE_DROP`

`INTERPOLATE`

`FRAMEFORMER`

`MAINTAIN_FRAME_COUNT`

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

```
MULTI_PASS
MULTI_PASS_HQ
```

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

```
VBR
```

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer

Required: False

Minimum: 0

Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is

different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

```
LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST
```

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the

extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

RIFF
RF64
EXTENSIBLE

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat
Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

```
DISABLED
ENABLED
```

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled.

MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

```
ENABLED
DISABLED
STRICT
MERGE
```

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass
Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass
Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

HIGH
HIGH_422

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization

Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

AUTO
CABAC
CAVLC

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when

you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

```
DISABLED
ENABLED
```

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

DISABLED

ENABLED

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_50

CLASS_100

CLASS_200

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass

Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_25
BITRATE_CLASS_35
BITRATE_CLASS_50
```

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False

Minimum: 4

Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer

Required: False

Minimum: 0

Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel

Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode

Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them

at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization

Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE

HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

XAVC_HD_INTRA_CBG

XAVC_4K_INTRA_CBG

XAVC_4K_INTRA_VBR

XAVC_HD

XAVC_4K

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0

Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the

viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

```
DISABLED
ENABLED
```

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default

value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

```
DISABLED
ENABLED
```

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

```
PSNR
SSIM
MS_SSIM
PSNR_HVS
VMAF
QVBR
```

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

ListJobTemplates

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateJobTemplate

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

JobTemplates name

URI

`/2017-08-29/jobTemplates/name`

HTTP methods

GET

Operation ID: `GetJobTemplate`

Retrieve the JSON for a specific job template.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	GetJobTemplateResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.

Status code	Response model	Description
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

PUT

Operation ID: `UpdateJobTemplate`

Modify one of your existing job templates.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	UpdateJobTemplateResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request

Status code	Response model	Description
		because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

DELETE

Operation ID: `DeleteJobTemplate`

Permanently delete a job template you have created.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
202	DeleteJobTemplateResponse	202 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.

Status code	Response model	Description
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "name": "string"
}
```

PUT schema

```
{
  "description": "string",
  "category": "string",
  "queue": "string",
  "name": "string",
  "settings": {
    "timecodeConfig": {
      "anchor": "string",
      "source": enum,
      "start": "string",
      "timestampOffset": "string"
    },
    "outputGroups": [
      {
        "customName": "string",
        "name": "string",
        "outputs": [
          {
            "containerSettings": {
              "container": enum,
              "m3u8Settings": {
                "audioFramesPerPes": integer,
```

```
            "pcrControl": enum,
            "dataPTSControl": enum,
            "maxPcrInterval": integer,
            "pcrPid": integer,
            "pmtPid": integer,
            "privateMetadataPid": integer,
            "programNumber": integer,
            "patInterval": integer,
            "pmtInterval": integer,
            "scte35Source": enum,
            "scte35Pid": integer,
            "nielsenId3": enum,
            "timedMetadata": enum,
            "timedMetadataPid": integer,
            "transportStreamId": integer,
            "videoPid": integer,
            "ptsOffsetMode": enum,
            "ptsOffset": integer,
            "audioPtsOffsetDelta": integer,
            "audioPids": [
              integer
            ],
            "audioDuration": enum
          },
          "f4vSettings": {
            "moovPlacement": enum
          },
          "m2tsSettings": {
            "audioBufferModel": enum,
            "minEbpInterval": integer,
            "esRateInPes": enum,
            "patInterval": integer,
            "dvbNitSettings": {
              "nitInterval": integer,
              "networkId": integer,
              "networkName": "string"
            },
            "dvbSdtSettings": {
              "outputSdt": enum,
              "sdtInterval": integer,
              "serviceName": "string",
              "serviceProviderName": "string"
            },
            "scte35Source": enum,
```

```
            "scte35Pid": integer,
            "scte35Esam": {
              "scte35EsamPid": integer
            },
            "klvMetadata": enum,
            "videoPid": integer,
            "dvbTdtSettings": {
              "tdtInterval": integer
            },
            "pmtInterval": integer,
            "segmentationStyle": enum,
            "segmentationTime": number,
            "pmtPid": integer,
            "bitrate": integer,
            "audioPids": [
              integer
            ],
            "privateMetadataPid": integer,
            "nielsenId3": enum,
            "timedMetadataPid": integer,
            "maxPcrInterval": integer,
            "transportStreamId": integer,
            "dvbSubPids": [
              integer
            ],
            "rateMode": enum,
            "audioFramesPerPes": integer,
            "pcrControl": enum,
            "dataPTSControl": enum,
            "segmentationMarkers": enum,
            "ebpAudioInterval": enum,
            "forceTsVideoEbpOrder": enum,
            "programNumber": integer,
            "pcrPid": integer,
            "bufferModel": enum,
            "dvbTeletextPid": integer,
            "fragmentTime": number,
            "ebpPlacement": enum,
            "nullPacketBitrate": number,
            "audioDuration": enum,
            "ptsOffsetMode": enum,
            "ptsOffset": integer,
            "audioPtsOffsetDelta": integer,
            "preventBufferUnderflow": enum
```

```
        },
        "movSettings": {
          "clapAtom": enum,
          "cslgAtom": enum,
          "paddingControl": enum,
          "reference": enum,
          "mpeg2FourCCControl": enum
        },
        "mp4Settings": {
          "cslgAtom": enum,
          "cttsVersion": integer,
          "freeSpaceBox": enum,
          "mp4MajorBrand": "string",
          "moovPlacement": enum,
          "audioDuration": enum,
          "c2paManifest": enum,
          "certificateSecret": "string",
          "signingKmsKey": "string"
        },
        "mpdSettings": {
          "accessibilityCaptionHints": enum,
          "captionContainerType": enum,
          "scte35Source": enum,
          "scte35Esam": enum,
          "audioDuration": enum,
          "timedMetadata": enum,
          "timedMetadataBoxVersion": enum,
          "timedMetadataSchemeIdUri": "string",
          "timedMetadataValue": "string",
          "manifestMetadataSignaling": enum,
          "klvMetadata": enum
        },
        "cmfcSettings": {
          "scte35Source": enum,
          "scte35Esam": enum,
          "audioDuration": enum,
          "iFrameOnlyManifest": enum,
          "audioGroupId": "string",
          "audioRenditionSets": "string",
          "audioTrackType": enum,
          "descriptiveVideoServiceFlag": enum,
          "timedMetadata": enum,
          "timedMetadataBoxVersion": enum,
          "timedMetadataSchemeIdUri": "string",
```

```
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      "id3": "string"
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    "imageY": integer
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    "framerateDenominator": integer
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            "bluePrimaryX": integer,
            "bluePrimaryY": integer,
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              "layer": integer,
              "imageInserterInput": "string",
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              "fadeOut": integer,
              "opacity": integer
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          "y": integer
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            }
          ]
        }
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    "statusUpdateInterval": enum,
    "priority": integer,
    "hopDestinations": [
      {
        "waitMinutes": integer,
        "queue": "string",
        "priority": integer
      }
    ]
}
```

DELETE schema

```
{
  "name": "string"
}
```

Response bodies

GetJobTemplateResponse schema

```
{
  "jobTemplate": {
    "arn": "string",
    "createdAt": "string",
    "lastUpdated": "string",
    "description": "string",
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    "queue": "string",
    "name": "string",
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        "anchor": "string",
        "source": enum,
        "start": "string",
        "timestampOffset": "string"
      },
      "outputGroups": [
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          "customName": "string",
          "name": "string",
          "outputs": [
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                "m3u8Settings": {
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                  "ptsOffset": integer,
                  "audioPtsOffsetDelta": integer,
                  "audioPids": [
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                  "audioDuration": enum
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```
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            "serviceProviderName": "string"
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          "bufferModel": enum,
          "dvbTeletextPid": integer,
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            "width": integer,
            "x": integer,
            "y": integer
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        "temporalFilterSettings": {
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UpdateJobTemplateResponse schema

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      "nameModifier": "string",
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              "shadowColor": enum,
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      "accessibility": enum
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                "accessibility": enum
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              "srtDestinationSettings": {
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              }
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            "languageCode": enum,
            "languageDescription": "string"
          }
        ]
      }
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        "manifestDurationFormat": enum,
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        "segmentLengthControl": enum,
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            "languageCode": enum,
            "languageDescription": "string"
          }
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        "destination": "string",
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              "kmsKeyArn": "string",
              "kmsEncryptionContext": "string"
            },
            "accessControl": {
              "cannedAcl": enum
```

```
        },
        "storageClass": enum
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    "additionalManifests": [
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        ]
      }
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      "initializationVectorInManifest": enum,
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        "resourceId": "string",
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          "string"
        ],
        "url": "string",
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          "spekeVideoPreset": enum,
          "spekeAudioPreset": enum
        }
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      "staticKeyProvider": {
        "staticKeyValue": "string",
        "keyFormat": "string",
        "keyFormatVersions": "string",
        "url": "string"
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      "type": enum
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    "timedMetadataId3Frame": enum,
    "baseUrl": "string",
    "codecSpecification": enum,
    "outputSelection": enum,
    "programDateTimePeriod": integer,
    "segmentsPerSubdirectory": integer,
    "minSegmentLength": integer,
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            "directoryStructure": enum,
            "programDateTime": enum,
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            ],
            "segmentControl": enum,
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            "manifestCompression": enum,
            "clientCache": enum,
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            "streamInfResolution": enum,
            "imageBasedTrickPlay": enum,
            "progressiveWriteHlsManifest": enum,
            "imageBasedTrickPlaySettings": {
              "thumbnailHeight": integer,
              "thumbnailWidth": integer,
              "tileHeight": integer,
              "tileWidth": integer,
              "intervalCadence": enum,
              "thumbnailInterval": number
            },
            "captionSegmentLengthControl": enum
          },
          "dashIsoGroupSettings": {
            "audioChannelConfigSchemeIdUri": enum,
            "segmentLength": integer,
            "minFinalSegmentLength": number,
            "segmentLengthControl": enum,
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            "destinationSettings": {
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                  "encryptionType": enum,
                  "kmsKeyArn": "string",
                  "kmsEncryptionContext": "string"
                },
                "accessControl": {
                  "cannedAcl": enum
                },
                "storageClass": enum
              }
            },
            "additionalManifests": [
```

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        {
          "manifestNameModifier": "string",
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            "string"
          ]
        }
      ],
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        "spekeKeyProvider": {
          "resourceId": "string",
          "systemIds": [
            "string"
          ],
          "url": "string",
          "certificateArn": "string",
          "encryptionContractConfiguration": {
            "spekeVideoPreset": enum,
            "spekeAudioPreset": enum
          }
        }
      },
      "minBufferTime": integer,
      "fragmentLength": integer,
      "baseUrl": "string",
      "segmentControl": enum,
      "ptsOffsetHandlingForBFrames": enum,
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      "mpdProfile": enum,
      "hbbtvCompliance": enum,
      "writeSegmentTimelineInRepresentation": enum,
      "imageBasedTrickPlay": enum,
      "dashIFrameTrickPlayNameModifier": "string",
      "imageBasedTrickPlaySettings": {
        "thumbnailHeight": integer,
        "thumbnailWidth": integer,
        "tileHeight": integer,
        "tileWidth": integer,
        "intervalCadence": enum,
        "thumbnailInterval": number
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      "videoCompositionOffsets": enum,
      "dashManifestStyle": enum
    },
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              "storageClass": enum
            }
          }
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              "accessControl": {
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              "storageClass": enum
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                "storageClass": enum
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    "mpdManifestBandwidthType": enum,
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    "writeSegmentTimelineInRepresentation": enum,
    "manifestDurationFormat": enum,
    "streamInfResolution": enum,
    "clientCache": enum,
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          "maxAbrBitrate": integer,
          "minAbrBitrate": integer,
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                "height": integer
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                "height": integer
              },
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                  "height": integer
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              ],
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                  "height": integer,
                  "required": enum
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              ]
            }
          ]
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          }
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            "id3": "string"
          }
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        }
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        "manifestConfirmConditionNotification": {
          "mccXml": "string"
        },
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        "sourceWatermarkStatus": enum
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        "contentReference": "string",
        "kantarServerUrl": "string",
        "kantarLicenseId": integer,
        "logDestination": "string",
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        "metadata4": "string",
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        "metadata7": "string",
        "metadata8": "string"
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      "extendedDataServices": {
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          "inputColorSpace": enum,
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        "sampleRange": enum,
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        "padVideo": enum,
        "selectorType": enum,
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          "bluePrimaryX": integer,
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          "whitePointX": integer,
          "whitePointY": integer,
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          "maxContentLightLevel": integer,
          "maxLuminance": integer,
          "minLuminance": integer
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      "filterEnable": enum,
      "psiControl": enum,
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        "denoiseFilter": enum,
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        "timecodeStart": "string",
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              "height": integer,
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              "imageY": integer,
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              "fadeIn": integer,
              "layer": integer,
              "imageInserterInput": "string",
              "startTime": "string",
              "fadeOut": integer,
              "opacity": integer
            }
          ],
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        "crop": {
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          "width": integer,
          "x": integer,
          "y": integer
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        "position": {
          "height": integer,
          "width": integer,
          "x": integer,
          "y": integer
        },
        "advancedInputFilter": enum,
        "advancedInputFilterSettings": {
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          "input": {
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                "startTimecode": "string"
              }
            ],
            "timecodeSource": enum,
            "timecodeStart": "string"
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          "startTimecode": "string",
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            "y": integer,
            "width": integer,
            "height": integer,
            "unit": enum
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            "yPosition": integer,
            "width": integer,
            "height": integer,
            "unit": enum
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                "xPosition": integer,
                "yPosition": integer,
                "width": integer,
                "height": integer,
                "unit": enum
              }
            }
          ]
        }
```

```
          ]
        }
      ]
    },
    "accelerationSettings": {
      "mode": enum
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    "statusUpdateInterval": enum,
    "priority": integer,
    "hopDestinations": [
      {
        "waitMinutes": integer,
        "queue": "string",
        "priority": integer
      }
    ]
  }
}
```

DeleteJobTemplateResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-

mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD

NORMAL

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

LC

HEV1

HEV2

XHE

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

AD_RECEIVER_MIX

CODING_MODE_1_0

CODING_MODE_1_1

CODING_MODE_2_0

CODING_MODE_5_1

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

PROGRAM

ANCHOR

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

CBR

VBR

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

LATM_LOAS

NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix
Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality
Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode
Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000 to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend

that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False
Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

`MPEG2`
`MPEG4`

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

`LOW`
`MEDIUM_LOW`

MEDIUM_HIGH
HIGH

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_3_2_LFE

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

NONE

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

FILM_STANDARD

NONE

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD

FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer
Required: False
Minimum: 64000
Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode
Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile
Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf
Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter

Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AccelerationMode

Specify whether the service runs your job with accelerated transcoding. Choose DISABLED if you don't want accelerated transcoding. Choose ENABLED if you want your job to run with accelerated transcoding and to fail if your input files or your job settings aren't compatible with accelerated transcoding. Choose PREFERRED if you want your job to run with accelerated transcoding if the job is compatible with the feature and to run at standard speed if it's not.

```
DISABLED
ENABLED
PREFERRED
```

AccelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

mode

Specify the conditions when the service will run your job with accelerated transcoding.

Type: AccelerationMode
Required: True

AdvancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an

improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

ENABLED

DISABLED

AdvancedInputFilterAddTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

ENABLED

DISABLED

AdvancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

sharpening

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

Type: AdvancedInputFilterSharpen

Required: False

addTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

Type: AdvancedInputFilterAddTexture
Required: False

AdvancedInputFilterSharpen

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

```
OFF
LOW
HIGH
```

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

```
NONE
AUTO
FIXED
```

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AllowedRenditionSize

Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

required

Set to ENABLED to force a rendition to be included.

Type: RequiredFlag
Required: False

AlphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

DISCARD
REMAP_TO_LUMA

AncillaryConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

AncillarySourceSettings

Settings for ancillary captions source.

sourceAncillaryChannelNumber

Specifies the 608 channel number in the ancillary data track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: AncillaryTerminateCaptions
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: AncillaryConvert608To708
Required: False

AncillaryTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

END_OF_INPUT
DISABLED

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

DISABLED
ENABLED

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L
R
C
LFE
LS
RS
LC
RC
CS

LSD
RSD
TCS
VHL
VHC
VHR
TBL
TBC
TBR
RSL
RSR
LW
RW
LFE2
LT
RT
HI
NAR
M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag

Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

AAC
MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
VORBIS
OPUS
PASSTHROUGH

FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec
Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings
Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings

Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDefaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

```
DEFAULT
NOT_DEFAULT
```

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings
Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio

layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings
Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl

Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer

Required: False

Minimum: 0

Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string

Required: False

Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode

Required: False

AudioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

```
DISABLED
AUTO
TRACK
FRAME
FORCE
```

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for

measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

```
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

```
CORRECT_AUDIO
MEASURE_ONLY
```

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

```
LOG
DONT_LOG
```

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

```
TRUE_PEAK
NONE
```

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm
Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float
Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioSelector

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

tracks

Identify a track from the input audio to include in this selector by entering the track index number. To include several tracks in a single audio selector, specify multiple tracks as follows. Using the console, enter a comma-separated list. For example, type "1,2,3" to include tracks 1 through 3.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

defaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

Type: AudioDefaultSelection
Required: False

selectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their

language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

Type: AudioSelectorType
Required: False

pids

Selects a specific PID from within an audio source (e.g. 257 selects PID 0x101).

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*)))|^https?://[^\/].*[^&]$`

programSelection

Use this setting for input streams that contain Dolby E, to have the service extract specific program data from the track. To select multiple programs, create multiple selectors with the same Track and different Program numbers. In the console, this setting is visible when you set Selector type to Track. Choose the program number from the dropdown list. If your input file has incorrect metadata, you can choose All channels instead of a program number to have the service ignore the program IDs and include all the programs in the track.

Type: integer
Required: False
Minimum: 0

Maximum: 8

customLanguageCode

Selects a specific language code from within an audio source, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

remixSettings

Use these settings to reorder the audio channels of one input to match those of another input. This allows you to combine the two files into a single output, one after the other.

Type: RemixSettings
Required: False

hlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is

chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

Type: HlsRenditionGroupSettings
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection
Required: False

AudioSelectorGroup

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

audioSelectorNames

Name of an Audio Selector within the same input to include in the group. Audio selector names are standardized, based on their order within the input (e.g., "Audio Selector 1"). The audio selector name parameter can be repeated to add any number of audio selectors to the group.

Type: Array of type string

Required: False
MinLength: 1

AudioSelectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

```
PID
TRACK
LANGUAGE_CODE
HLS_RENDITION_GROUP
ALL_PCM
```

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AutomatedAbrRule

Specify one or more Automated ABR rule types. Note: Force include and Allowed renditions are mutually exclusive.

type

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

Type: RuleType

Required: False

minTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or

greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

Type: MinTopRenditionSize
Required: False

minBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

Type: MinBottomRenditionSize
Required: False

forceIncludeRenditions

When customer adds the force include renditions rule for auto ABR ladder, they are required to add at leat one rendition to forceIncludeRenditions list

Type: Array of type ForceIncludeRenditionSize
Required: False

allowedRenditions

When customer adds the allowed renditions rule for auto ABR ladder, they are required to add at leat one rendition to allowedRenditions list

Type: Array of type AllowedRenditionSize
Required: False

AutomatedAbrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

maxQualityLevel

Optional. Specify the QVBR quality level to use for all renditions in your automated ABR stack. To have MediaConvert automatically determine the quality level: Leave blank. To manually specify a quality level: Enter a value from 1 to 10. MediaConvert will use a quality level up to the value that you specify, depending on your source. For more information about QVBR quality levels, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/qvbr-guidelines.html

Type: number
Required: False
Format: float
Minimum: 1.0
Maximum: 10.0

maxRenditions

Optional. The maximum number of renditions that MediaConvert will create in your automated ABR stack. The number of renditions is determined automatically, based on analysis of each job, but will never exceed this limit. When you set this to Auto in the console, which is equivalent to excluding it from your JSON job specification, MediaConvert defaults to a limit of 15.

Type: integer
Required: False
Minimum: 3
Maximum: 15

maxAbrBitrate

Specify the maximum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 8,000,000 (8 mb/s) by default. The average bitrate of your highest-quality rendition will be equal to or below this value, depending on the quality, complexity, and resolution of your content. Note that the instantaneous maximum bitrate may vary above the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

minAbrBitrate

Specify the minimum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 600,000 (600 kb/s) by default. The average bitrate of your lowest-quality rendition will be near this value. Note that the instantaneous minimum bitrate may vary below the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

rules

Optional. Use Automated ABR rules to specify restrictions for the rendition sizes MediaConvert will create in your ABR stack. You can use these rules if your ABR workflow has specific rendition size requirements, but you still want MediaConvert to optimize for video quality and overall file size.

Type: Array of type AutomatedAbrRule
Required: False

AutomatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

abrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

Type: AutomatedAbrSettings
Required: False

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

BIT_8

BIT_10

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

DISABLED

ENABLED

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

`DUPLICATE_DROP`

`INTERPOLATE`

`FRAMEFORMER`

`MAINTAIN_FRAME_COUNT`

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False

Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization
Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a

part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

`DISABLED`

`ENABLED`

AvailBlanking

Use ad avail blanking settings to specify your output content during SCTE-35 triggered ad avails. You can blank your video or overlay it with an image. MediaConvert also removes any audio and embedded captions during the ad avail. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ad-avail-blanking.html.

availBlankingImage

Blanking image to be used. Leave empty for solid black. Only bmp and png images are supported.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG))|(https?://(.*?)\.(bmp|BMP|png|PNG)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

`CLASS_50`
`CLASS_100`
`CLASS_200`
`CLASS_4K_2K`

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
```

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass

Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

HARD

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS

MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel

Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening
Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

```
LOW
MEDIUM
```

HIGH
OFF

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

LOW
MEDIUM
HIGH
AUTO
OFF

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in

conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor

Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string

Required: False

Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`

MinLength: 6

MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor

Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes
Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

```
CENTERED
LEFT
AUTO
```

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

```
WHITE_TEXT_ONLY
ALL_TEXT
```

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE

BLACK

WHITE

AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH

MONOSPACED_SANSSERIF

MONOSPACED_SERIF

PROPORTIONAL_SANSSERIF

PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE

BLACK

YELLOW

RED

GREEN

BLUE

HEX

AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

FIXED_GRID
PROPORTIONAL
AUTO

CaptionDescription

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

captionSelectorName

Specifies which "Caption Selector":#inputs-caption_selector to use from each input when generating captions. The name should be of the format "Caption Selector <N>", which denotes that the Nth Caption Selector will be used from each input.

Type: string
Required: False
MinLength: 1

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z-]+)?$`

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is

DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions.

Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different

output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings
Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings

Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

```
BURN_IN
DVB_SUB
EMBEDDED
EMBEDDED_PLUS_SCTE20
IMSC
SCTE20_PLUS_EMBEDDED
SCC
SRT
SMI
TELETEXT
TTML
WEBVTT
```

CaptionSelector

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

customLanguageCode

The specific language to extract from source, using the ISO 639-2 or ISO 639-3 three-letter language code. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

The specific language to extract from source. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: LanguageCode
Required: False

sourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: CaptionSourceSettings
Required: False

CaptionSourceByteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled.

MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

ENABLED

DISABLED

CaptionSourceConvertPaintOnToPopOn

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

ENABLED

DISABLED

CaptionSourceFramerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate denominator.

Type: integer

Required: False

Minimum: 1

Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate numerator.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

CaptionSourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

Type: CaptionSourceType
Required: False

ancillarySourceSettings

Settings for ancillary captions source.

Type: AncillarySourceSettings
Required: False

dvbSubSourceSettings

DVB Sub Source Settings

Type: DvbSubSourceSettings
Required: False

embeddedSourceSettings

Settings for embedded captions Source

Type: EmbeddedSourceSettings
Required: False

fileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: FileSourceSettings
Required: False

teletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

Type: TeletextSourceSettings
Required: False

trackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

Type: TrackSourceSettings
Required: False

webvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the

rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

Type: WebvttHlsSourceSettings
Required: False

CaptionSourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

ANCILLARY
DVB_SUB
EMBEDDED
SCTE20
SCC
TTML
STL
SRT
SMI
SMPTE_TT
TELETEXT
NULL_SOURCE
IMSC
WEBVTT

CaptionSourceUpconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

UPCONVERT
DISABLED

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

AUTO
FORCE_CENTER
FORCE_TOP_LEFT

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5

Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90
Maximum: 105

CmafAdditionalManifest

Specify the details for each pair of HLS and DASH additional manifests that you want the service to generate for this CMAF output group. Each pair of manifests can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

CmafClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

CmafCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

```
RFC_6381
RFC_4281
```

CmafEncryptionSettings

Settings for CMAF encryption

encryptionMethod

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

Type: CmafEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string

Required: False
Pattern: `^[0-9a-fA-F]{32}$`
MinLength: 32
MaxLength: 32

initializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

Type: CmafInitializationVectorInManifest
Required: False

spekeKeyProvider

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

Type: SpekeKeyProviderCmaf
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: CmafKeyProviderType
Required: False

CmafEncryptionType

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

SAMPLE_AES
AES_CTR

CmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: CmafTargetDurationCompatibilityMode
Required: False

writeHlsManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

Type: CmafWriteHLSManifest
Required: False

writeDashManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

Type: CmafWriteDASHManifest

Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: CmafSegmentLengthControl
Required: False

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting

to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest and one top -level .mpd DASH manifest for each CMAF output group in your job. These default manifests reference every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here. For each additional manifest that you specify, the service creates one HLS manifest and one DASH manifest.

Type: Array of type CmafAdditionalManifest
Required: False

encryption

DRM settings.

Type: CmafEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Specify the length, in whole seconds, of the mp4 fragments. When you don't specify a value, MediaConvert defaults to 2. Related setting: Use Fragment length control to specify whether the encoder enforces this value strictly.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: CmafSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: CmafPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: CmafMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd.

When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: CmafMpdProfile
Required: False

writeSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

Type: CmafWriteSegmentTimelineInRepresentation
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: CmafManifestDurationFormat
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: CmafStreamInfResolution
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: CmafClientCache
Required: False

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: CmafManifestCompression
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: CmafCodecSpecification
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: CmafImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more

information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: CmafImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: CmafVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle

Required: False

CmafImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

```
NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED
```

CmafImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: CmafIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to

align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

CmafInitializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

`INCLUDE`
`EXCLUDE`

CmafIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

`FOLLOW_IFRAME`
`FOLLOW_CUSTOM`

CmafKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

`SPEKE`
`STATIC_KEY`

CmafManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP
NONE

CmafManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT
INTEGER

CmafMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

AVERAGE
MAX

CmafMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

MAIN_PROFILE
ON_DEMAND_PROFILE

CmafPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

CmafSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
SEGMENTED_FILES
```

CmafSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

CmafStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE

EXCLUDE

CmafTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY

SPEC_COMPLIANT

CmafVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

CmafWriteDASHManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

DISABLED
ENABLED

CmafWriteHLSManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

DISABLED
ENABLED

CmafWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED
DISABLED

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE

EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH

NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH
NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam

Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to

Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata
Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

ColorConversion3DLUTSetting

Custom 3D lut settings

inputMasteringLuminance

Specify which inputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) inputs with a specific mastering luminance: Enter an integer from 0 to 2147483647, corresponding to the input's Maximum luminance value. To apply this 3D LUT to any input regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

inputColorSpace

Specify which inputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

outputMasteringLuminance

Specify which outputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) outputs with a specific luminance: Enter an integer from 0 to 2147483647, corresponding to the output's luminance. To apply this 3D LUT to any output regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

outputColorSpace

Specify which outputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your 3D LUT .cube file. Note that MediaConvert accepts 3D LUT files up to 8MB in size.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(cube|CUBE))|(https?://(.*?)\.(cube|CUBE)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range

or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False

Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required.

You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper
Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

```
IGNORE
INSERT
```

ColorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the

accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

FOLLOW
REC_601
REC_709
HDR10
HLG_2020
P3DCI
P3D65_SDR
P3D65_HDR

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

NONE
FORCE_601
FORCE_709
FORCE_HDR10
FORCE_HLG_2020
FORCE_P3DCI

FORCE_P3D65_SDR
FORCE_P3D65_HDR

ColorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

FORCE
FALLBACK

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings
Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings
Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings
Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD
MXF
OGG
WEBM
RAW
Y4M

CopyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH

STRIP

DashAdditionalManifest

Specify the details for each additional DASH manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your DASH group is film-name.mpd. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.mpd.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string

Required: False

MinLength: 1

DashIsoEncryptionSettings

Specifies DRM settings for DASH outputs.

playbackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

Type: DashIsoPlaybackDeviceCompatibility
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

DashIsoGroupAudioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

`MPEG_CHANNEL_CONFIGURATION`
`DOLBY_CHANNEL_CONFIGURATION`

DashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

audioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

Type: DashIsoGroupAudioChannelConfigSchemeIdUri
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 30. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number

Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: DashIsoSegmentLengthControl
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .mpd DASH manifest for each DASH ISO output group in your job. This default manifest references every output in the output group. To create additional DASH manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type DashAdditionalManifest
Required: False

encryption

DRM settings.

Type: DashIsoEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Length of fragments to generate (in seconds). Fragment length must be compatible with GOP size and Framerate. Note that fragments will end on the next keyframe after this number of seconds, so actual fragment length may be longer. When Emit Single File is checked, the fragmentation is internal to a single output file and it does not cause the creation of many output files as in other output types.

Type: integer
Required: False

Minimum: 1

Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest (.mpd) file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string

Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: DashIsoSegmentControl

Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: DashIsoPtsOffsetHandlingForBFrames

Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible

with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: DashIsoMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: DashIsoMpdProfile
Required: False

hbbtvCompliance

Supports HbbTV specification as indicated

Type: DashIsoHbbtvCompliance
Required: False

writeSegmentTimelineInRepresentation

If you get an HTTP error in the 400 range when you play back your DASH output, enable this setting and run your transcoding job again. When you enable this setting, the service writes precise segment durations in the DASH manifest. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When you don't enable this setting, the service writes approximate segment durations in your DASH manifest.

Type: DashIsoWriteSegmentTimelineInRepresentation
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: DashIsoImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string
Required: False
MinLength: 1
MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: DashIsoImageBasedTrickPlaySettings
Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: DashIsoVideoCompositionOffsets
Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle
Required: False

DashIsoHbbtvCompliance

Supports HbbTV specification as indicated

```
HBBTV_1_5
NONE
```

DashIsoImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that

MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

DashIsoImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer

Required: False

Minimum: 1

Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer

Required: False

Minimum: 1

Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: DashIsoIntervalCadence

Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number

Required: False

Format: float

Minimum: 0.0

Maximum: 2.147483647E9

DashIsoIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

```
FOLLOW_IFRAME
FOLLOW_CUSTOM
```

DashIsoMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

```
AVERAGE
MAX
```

DashIsoMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

```
MAIN_PROFILE
ON_DEMAND_PROFILE
```

DashIsoPlaybackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you

choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

```
CENC_V1
UNENCRYPTED_SEI
```

DashIsoPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

DashIsoSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
SEGMENTED_FILES
```

DashIsoSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion

or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

DashIsoVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

DashIsoWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED

DISABLED

DashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

```
BASIC
COMPACT
DISTINCT
```

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

```
INTERPOLATE
INTERPOLATE_TICKER
BLEND
BLEND_TICKER
LINEAR_INTERPOLATION
```

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm
Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode
Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

FORCE_ALL_FRAMES
NORMAL

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

```
DEINTERLACE
INVERSE_TELECINE
ADAPTIVE
```

DeleteJobTemplateRequest

Delete a job template by sending a request with the job template name

name

The name of the job template to be deleted.

Type: string
Required: False

DeleteJobTemplateResponse

Delete job template requests will return an OK message or error message with an empty body.

DestinationSettings

Settings associated with the destination. Will vary based on the type of destination

s3Settings

Settings associated with S3 destination

Type: S3DestinationSettings
Required: False

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode
Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata
Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

PASSTHROUGH
RECALCULATE
SPECIFY

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to

HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

HDR10_NOMAP
HDR10_1000

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

PROFILE_5
PROFILE_8_1

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

DISABLED
ENABLED

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer

Required: False
Minimum: 25
Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer
Required: False
Minimum: 0
Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass

through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly

choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input

captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style

passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType

Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling

Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSourceSettings

DVB Sub Source Settings

pid

When using DVB-Sub with Burn-in, use this PID for the source content. Unused for DVB-Sub passthrough. All DVB-Sub content is passed through, regardless of selectors.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH

MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

CENTERED
LEFT
AUTO

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE

AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

NONE
BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID
PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED

STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

NONE
SPECIFIED
NO_DISPLAY_WINDOW
SPECIFIED_OPTIMAL

DynamicAudioSelector

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an audio track within that output for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

selectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

Type: DynamicAudioSelectorType
Required: False

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*)))|^https?://[^\/].*[^&]$`

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection
Required: False

DynamicAudioSelectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

```
ALL_TRACKS
LANGUAGE_CODE
```

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE

FILM_STANDARD

FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE

FILM_STANDARD

FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

```
SPECIFIED
INITIALIZE_FROM_SOURCE
```

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

```
LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The

value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer
Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine

Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl

Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl

Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

NOT_INDICATED
STEREO
SURROUND
DPL2

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

ATTENUATE_3_DB
NONE

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

```
LFE
NO_LFE
```

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

```
ENABLED
DISABLED
```

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

```
FOLLOW_INPUT
USE_CONFIGURED
```

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

```
WHEN_POSSIBLE
NO_PASSTHROUGH
```

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0:

Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode

Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

```
NOT_INDICATED
LO_RO
LT_RT
DPL2
```

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If

you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

EmbeddedSourceSettings

Settings for embedded captions Source

source608ChannelNumber

Specifies the 608/708 channel number within the video track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

source608TrackNumber

Specifies the video track index used for extracting captions. The system only supports one input video track, so this should always be set to '1'.

Type: integer
Required: False
Minimum: 1
Maximum: 1

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: EmbeddedConvert608To708
Required: False

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: EmbeddedTerminateCaptions
Required: False

EmbeddedTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

`END_OF_INPUT`
`DISABLED`

EmbeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

NONE
USE_MDPM

EncryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

spekeVideoPreset

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

Type: PresetSpeke20Video
Required: False

spekeAudioPreset

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same

content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

Type: PresetSpeke20Audio
Required: False

EsamManifestConfirmConditionNotification

ESAM ManifestConfirmConditionNotification defined by OC-SP-ESAM-API-I03-131025.

mccXml

Provide your ESAM ManifestConfirmConditionNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the Manifest Conditioning instructions in the message that you supply.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*ManifestConfirmConditionNotification(.|\n)*>\s*$`

EsamSettings

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

signalProcessingNotification

Specifies an ESAM SignalProcessingNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the signal processing instructions that you provide in the setting SCC XML.

Type: EsamSignalProcessingNotification
Required: False

manifestConfirmConditionNotification

Specifies an ESAM ManifestConfirmConditionNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the manifest conditioning instructions that you provide in the setting MCC XML.

Type: EsamManifestConfirmConditionNotification
Required: False

responseSignalPreroll

Specifies the stream distance, in milliseconds, between the SCTE 35 messages that the transcoder places and the splice points that they refer to. If the time between the start of the asset and the SCTE-35 message is less than this value, then the transcoder places the SCTE-35 marker at the beginning of the stream.

Type: integer
Required: False
Minimum: 0
Maximum: 30000

EsamSignalProcessingNotification

ESAM SignalProcessingNotification data defined by OC-SP-ESAM-API-I03-131025.

sccXml

Provide your ESAM SignalProcessingNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the signal processing instructions in the message that you supply. For your MPEG2-TS file outputs, if you want the service to place SCTE-35 markers at the insertion points you specify in the XML document, you must also enable SCTE-35 ESAM. Note that you can either specify an ESAM XML document or enable SCTE-35 passthrough. You can't do both.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*SignalProcessingNotification(.|\n)*>\s*$`

ExceptionBody

message

Type: string
Required: False

ExtendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

vchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: VchipAction
Required: False

copyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: CopyProtectionAction
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

FileSourceConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608

data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT

DISABLED

FileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceFile

External caption file used for loading captions. Accepted file extensions are 'scc', 'ttml', 'dfxp', 'stl', 'srt', 'xml', 'smi', 'webvtt', and 'vtt'.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT))|(https?://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

timeDelta

Optional. Use this setting when you need to adjust the sync between your sidecar captions and your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/time-delta-use-cases.html. Enter a positive or negative number to modify the times in the captions file. For example, type 15 to add 15 seconds to all the times in the captions file. Type -5 to subtract 5 seconds from the times in the captions file. You can optionally specify your time delta in milliseconds instead of seconds. When you do so, set the related setting, Time delta units to Milliseconds. Note that, when you specify a time delta for timecode-based caption sources, such as SCC and STL, and your time delta isn't a multiple of the input frame rate, MediaConvert snaps the captions to the nearest frame. For example, when your input video frame rate is 25 fps and you specify 1010ms for time delta, MediaConvert delays your captions by 1000 ms.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

timeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

Type: FileSourceTimeDeltaUnits
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: FileSourceConvert608To708
Required: False

framerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

Type: CaptionSourceFramerate
Required: False

convertPaintToPop

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose

Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

Type: CaptionSourceConvertPaintOnToPopOn
Required: False

byteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

Type: CaptionSourceByteRateLimit
Required: False

upconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

Type: CaptionSourceUpconvertSTLToTeletext
Required: False

FileSourceTimeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

`SECONDS`
`MILLISECONDS`

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

AUTOMATIC
HANS
HANT

ForceIncludeRenditionSize

Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GetJobTemplateRequest

Query a job template by sending a request with the job template name.

name

The name of the job template.

Type: string
Required: False

GetJobTemplateResponse

Successful get job template requests will return an OK message and the job template JSON.

jobTemplate

A job template is a pre-made set of encoding instructions that you can use to quickly create a job.

Type: JobTemplate
Required: False

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

```
DUPLICATE_DROP
INTERPOLATE
```

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl
Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the

following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

```
AUTO
LEVEL_1
LEVEL_1_1
LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2
```

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

BASELINE

HIGH

HIGH_10BIT

HIGH_422

HIGH_422_10BIT

MAIN

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC

CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

`PAFF`

`FORCE_FIELD`

`MBAFF`

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

`DISABLED`

`ENABLED`

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

```
SPECIFIED
```

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video.

To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
```

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer

Required: False

Minimum: 1

Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED

ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

DISABLED

PREFERRED

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for

optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal

Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization

Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the

flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization
Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer

Required: False

Minimum: 0

Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization
Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding
Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition

detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect
Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer

Required: False

Minimum: 0

Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps

Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType

Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop

Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For

example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT
RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
SOFT
HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization

and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1

AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

```
OFF
LOW
MEDIUM
HIGH
HIGHER
MAX
AUTO
```

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

```
DISABLED
ENABLED
```

H265CodecLevel

H.265 Level.

```
AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
```

```
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1
LEVEL_6_2
```

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

```
MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH
MAIN_422_8BIT_MAIN
MAIN_422_8BIT_HIGH
MAIN_422_10BIT_MAIN
MAIN_422_10BIT_HIGH
```

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

```
ENABLED
DISABLED
```

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion

portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

DISABLED

ENABLED

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

```
SPECIFIED
```

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video.

To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

DEFAULT
ADAPTIVE
OFF

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer

Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics

of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video.

To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the

frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that

enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE

SOFT

HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

DISABLED

ENABLED

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

DISABLED

ENABLED

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer

Required: False
Minimum: 0
Maximum: 4000

HlsAdMarkers

Ad marker for Apple HLS manifest.

ELEMENTAL
ELEMENTAL_SCTE35

HlsAdditionalManifest

Specify the details for each additional HLS manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

HlsAudioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create a raw audio-only file with no container. Regardless of the value that you specify here, if this output has video, the service will place outputs into an MPEG2-TS container.

AUTOMATIC

M2TS

HlsAudioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

INCLUDE

EXCLUDE

HlsAudioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT

ALTERNATE_AUDIO_AUTO_SELECT

ALTERNATE_AUDIO_NOT_AUTO_SELECT

AUDIO_ONLY_VARIANT_STREAM

HlsCaptionLanguageMapping

Caption Language Mapping

captionChannel

Caption channel.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

customLanguageCode

Specify the language for this captions channel, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

Type: LanguageCode
Required: False

languageDescription

Caption language description.

Type: string
Required: False

HlsCaptionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

```
INSERT
OMIT
NONE
```

HlsCaptionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

```
LARGE_SEGMENTS
MATCH_VIDEO
```

HlsClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

HlsCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

```
RFC_6381
```

RFC_4281

HlsDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG

FLAG

HlsDirectoryStructure

Indicates whether segments should be placed in subdirectories.

SINGLE_DIRECTORY

SUBDIRECTORY_PER_STREAM

HlsEncryptionSettings

Settings for HLS encryption

encryptionMethod

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

Type: HlsEncryptionType

Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: ^[0-9a-fA-F]{32}$
MinLength: 32
MaxLength: 32

initializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

Type: HlsInitializationVectorInManifest
Required: False

offlineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

Type: HlsOfflineEncrypted
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: HlsKeyProviderType
Required: False

HlsEncryptionType

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

AES128
SAMPLE_AES

HlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: HlsTargetDurationCompatibilityMode
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: HlsManifestDurationFormat
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: HlsSegmentLengthControl
Required: False

timedMetadataId3Period

Specify the interval in seconds to write ID3 timestamps in your output. The first timestamp starts at the output timecode and date, and increases incrementally with each ID3 timestamp. To use

the default interval of 10 seconds: Leave blank. To include this metadata in your output: Set ID3 timestamp frame type to PRIV or TDRL, and set ID3 metadata to Passthrough.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

captionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

Type: HlsCaptionLanguageSetting
Required: False

captionLanguageMappings

Language to be used on Caption outputs

Type: Array of type HlsCaptionLanguageMapping
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest for each HLS output group in your job. This default manifest references every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type HlsAdditionalManifest
Required: False

encryption

DRM settings.

Type: HlsEncryptionSettings
Required: False

timedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

Type: HlsTimedMetadataId3Frame
Required: False

baseUrl

A partial URI prefix that will be prepended to each output in the media .m3u8 file. Can be used if base manifest is delivered from a different URL than the main .m3u8 file.

Type: string

Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: HlsCodecSpecification
Required: False

outputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

Type: HlsOutputSelection
Required: False

programDateTimePeriod

Period of insertion of EXT-X-PROGRAM-DATE-TIME entry, in seconds.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

segmentsPerSubdirectory

Specify the number of segments to write to a subdirectory before starting a new one. You must also set Directory structure to Subdirectory per stream for this setting to have an effect.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minSegmentLength

When set, Minimum Segment Size is enforced by looking ahead and back within the specified range for a nearby avail and extending the segment size if needed.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

directoryStructure

Indicates whether segments should be placed in subdirectories.

Type: HlsDirectoryStructure
Required: False

programDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

Type: HlsProgramDateTime
Required: False

adMarkers

Choose one or more ad marker types to decorate your Apple HLS manifest. This setting does not determine whether SCTE-35 markers appear in the outputs themselves.

Type: Array of type HlsAdMarkers
Required: False

segmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

Type: HlsSegmentControl
Required: False

timestampDeltaMilliseconds

Provides an extra millisecond delta offset to fine tune the timestamps.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: HlsManifestCompression
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: HlsClientCache
Required: False

audioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

Type: HlsAudioOnlyHeader
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: HlsStreamInfResolution
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: HlsImageBasedTrickPlay
Required: False

progressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

Type: HlsProgressiveWriteHlsManifest
Required: False

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: HlsImageBasedTrickPlaySettings
Required: False

captionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

Type: HlsCaptionSegmentLengthControl
Required: False

HlsIFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert

adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

INCLUDE
INCLUDE_AS_TS
EXCLUDE

HlsImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

HlsImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False

Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: HlsIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

HlsInitializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

INCLUDE
EXCLUDE

HlsIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME
FOLLOW_CUSTOM

HlsKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE
STATIC_KEY

HlsManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP
NONE

HlsManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT
INTEGER

HlsOfflineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

ENABLED
DISABLED

HlsOutputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

MANIFESTS_AND_SEGMENTS
SEGMENTS_ONLY

HlsProgramDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

INCLUDE
EXCLUDE

HlsProgressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

ENABLED
DISABLED

HlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

renditionGroupId

Optional. Specify alternative group ID

Type: string

Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

HlsSegmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

```
SINGLE_FILE
SEGMENTED_FILES
```

HlsSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2,

X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT
GOP_MULTIPLE
MATCH

HlsSettings

Settings for HLS output groups

audioGroupId

Specifies the group to which the audio rendition belongs.

Type: string
Required: False

audioRenditionSets

List all the audio groups that are used with the video output stream. Input all the audio GROUP-IDs that are associated to the video, separate by ','.

Type: string
Required: False

audioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

Type: HlsAudioTrackType

Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: HlsDescriptiveVideoServiceFlag

Required: False

iFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

Type: HlsIFrameOnlyManifest

Required: False

segmentModifier

Use this setting to add an identifying string to the filename of each segment. The service adds this string between the name modifier and segment index number. You can use format identifiers in the string. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html

Type: string

Required: False

audioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create an audio-only file in a raw container. Regardless of the value that you specify here, if this output has video, the service will place the output into an MPEG2-TS container.

Type: HlsAudioOnlyContainer
Required: False

HlsStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

```
INCLUDE
EXCLUDE
```

HlsTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

```
LEGACY
SPEC_COMPLIANT
```

HlsTimedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

```
NONE
PRIV
```

TDRL

HopDestination

Optional. Configuration for a destination queue to which the job can hop once a customer-defined minimum wait time has passed.

waitMinutes

Required for setting up a job to use queue hopping. Minimum wait time in minutes until the job can hop to the destination queue. Valid range is 1 to 4320 minutes, inclusive.

Type: integer
Required: False

queue

Optional unless the job is submitted on the default queue. When you set up a job to use queue hopping, you can specify a destination queue. This queue cannot be the original queue to which the job is submitted. If the original queue isn't the default queue and you don't specify the destination queue, the job will move to the default queue.

Type: string
Required: False

priority

Optional. When you set up a job to use queue hopping, you can specify a different relative priority for the job in the destination queue. If you don't specify, the relative priority will remain the same as in the previous queue.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

Id3Insertion

To insert ID3 tags in your output, specify two values. Use ID3 tag to specify the base 64 encoded string and use Timecode to specify the time when the tag should be inserted. To insert multiple ID3 tags in your output, create multiple instances of ID3 insertion.

timecode

Provide a Timecode in HH:MM:SS:FF or HH:MM:SS;FF format.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

id3

Use ID3 tag to provide a fully formed ID3 tag in base64-encode format.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

`DISABLED`
`ENABLED`

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

ENABLED
DISABLED

InputClipping

To transcode only portions of your input, include one input clip for each part of your input that you want in your output. All input clips that you specify will be included in every output of the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html.

endTimecode

Set End timecode to the end of the portion of the input you are clipping. The frame corresponding to the End timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for timecode source under input settings. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to end six minutes into the video, use 01:06:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Set Start timecode to the beginning of the portion of the input you are clipping. The frame corresponding to the Start timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for Input timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to begin five minutes into the video, use 01:05:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

InputDeblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

ENABLED

DISABLED

InputDenoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

ENABLED

DISABLED

InputFilterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

AUTO

DISABLE

FORCE

InputPsiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

IGNORE_PSI

USE_PSI

InputRotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

```
DEGREE_0
DEGREES_90
DEGREES_180
DEGREES_270
AUTO
```

InputSampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

```
FOLLOW
FULL_RANGE
LIMITED_RANGE
```

InputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF.

Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

AUTO
PSF

InputTemplate

Specified video input in a template.

inputClippings

Contains sets of start and end times that together specify a portion of the input to be used in the outputs. If you provide only a start time, the clip will be the entire input from that point to the end. If you provide only an end time, it will be the entire input up to that point. When you specify more than one input clip, the transcoding service creates the job outputs by stringing the clips together in the order you specify them.

Type: Array of type InputClipping
Required: False

audioSelectors

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

Type: object
Required: False

dynamicAudioSelectors

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an output audio track for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

Type: object

Required: False

audioSelectorGroups

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

Type: object
Required: False

programNumber

Use Program to select a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported. Default is the first program within the transport stream. If the program you specify doesn't exist, the transcoding service will use this default.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

videoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

Type: VideoSelector
Required: False

filterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

Type: InputFilterEnable

Required: False

psiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

Type: InputPsiControl
Required: False

filterStrength

Specify the strength of the input filter. To apply an automatic amount of filtering based the compression artifacts measured in your input: We recommend that you leave Filter strength blank and set Filter enable to Auto. To manually apply filtering: Enter a value from 1 to 5, where 1 is the least amount of filtering and 5 is the most. The value that you enter applies to the strength of the Deblock or Denoise filters, or to the strength of the Advanced input filter.

Type: integer
Required: False
Minimum: 0
Maximum: 5

deblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

Type: InputDeblockFilter
Required: False

denoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

Type: InputDenoiseFilter
Required: False

inputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

Type: InputScanType
Required: False

timecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the timecode that you want the service to use for this input's initial frame. To use this setting, you must set the Timecode source setting, located under the input settings, to Specified start. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

captionSelectors

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

Type: object
Required: False

imageInserter

Enable the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input individually. This setting is disabled by default.

Type: ImageInserter
Required: False

dolbyVisionMetadataXml

Use this setting only when your video source has Dolby Vision studio mastering metadata that is carried in a separate XML file. Specify the Amazon S3 location for the metadata XML file. MediaConvert uses this file to provide global and frame-level metadata for Dolby Vision preprocessing. When you specify a file here and your input also has interleaved global and frame level metadata, MediaConvert ignores the interleaved metadata and uses only the the metadata from this external XML file. Note that your IAM service role must grant MediaConvert read permissions to this file. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(xml|XML))|(https?://(.*?)\.(xml|XML)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

crop

Use Cropping selection to specify the video area that the service will include in the output video frame. If you specify a value here, it will override any value that you specify in the output setting Cropping selection.

Type: Rectangle
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black. If you specify a value here, it will override any value that you specify in the output setting Selection placement. If you specify a value here, this will override any AFD values in your input, even if you set Respond to AFD to Respond. If you specify a value here, this will ignore anything that you specify for the setting Scaling Behavior.

Type: Rectangle
Required: False

advancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

Type: AdvancedInputFilter
Required: False

advancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

Type: AdvancedInputFilterSettings
Required: False

videoOverlays

Contains an array of video overlays.

Type: Array of type VideoOverlay
Required: False

InputTimecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

`EMBEDDED`
`ZEROBASED`
`SPECIFIEDSTART`

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer

Required: False

Minimum: 0

Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer
Required: False
Minimum: 0
Maximum: 100

JobTemplate

A job template is a pre-made set of encoding instructions that you can use to quickly create a job.

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

createdAt

The timestamp in epoch seconds for Job template creation.

Type: string
Required: False
Format: date-time

lastUpdated

The timestamp in epoch seconds when the Job template was last updated.

Type: string
Required: False
Format: date-time

description

An optional description you create for each job template.

Type: string
Required: False

category

An optional category you create to organize your job templates.

Type: string
Required: False

queue

Optional. The queue that jobs created from this template are assigned to. If you don't specify this, jobs will go to the default queue.

Type: string

Required: False

name

A name you create for each job template. Each name must be unique within your account.

Type: string
Required: True

type

A job template can be of two types: system or custom. System or built-in job templates can't be modified or deleted by the user.

Type: Type
Required: False

settings

JobTemplateSettings contains all the transcode settings saved in the template that will be applied to jobs created from it.

Type: JobTemplateSettings
Required: True

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

Type: AccelerationSettings
Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval
Required: False

priority

Relative priority on the job.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

hopDestinations

Optional list of hop destinations.

Type: Array of type HopDestination
Required: False

JobTemplateSettings

JobTemplateSettings contains all the transcode settings saved in the template that will be applied to jobs created from it.

timecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

Type: TimecodeConfig
Required: False

outputGroups

Contains one group of settings for each set of outputs that share a common package type. All unpackaged files (MPEG-4, MPEG-2 TS, Quicktime, MXF, and no container) are grouped in a single output group as well. Required in is a group of settings that apply to the whole group.

This required object depends on the value you set for Type. Type, settings object pairs are as follows. * FILE_GROUP_SETTINGS, FileGroupSettings * HLS_GROUP_SETTINGS, HlsGroupSettings * DASH_ISO_GROUP_SETTINGS, DashIsoGroupSettings * MS_SMOOTH_GROUP_SETTINGS, MsSmoothGroupSettings * CMAF_GROUP_SETTINGS, CmafGroupSettings

Type: Array of type OutputGroup
Required: False

adAvailOffset

When specified, this offset (in milliseconds) is added to the input Ad Avail PTS time.

Type: integer
Required: False
Minimum: -1000
Maximum: 1000

availBlanking

Settings for ad avail blanking. Video can be blanked or overlaid with an image, and audio muted during SCTE-35 triggered ad avails.

Type: AvailBlanking
Required: False

followSource

Specify the input that MediaConvert references for your default output settings. MediaConvert uses this input's Resolution, Frame rate, and Pixel aspect ratio for all outputs that you don't manually specify different output settings for. Enabling this setting will disable "Follow source" for all other inputs. If MediaConvert cannot follow your source, for example if you specify an audio-only input, MediaConvert uses the first followable input instead. In your JSON job specification, enter an integer from 1 to 150 corresponding to the order of your inputs.

Type: integer
Required: False
Minimum: 1
Maximum: 150

timedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

Type: TimedMetadataInsertion
Required: False

nielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

Type: NielsenConfiguration
Required: False

motionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

Type: MotionImageInserter
Required: False

esam

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

Type: EsamSettings
Required: False

nielsenNonLinearWatermark

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition

to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

Type: NielsenNonLinearWatermarkSettings
Required: False

kantarWatermark

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

Type: KantarWatermarkSettings
Required: False

extendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

Type: ExtendedDataServices
Required: False

colorConversion3DLUTSettings

Use 3D LUTs to specify custom color mapping behavior when you convert from one color space into another. You can include up to 8 different 3D LUTs. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/3d-luts.html

Type: Array of type ColorConversion3DLUTSetting
Required: False

inputs

Use Inputs to define the source file used in the transcode job. There can only be one input in a job template. Using the API, you can include multiple inputs when referencing a job template.

Type: Array of type InputTemplate
Required: False

KantarWatermarkSettings

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

credentialsSecretName

Provide the name of the AWS Secrets Manager secret where your Kantar credentials are stored. Note that your MediaConvert service role must provide access to this secret. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/granting-permissions-for-mediaconvert-to-access-secrets-manager-secret.html. For instructions on creating a secret, see https://docs.aws.amazon.com/secretsmanager/latest/userguide/tutorials_basic.html, in the AWS Secrets Manager User Guide.

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

channelName

Provide an audio channel name from your Kantar audio license.

Type: string
Required: False
MinLength: 1

MaxLength: 20

contentReference

Specify a unique identifier for Kantar to use for this piece of content.

Type: string
Required: False
Pattern: `^[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 50

kantarServerUrl

Provide the HTTPS endpoint to the Kantar server. You should get this endpoint from Kantar.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/.*.kantarmedia.*$`

kantarLicenseId

Provide your Kantar license ID number. You should get this number from Kantar.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

logDestination

Optional. Specify the Amazon S3 bucket where you want MediaConvert to store your Kantar watermark XML logs. When you don't specify a bucket, MediaConvert doesn't save these logs. Note that your MediaConvert service role must provide access to this location. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string

Required: False
Format: uri
Pattern: ^s3:\/\/

fileOffset

Optional. Specify an offset, in whole seconds, from the start of your output and the beginning of the watermarking. When you don't specify an offset, Kantar defaults to zero.

Type: number
Required: False
Format: float
Minimum: 0.0

metadata3

You can optionally use this field to specify the first timestamp that Kantar embeds during watermarking. Kantar suggests that you be very cautious when using this Kantar feature, and that you use it only on channels that are managed specifically for use with this feature by your Audience Measurement Operator. For more information about this feature, contact Kantar technical support.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata4

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata5

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata6

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata7

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata8

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG

SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN
RUS
POR
ITA
URD
VIE
KOR
PAN
ABK
AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA
AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS

BOS
BRE
BUL
MYA
CAT
KHM
CHA
CHE
NYA
CHU
CHV
COR
COS
CRE
HRV
CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE
FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN

GUJ
HAT
HAU
HEB
HER
HMO
HUN
ISL
IDO
IBO
IND
INA
ILE
IKU
IPK
GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK
KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB

LTZ
MKD
MLG
MSA
MAL
MLT
GLV
MRI
MAR
MAH
MON
NAU
NAV
NDE
NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI
OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO

SAG
SAN
SRD
SRB
SNA
III
SND
SIN
SLK
SLV
SOM
SOT
SUN
SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT
TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN

VOL
WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA
ZUL
ORJ
QPC
TNG
SRP

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

MULTIPLEX
NONE

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

AUTO
ALIGN_TO_VIDEO

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR
CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32

Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH
NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a

segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

```
MAINTAIN_CADENCE
RESET_CADENCE
```

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel
Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings
Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32

Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl

Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl

Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers

Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval

Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number
Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

```
INSERT
NONE
```

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

```
PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD
```

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

```
PASSTHROUGH
NONE
```

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False

Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer

Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer

Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MinBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MinTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer

Required: False

Minimum: 32

Maximum: 8192

MotionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

insertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

Type: MotionImageInsertionMode

Required: False

input

Specify the .mov file or series of .png files that you want to overlay on your video. For .png files, provide the file name of the first file in the series. Make sure that the names of the .png files end with sequential numbers that specify the order that they are played in. For example, overlay_000.png, overlay_001.png, overlay_002.png, and so on. The sequence must start at zero, and each image file name must have the same number of digits. Pad your initial file names with enough zeros to complete the sequence. For example, if the first image is overlay_0.png, there can be only 10 images in the sequence, with the last image being overlay_9.png. But if the first image is overlay_00.png, there can be 100 images in the sequence.

Type: string

Required: False

Pattern: `^((s3://(.*)(\.mov|[0-9]+\.png))|(https?://(.*)(\.mov|[0-9]+\.png)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

offset

Use Offset to specify the placement of your motion graphic overlay on the video frame. Specify in pixels, from the upper-left corner of the frame. If you don't specify an offset, the service scales your overlay to the full size of the frame. Otherwise, the service inserts the overlay at its native resolution and scales the size up or down with any video scaling.

Type: MotionImageInsertionOffset
Required: False

startTime

Specify when the motion overlay begins. Use timecode format (HH:MM:SS:FF or HH:MM:SS;FF). Make sure that the timecode you provide here takes into account how you have set up your timecode configuration under both job settings and input settings. The simplest way to do that is to set both to start at 0. If you need to set up your job to follow timecodes embedded in your source that don't start at zero, make sure that you specify a start time that is after the first embedded timecode. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/setting-up-timecode.html

Type: string
Required: False
Pattern: `^(([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

playback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

Type: MotionImagePlayback
Required: False

framerate

If your motion graphic asset is a .mov file, keep this setting unspecified. If your motion graphic asset is a series of .png files, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. Make sure that the number of images in your series

matches the frame rate and your intended overlay duration. For example, if you want a 30-second overlay at 30 fps, you should have 900 .png images. This overlay frame rate doesn't need to match the frame rate of the underlying video.

Type: MotionImageInsertionFramerate
Required: False

MotionImageInsertionFramerate

For motion overlays that don't have a built-in frame rate, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. The overlay frame rate doesn't need to match the frame rate of the underlying video.

framerateNumerator

The top of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 24.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483640

framerateDenominator

The bottom of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 1.

Type: integer
Required: False
Minimum: 1
Maximum: 17895697

MotionImageInsertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

MOV
PNG

MotionImageInsertionOffset

Specify the offset between the upper-left corner of the video frame and the top left corner of the overlay.

imageX

Set the distance, in pixels, between the overlay and the left edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Set the distance, in pixels, between the overlay and the top edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

MotionImagePlayback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

ONCE
REPEAT

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE

EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM
MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON
NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED
EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom
Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

```
BROADCASTER_MIXED_AD
NONE
```

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix

Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer
Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest
Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE

EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION

MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW

FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE
PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED
DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints

Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType

Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source

Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

OFF
LOW
MEDIUM
HIGH

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

AUTO
LOW
MAIN
HIGH1440
HIGH

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

MAIN
PROFILE_422

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

DEFAULT
D_10

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

MsSmoothAdditionalManifest

Specify the details for each additional Microsoft Smooth Streaming manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your Microsoft Smooth group is film-name.ismv. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.ismv.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

MsSmoothAudioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

`COMBINE_DUPLICATE_STREAMS`
`NONE`

MsSmoothEncryptionSettings

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

MsSmoothFragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

`EXACT`
`GOP_MULTIPLE`

MsSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .ism Microsoft Smooth Streaming manifest for each Microsoft Smooth Streaming output group in your job. This default manifest references every output in the output group. To create additional manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type MsSmoothAdditionalManifest
Required: False

fragmentLength

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

fragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: MsSmoothFragmentLengthControl
Required: False

encryption

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

Type: MsSmoothEncryptionSettings
Required: False

manifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

Type: MsSmoothManifestEncoding
Required: False

audioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

Type: MsSmoothAudioDeduplication
Required: False

MsSmoothManifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

```
UTF8
UTF16
```

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

```
NO_COPY
COPY_FROM_VIDEO
```

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

ALLOW_ANY_DURATION

DROP_FRAMES_FOR_COMPLIANCE

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode

Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is 1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NielsenActiveWatermarkProcessType

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

NAES2_AND_NW
CBET
NAES2_AND_NW_AND_CBET

NielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

breakoutCode

Nielsen has discontinued the use of breakout code functionality. If you must include this property, set the value to zero.

Type: integer
Required: False
Minimum: 0
Maximum: 0

distributorId

Use Distributor ID to specify the distributor ID that is assigned to your organization by Nielsen.

Type: string
Required: False

NielsenNonLinearWatermarkSettings

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

sourceId

Use the SID that Nielsen provides to you. This source ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking. This ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking.

Type: integer
Required: False
Minimum: 0
Maximum: 65534

cbetSourceId

Use the CSID that Nielsen provides to you. This CBET source ID should be unique to your Nielsen account but common to all of your output assets that have CBET watermarking. Required when you choose a value for the setting Watermark types that includes CBET.

Type: string
Required: False
Pattern: `(^0x[A-Fa-f0-9]{0,8}$|^[1-9][0-9]{0,8}$)`

activeWatermarkProcess

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a

value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

Type: NielsenActiveWatermarkProcessType
Required: False

assetId

Use the asset ID that you provide to Nielsen to uniquely identify this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 20

assetName

Use the asset name that you provide to Nielsen for this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 50

episodeId

Optional. If this asset uses an episode ID with Nielsen, provide it here.

Type: string
Required: False
MinLength: 1
MaxLength: 20

ticServerUrl

Specify the endpoint for the TIC server that you have deployed and configured in the AWS Cloud. Required for all Nielsen non-linear watermarking. MediaConvert can't connect directly to a TIC server. Instead, you must use API Gateway to provide a RESTful interface between MediaConvert and a TIC server that you deploy in your AWS account. For more information on deploying a TIC server in your AWS account and the required API Gateway, contact Nielsen support.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/`

metadataDestination

Specify the Amazon S3 location where you want MediaConvert to save your Nielsen non-linear metadata .zip file. This Amazon S3 bucket must be in the same Region as the one where you do your MediaConvert transcoding. If you want to include an ADI file in this .zip file, use the setting ADI file to specify it. MediaConvert delivers the Nielsen metadata .zip files only to your metadata destination Amazon S3 bucket. It doesn't deliver the .zip files to Nielsen. You are responsible for delivering the metadata .zip files to Nielsen.

Type: string
Required: False
Pattern: `^s3:\/\/`

uniqueTicPerAudioTrack

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

Type: NielsenUniqueTicPerAudioTrackType
Required: False

adiFilename

Optional. Use this setting when you want the service to include an ADI file in the Nielsen metadata .zip file. To provide an ADI file, store it in Amazon S3 and provide a URL to it here. The

URL should be in the following format: S3://bucket/path/ADI-file. For more information about the metadata .zip file, see the setting Metadata destination.

Type: string
Required: False
Pattern: `^s3:\/\/`

sourceWatermarkStatus

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

Type: NielsenSourceWatermarkStatusType
Required: False

NielsenSourceWatermarkStatusType

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

`CLEAN`
`WATERMARKED`

NielsenUniqueTicPerAudioTrackType

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

`RESERVE_UNIQUE_TICS_PER_TRACK`
`SAME_TICS_PER_TRACK`

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

```
DISABLED
ENABLED
AUTO
```

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
```

CONSERVE
SPATIAL
TEMPORAL

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2

Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 16000
Maximum: 48000

Output

Each output in your job is a collection of settings that describes how you want MediaConvert to encode a single output file or stream. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/create-outputs.html.

containerSettings

Container specific settings.

Type: ContainerSettings
Required: False

preset

Use Preset to specify a preset for your transcoding settings. Provide the system or custom preset name. You can specify either Preset or Container settings, but not both.

Type: string
Required: False
MinLength: 0

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

outputSettings

Specific settings for this type of output.

Type: OutputSettings
Required: False

extension

Use Extension to specify the file extension for outputs in File output groups. If you do not specify a value, the service will use default extensions by container type as follows * MPEG-2 transport stream, m2ts * Quicktime, mov * MXF container, mxf * MPEG-4 container, mp4 * WebM container, webm * Animated GIF container, gif * No Container, the service will use codec extensions (e.g. AAC, H265, H265, AC3)

Type: string
Required: False
MaxLength: 256

nameModifier

Use Name modifier to have the service add a string to the end of each output filename. You specify the base filename as part of your destination URI. When you create multiple outputs in the same output group, Name modifier is required. Name modifier also accepts format identifiers. For DASH ISO outputs, if you use the format identifiers $Number$ or $Time$ in one output, you must use them in the same way in all outputs of the output group.

Type: string
Required: False
MinLength: 1
MaxLength: 256

captionDescriptions

Contains groups of captions settings. For each output that has captions, include one instance of CaptionDescriptions. Can contain multiple groups of captions settings.

Type: Array of type CaptionDescription
Required: False

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer
Required: False
Minimum: -60
Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number
Required: False
Format: float
Minimum: -60.0
Maximum: 6.0

OutputGroup

Group of outputs

customName

Use Custom Group Name to specify a name for the output group. This value is displayed on the console and can make your job settings JSON more human-readable. It does not affect your outputs. Use up to twelve characters that are either letters, numbers, spaces, or underscores.

Type: string
Required: False

name

Name of the output group

Type: string
Required: False

MaxLength: 2048

outputs

This object holds groups of encoding settings, one group of settings per output.

Type: Array of type Output
Required: False

outputGroupSettings

Output Group settings, including type

Type: OutputGroupSettings
Required: False

automatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

Type: AutomatedEncodingSettings
Required: False

OutputGroupSettings

Output Group settings, including type

type

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

Type: OutputGroupType
Required: False

hlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: HlsGroupSettings

Required: False

dashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: DashIsoGroupSettings

Required: False

fileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

Type: FileGroupSettings

Required: False

msSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: MsSmoothGroupSettings

Required: False

cmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: CmafGroupSettings

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

OutputGroupType

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

```
HLS_GROUP_SETTINGS
DASH_ISO_GROUP_SETTINGS
FILE_GROUP_SETTINGS
MS_SMOOTH_GROUP_SETTINGS
CMAF_GROUP_SETTINGS
```

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

```
SDT_FOLLOW
SDT_FOLLOW_IF_PRESENT
SDT_MANUAL
SDT_NONE
```

OutputSettings

Specific settings for this type of output.

hlsSettings

Settings for HLS output groups

Type: HlsSettings
Required: False

PadVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

```
DISABLED
BLACK
```

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings

Required: False

PresetSpeke20Audio

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

```
PRESET_AUDIO_1
PRESET_AUDIO_2
PRESET_AUDIO_3
SHARED
UNENCRYPTED
```

PresetSpeke20Video

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

```
PRESET_VIDEO_1
PRESET_VIDEO_2
PRESET_VIDEO_3
PRESET_VIDEO_4
```

PRESET_VIDEO_5
PRESET_VIDEO_6
PRESET_VIDEO_7
PRESET_VIDEO_8
SHARED
UNENCRYPTED

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

PRESERVE_444_SAMPLING
SUBSAMPLE_TO_422

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

APPLE_PRORES_422
APPLE_PRORES_422_HQ
APPLE_PRORES_422_LT
APPLE_PRORES_422_PROXY
APPLE_PRORES_4444
APPLE_PRORES_4444_XQ

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want

to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the

output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is

different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal

Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine
Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the

same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer

Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the

mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping
Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also

specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

```
DISABLED
ENABLED
```

RequiredFlag

Set to ENABLED to force a rendition to be included.

```
ENABLED
DISABLED
```

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE
RESPOND
PASSTHROUGH

RuleType

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting

Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

```
MIN_TOP_RENDITION_SIZE
MIN_BOTTOM_RENDITION_SIZE
FORCE_INCLUDE_RENDITIONS
ALLOWED_RENDITIONS
```

S3DestinationAccessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

cannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

Type: S3ObjectCannedAcl
Required: False

S3DestinationSettings

Settings associated with S3 destination

encryption

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

Type: S3EncryptionSettings
Required: False

accessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

Type: S3DestinationAccessControl
Required: False

storageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

Type: S3StorageClass
Required: False

S3EncryptionSettings

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

encryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

Type: S3ServerSideEncryptionType
Required: False

kmsKeyArn

Optionally, specify the customer master key (CMK) that you want to use to encrypt the data key that AWS uses to encrypt your output content. Enter the Amazon Resource Name (ARN) of the CMK. To use this setting, you must also set Server-side encryption to AWS KMS. If you set Server-side encryption to AWS KMS but don't specify a CMK here, AWS uses the AWS managed CMK associated with Amazon S3.

Type: string

Required: False

Pattern: `^arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32})$`

kmsEncryptionContext

Optionally, specify the encryption context that you want to use alongside your KMS key. AWS KMS uses this encryption context as additional authenticated data (AAD) to support authenticated encryption. This value must be a base64-encoded UTF-8 string holding JSON which represents a string-string map. To use this setting, you must also set Server-side encryption to AWS KMS. For more information about encryption context, see: https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#encrypt_context.

Type: string

Required: False

Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

S3ObjectCannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

`PUBLIC_READ`

`AUTHENTICATED_READ`

`BUCKET_OWNER_READ`

`BUCKET_OWNER_FULL_CONTROL`

S3ServerSideEncryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with

Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

```
SERVER_SIDE_ENCRYPTION_S3
SERVER_SIDE_ENCRYPTION_KMS
```

S3StorageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

```
STANDARD
REDUCED_REDUNDANCY
STANDARD_IA
ONEZONE_IA
INTELLIGENT_TIERING
GLACIER
DEEP_ARCHIVE
```

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

```
LIMITED_RANGE_SQUEEZE
NONE
```

```
LIMITED_RANGE_CLIP
```

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

```
DEFAULT
STRETCH_TO_OUTPUT
FIT
FIT_NO_UPSCALE
FILL
```

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

```
FRAMERATE_23_97
FRAMERATE_24
FRAMERATE_25
FRAMERATE_29_97_DROPFRAME
FRAMERATE_29_97_NON_DROPFRAME
```

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video

frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate
Required: False

SpekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False

systemIds

Relates to SPEKE implementation. DRM system identifiers. DASH output groups support a max of two system ids. HLS output groups support a max of 3 system ids. Other group types support one system id. See https://dashif.org/identifiers/content_protection/ for more details.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SpekeKeyProviderCmaf

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False
Pattern: `^[\w-]+$`

hlsSignaledSystemIds

Specify up to 3 DRM system IDs that you want signaled in the HLS manifest that MediaConvert creates as part of this CMAF package. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

dashSignaledSystemIds

Specify the DRM system IDs that you want signaled in the DASH manifest that MediaConvert creates as part of this CMAF package. The DASH manifest can currently signal up to three system IDs. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string

Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

`ENABLED`
`DISABLED`

StaticKeyProvider

Use these settings to set up encryption with a static key provider.

staticKeyValue

Relates to DRM implementation. Use a 32-character hexidecimal string to specify Key Value.

Type: string
Required: False
Pattern: `^[A-Za-z0-9]{32}$`

keyFormat

Relates to DRM implementation. Sets the value of the KEYFORMAT attribute. Must be 'identity' or a reverse DNS string. May be omitted to indicate an implicit value of 'identity'.

Type: string
Required: False
Pattern: `^(identity|[A-Za-z]{2,6}(\.[A-Za-z0-9-]{1,63})+)$`

keyFormatVersions

Relates to DRM implementation. Either a single positive integer version value or a slash delimited list of version values (1/2/3).

Type: string
Required: False
Pattern: `^(\d+(\/\d+)*)$`

url

Relates to DRM implementation. The location of the license server used for protecting content.

Type: string
Required: False
Format: uri

StatusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

SECONDS_10
SECONDS_12
SECONDS_15
SECONDS_20
SECONDS_30
SECONDS_60
SECONDS_120
SECONDS_180
SECONDS_240
SECONDS_300
SECONDS_360
SECONDS_420
SECONDS_480
SECONDS_540
SECONDS_600

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string
Required: False
Pattern: ^[1-8][0-9a-fA-F][0-9a-eA-E]$

MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

```
PAGE_TYPE_INITIAL
PAGE_TYPE_SUBTITLE
PAGE_TYPE_ADDL_INFO
PAGE_TYPE_PROGRAM_SCHEDULE
PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE
```

TeletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

pageNumber

Use Page Number to specify the three-digit hexadecimal page number that will be used for Teletext captions. Do not use this setting if you are passing through teletext from the input source to output.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: `^[ -~]+$`

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

`TOP_CENTER`
`TOP_LEFT`

TOP_RIGHT
MIDDLE_LEFT
MIDDLE_CENTER
MIDDLE_RIGHT
BOTTOM_LEFT
BOTTOM_CENTER
BOTTOM_RIGHT

TimecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

anchor

If you use an editing platform that relies on an anchor timecode, use Anchor Timecode to specify a timecode that will match the input video frame to the output video frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF). This setting ignores frame rate conversion. System behavior for Anchor Timecode varies depending on your setting for Source. * If Source is set to Specified Start, the first input frame is the specified value in Start Timecode. Anchor Timecode and Start Timecode are used calculate output timecode. * If Source is set to Start at 0 the first frame is 00:00:00:00. * If Source is set to Embedded, the first frame is the timecode value on the first input frame of the input.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

source

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

Type: TimecodeSource
Required: False

start

Only use when you set Source to Specified start. Use Start timecode to specify the timecode for the initial frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF).

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

timestampOffset

Only applies to outputs that support program-date-time stamp. Use Timestamp offset to overwrite the timecode date without affecting the time and frame number. Provide the new date as a string in the format "yyyy-mm-dd". To use Timestamp offset, you must also enable Insert program-date-time in the output settings. For example, if the date part of your timecodes is 2002-1-25 and you want to change it to one year later, set Timestamp offset to 2003-1-25.

Type: string
Required: False
Pattern: `^([0-9]{4})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])$`

TimecodeSource

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

`EMBEDDED`
`ZEROBASED`

SPECIFIEDSTART

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

DISABLED
ENABLED

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

TimedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

id3Insertions

Id3Insertions contains the array of Id3Insertion instances.

Type: Array of type Id3Insertion
Required: False

TrackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

trackNumber

Use this setting to select a single captions track from a source. Track numbers correspond to the order in the captions source file. For IMF sources, track numbering is based on the order that the captions appear in the CPL. For example, use 1 to select the captions asset that is listed first in the CPL. To include more than one captions track in your job outputs, create multiple input captions selectors. Specify one track per selector.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

`AUTO`
`SECONDS`
`MILLISECONDS`

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough

Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

ENABLED

DISABLED

Type

SYSTEM

CUSTOM

UncompressedFourcc

The four character code for the uncompressed video.

I420

I422

I444

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for

optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode

Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine

Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal

Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

DISABLED
ENABLED

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

UpdateJobTemplateRequest

Modify a job template by sending a request with the job template name and any of the following that you wish to change: description, category, and queue.

description

The new description for the job template, if you are changing it.

Type: string
Required: False

category

The new category for the job template, if you are changing it.

Type: string
Required: False

queue

The new queue for the job template, if you are changing it.

Type: string
Required: False

name

The name of the job template you are modifying

Type: string
Required: False

settings

JobTemplateSettings contains all the transcode settings saved in the template that will be applied to jobs created from it.

Type: JobTemplateSettings
Required: False

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content. Outputs that use this feature incur pro-tier pricing. For information about feature limitations, see the AWS Elemental MediaConvert User Guide.

Type: AccelerationSettings
Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval
Required: False

priority

Specify the relative priority for this job. In any given queue, the service begins processing the job with the highest value first. When more than one job has the same priority, the service begins processing the job that you submitted first. If you don't specify a priority, the service uses the default value 0.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

hopDestinations

Optional list of hop destinations.

Type: Array of type HopDestination
Required: False

UpdateJobTemplateResponse

Successful update job template requests will return the new job template JSON.

jobTemplate

A job template is a pre-made set of encoding instructions that you can use to quickly create a job.

Type: JobTemplate

Required: False

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

```
CLASS_145_8BIT
CLASS_220_8BIT
CLASS_220_10BIT
```

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the

same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class
Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

DISABLED
ENABLED

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264

H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3
VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer
Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle

Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

Type: VideoCodecSettings
Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode
Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata

Required: False

VideoOverlay

Overlay one or more videos on top of your input video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-overlays.html

input

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

Type: VideoOverlayInput
Required: False

endTimecode

Enter the end timecode in the base input video for this overlay. Your overlay will be active through this frame. To display your video overlay for the duration of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS isthe second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to end ten minutes into the video, enter 01:10:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Enter the start timecode in the base input video for this overlay. Your overlay will be active starting with this frame. To display your video overlay starting at the beginning of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to begin five minutes into the video, enter 01:05:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

crop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

Type: VideoOverlayCrop
Required: False

initialPosition

Specify the Initial position of your video overlay. To specify the Initial position of your video overlay, including distance from the left or top edge of the base input video's frame, or size: Enter a value for X position, Y position, Width, or Height. To use the full frame of the base input video: Leave blank.

Type: VideoOverlayPosition
Required: False

playback

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

Type: VideoOverlayPlayBackMode
Required: False

transitions

Specify one or more transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay:

Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

Type: Array of type VideoOverlayTransition
Required: False

VideoOverlayCrop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

x

Specify the distance between the cropping rectangle and the left edge of your overlay video's frame. To position the cropping rectangle along the left edge: Keep blank, or enter 0. To position the cropping rectangle to the right, relative to the left edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the left edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 192 pixels from the left edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

Specify the distance between the cropping rectangle and the top edge of your overlay video's frame. To position the cropping rectangle along the top edge: Keep blank, or enter 0. To position the cropping rectangle down, relative to the top edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the top edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 108 pixels from the top edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width of the video overlay cropping rectangle. To use the same width as your overlay input video: Keep blank, or enter 0. To specify a different width for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels wide. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 192 pixels wide.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the video overlay cropping rectangle. To use the same height as your overlay input video: Keep blank, or enter 0. To specify a different height for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels high. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 108 pixels high.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayInput

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your video overlay. To specify one or more Transitions for your base input video instead: Leave blank.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

inputClippings

Specify one or more clips to use from your video overlay. When you include an input clip, you must also specify its start timecode, end timecode, or both start and end timecode.

Type: Array of type VideoOverlayInputClipping
Required: False

timecodeSource

Specify the timecode source for your video overlay input clips. To use the timecode present in your video overlay: Choose Embedded. To use a zerobased timecode: Choose Start at 0. To choose a timecode: Choose Specified start. When you do, enter the starting timecode in Start timecode. If you don't specify a value for Timecode source, MediaConvert uses Embedded by default.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the starting timecode for this video overlay. To use this setting, you must set Timecode source to Specified start.

Type: string

Required: False

Pattern: ^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$

MinLength: 11

MaxLength: 11

VideoOverlayInputClipping

To transcode only portions of your video overlay, include one input clip for each part of your video overlay that you want in your output.

endTimecode

Specify the timecode of the last frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string

Required: False

Format: timecode

Pattern: ^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$

startTimecode

Specify the timecode of the first frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string

Required: False

Format: timecode

Pattern: ^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$

VideoOverlayPlayBackMode

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

ONCE
REPEAT

VideoOverlayPosition

position of video overlay

xPosition

To position the left edge of your video overlay along the left edge of the base input video's frame: Keep blank, or enter 0. To position the left edge of your video overlay to the right, relative to the left edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the left edge of the base input video's frame. When you enter 10, choose Percentage, and your base input video is 1920x1080, your video overlay will be positioned 192 pixels from the left edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

yPosition

To position the top edge of your video overlay along the top edge of the base input video's frame: Keep blank, or enter 0. To position the top edge of your video overlay down, relative to the top edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the top edge of the base input video's frame. When you enter 10, choose Percentage, and your underlying video is 1920x1080, your video overlay will be positioned 108 pixels from the top edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

width

To scale your video overlay to the same width as the base input video: Leave blank. To scale the width of your video overlay to a different width: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 640 and choose Pixels, your video overlay will scale to a height of 640 pixels. When you enter 50, choose Percentage, and your overlay's source has a width of 1920, your video overlay will scale to a width of 960. To scale your overlay to a specific width while automatically maintaining its original aspect ratio, enter a value for Width and leave Height blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

height

To scale your video overlay to the same height as the base input video: Leave blank. To scale the height of your video overlay to a different height: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 360 and choose Pixels, your video overlay will be rendered with a height of 360. When you enter 50, choose Percentage, and your overlay's source has a height of 1080, your video overlay will be rendered with a height of 540. To scale your overlay to a specific height while automatically maintaining its original aspect ratio, enter a value for Height and leave Width blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayTransition

Specify one or more Transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

endTimecode

Specify the timecode for when this transition ends. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Specify the timecode for when this transition begins. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

endPosition

Specify the ending position for this transition, relative to the base input video's frame. Your video overlay will move smoothly to this position, beginning at this transition's Start timecode and ending at this transition's End timecode.

Type: VideoOverlayPosition
Required: False

VideoOverlayUnit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

```
PIXELS
PERCENTAGE
```

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector
Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking
Required: False

VideoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

colorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpace
Required: False

sampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input

sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

Type: InputSampleRange
Required: False

rotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

Type: InputRotate
Required: False

pid

Use PID to select specific video data from an input file. Specify this value as an integer; the system automatically converts it to the hexidecimal value. For example, 257 selects PID 0x101. A PID, or packet identifier, is an identifier for a set of data in an MPEG-2 transport stream container.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

programNumber

Selects a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported.

Type: integer
Required: False

Minimum: -2147483648

Maximum: 2147483647

embeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

Type: EmbeddedTimecodeOverride

Required: False

alphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

Type: AlphaBehavior

Required: False

colorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

Type: ColorSpaceUsage

Required: False

padVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

Type: PadVideo
Required: False

selectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

Type: VideoSelectorType
Required: False

streams

Specify a stream for MediaConvert to use from your HLS input. Enter an integer corresponding to the stream order in your HLS manifest.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings to provide HDR 10 metadata that is missing or inaccurate in your input video. Appropriate values vary depending on the input video and must be provided by a color grader. The color grader generates these values during the HDR 10 mastering process. The valid range for each of these settings is 0 to 50,000. Each increment represents 0.00002 in CIE1931 color coordinate. Related settings - When you specify these values, you must also set Color space to HDR 10. To specify whether the the values you specify here take precedence over the values in the metadata of your input file, set Color space usage. To specify whether color metadata is included in an output, set Color metadata. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

VideoSelectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

AUTO
STREAM

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero.

To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

```
DISABLED
PIC_TIMING_SEI
```

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer

Required: False

Minimum: -1

Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

`MULTI_PASS`
`MULTI_PASS_HQ`

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

`VBR`

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer

Required: False

Minimum: 0

Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

```
MULTI_PASS
```

MULTI_PASS_HQ

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

RIFF
RF64
EXTENSIBLE

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16

Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat
Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-

music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

DISABLED
ENABLED

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests,

MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

```
ENABLED
DISABLED
STRICT
MERGE
```

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_100
CLASS_300
CLASS_480
```

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass
Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_100
CLASS_300
CLASS_480
```

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass
Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200
```

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

```
HIGH
HIGH_422
```

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this

value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

OFF

AUTO

LOW

MEDIUM

HIGH

HIGHER

MAX

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

AUTO

CABAC

CAVLC

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

DISABLED

ENABLED

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

```
DISABLED
```

ENABLED

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_50
CLASS_100
CLASS_200

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass
Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_25
BITRATE_CLASS_35
BITRATE_CLASS_50

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS

SINGLE_PASS_HQ
MULTI_PASS_HQ

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 4
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode
Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE
HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

XAVC_HD_INTRA_CBG
XAVC_4K_INTRA_CBG
XAVC_4K_INTRA_VBR
XAVC_HD
XAVC_4K

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content

complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When

you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

```
DISABLED
ENABLED
```

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of

quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

```
PSNR
SSIM
MS_SSIM
PSNR_HVS
VMAF
QVBR
```

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

GetJobTemplate

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

UpdateJobTemplate

- AWS Command Line Interface V2

- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteJobTemplate

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Policy

URI

`/2017-08-29/policy`

HTTP methods

GET

Operation ID: `GetPolicy`

Retrieve the JSON for your policy.

Responses

Status code	Response model	Description
200	GetPolicyResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

PUT

Operation ID: `PutPolicy`

Create or change your policy. For more information about policies, see the user guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Responses

Status code	Response model	Description
200	PutPolicyResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

DELETE

Operation ID: `DeletePolicy`

Permanently delete a policy that you created.

Responses

Status code	Response model	Description
200	DeletePolicyResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
}
```

PUT schema

```
{
  "policy": {
    "s3Inputs": enum,
    "httpInputs": enum,
    "httpsInputs": enum
  }
}
```

DELETE schema

```
{
}
```

Response bodies

GetPolicyResponse schema

```
{
  "policy": {
    "s3Inputs": enum,
    "httpInputs": enum,
```

```
    "httpsInputs": enum
  }
}
```

PutPolicyResponse schema

```
{
  "policy": {
    "s3Inputs": enum,
    "httpInputs": enum,
    "httpsInputs": enum
  }
}
```

DeletePolicyResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

DeletePolicyRequest

Send a request to permanently delete a policy that you created.

DeletePolicyResponse

Successful DELETE policy requests will return an OK message.

ExceptionBody

message

Type: string

Required: False

GetPolicyRequest

Send a request to retrieve the JSON for your policy.

GetPolicyResponse

Successful GET policy requests will return the JSON for your policy.

policy

A policy configures behavior that you allow or disallow for your account. For information about MediaConvert policies, see the user guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: Policy
Required: False

InputPolicy

An input policy allows or disallows a job you submit to run based on the conditions that you specify.

`ALLOWED`
`DISALLOWED`

Policy

A policy configures behavior that you allow or disallow for your account. For information about MediaConvert policies, see the user guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

s3Inputs

Allow or disallow jobs that specify Amazon S3 inputs.

Type: InputPolicy

Required: False

httpInputs

Allow or disallow jobs that specify HTTP inputs.

Type: InputPolicy
Required: False

httpsInputs

Allow or disallow jobs that specify HTTPS inputs.

Type: InputPolicy
Required: False

PutPolicyRequest

Create or change a policy by sending a request that includes your policy in JSON.

policy

A policy configures behavior that you allow or disallow for your account. For information about MediaConvert policies, see the user guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: Policy
Required: True

PutPolicyResponse

Successful PUT policy requests will return your policy.

policy

A policy configures behavior that you allow or disallow for your account. For information about MediaConvert policies, see the user guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: Policy
Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

GetPolicy

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

PutPolicy

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeletePolicy

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Presets

URI

`/2017-08-29/presets`

HTTP methods

GET

Operation ID: `ListPresets`

Retrieve a JSON array of up to twenty of your presets. This will return the presets themselves, not just a list of them. To retrieve the next twenty presets, use the nextToken string returned with the array.

Query parameters

Name	Type	Required	Description
`category`	String	False	
`listBy`	String	False	

Name	Type	Required	Description
nextToken	String	False	
maxResults	String	False	
order	String	False	

Responses

Status code	Response model	Description
200	ListPresetsResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.

Status code	Response model	Description
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

POST

Operation ID: `CreatePreset`

Create a new preset. For information about job templates see the User Guide at http://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Responses

Status code	Response model	Description
201	CreatePresetResponse	201 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time.

Status code	Response model	Description
		The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "listBy": enum,
  "category": "string",
  "order": enum,
  "nextToken": "string",
  "maxResults": integer
}
```

POST schema

```
{
  "description": "string",
  "category": "string",
  "name": "string",
```

```
  "settings": {
    "videoDescription": {
      "fixedAfd": integer,
      "width": integer,
      "scalingBehavior": enum,
      "crop": {
        "height": integer,
        "width": integer,
        "x": integer,
        "y": integer
      },
      "height": integer,
      "videoPreprocessors": {
        "colorCorrector": {
          "brightness": integer,
          "colorSpaceConversion": enum,
          "sampleRangeConversion": enum,
          "clipLimits": {
            "minimumYUV": integer,
            "maximumYUV": integer,
            "minimumRGBTolerance": integer,
            "maximumRGBTolerance": integer
          },
          "sdrReferenceWhiteLevel": integer,
          "contrast": integer,
          "hue": integer,
          "saturation": integer,
          "maxLuminance": integer,
          "hdr10Metadata": {
            "redPrimaryX": integer,
            "redPrimaryY": integer,
            "greenPrimaryX": integer,
            "greenPrimaryY": integer,
            "bluePrimaryX": integer,
            "bluePrimaryY": integer,
            "whitePointX": integer,
            "whitePointY": integer,
            "maxFrameAverageLightLevel": integer,
            "maxContentLightLevel": integer,
            "maxLuminance": integer,
            "minLuminance": integer
          },
          "hdrToSdrToneMapper": enum
        },
```

```
        "deinterlacer": {
          "algorithm": enum,
          "mode": enum,
          "control": enum
        },
        "dolbyVision": {
          "profile": enum,
          "l6Mode": enum,
          "l6Metadata": {
            "maxCll": integer,
            "maxFall": integer
          },
          "mapping": enum
        },
        "hdr10Plus": {
          "masteringMonitorNits": integer,
          "targetMonitorNits": integer
        },
        "imageInserter": {
          "insertableImages": [
            {
              "width": integer,
              "height": integer,
              "imageX": integer,
              "imageY": integer,
              "duration": integer,
              "fadeIn": integer,
              "layer": integer,
              "imageInserterInput": "string",
              "startTime": "string",
              "fadeOut": integer,
              "opacity": integer
            }
          ],
          "sdrReferenceWhiteLevel": integer
        },
        "noiseReducer": {
          "filter": enum,
          "filterSettings": {
            "strength": integer
          },
          "spatialFilterSettings": {
            "strength": integer,
            "speed": integer,
```

```
            "postFilterSharpenStrength": integer
          },
          "temporalFilterSettings": {
            "strength": integer,
            "speed": integer,
            "aggressiveMode": integer,
            "postTemporalSharpening": enum,
            "postTemporalSharpeningStrength": enum
          }
        },
        "timecodeBurnin": {
          "fontSize": integer,
          "position": enum,
          "prefix": "string"
        },
        "partnerWatermarking": {
          "nexguardFileMarkerSettings": {
            "license": "string",
            "preset": "string",
            "payload": integer,
            "strength": enum
          }
        }
      },
      "timecodeInsertion": enum,
      "timecodeTrack": enum,
      "antiAlias": enum,
      "position": {
        "height": integer,
        "width": integer,
        "x": integer,
        "y": integer
      },
      "sharpness": integer,
      "codecSettings": {
        "codec": enum,
        "av1Settings": {
          "gopSize": number,
          "numberBFramesBetweenReferenceFrames": integer,
          "slices": integer,
          "bitDepth": enum,
          "rateControlMode": enum,
          "qvbrSettings": {
            "qvbrQualityLevel": integer,
```

```
            "qvbrQualityLevelFineTune": number
          },
          "maxBitrate": integer,
          "adaptiveQuantization": enum,
          "spatialAdaptiveQuantization": enum,
          "framerateControl": enum,
          "framerateConversionAlgorithm": enum,
          "framerateNumerator": integer,
          "framerateDenominator": integer,
          "filmGrainSynthesis": enum,
          "perFrameMetrics": [
            enum
          ]
        },
        "avcIntraSettings": {
          "avcIntraClass": enum,
          "avcIntraUhdSettings": {
            "qualityTuningLevel": enum
          },
          "interlaceMode": enum,
          "scanTypeConversionMode": enum,
          "framerateDenominator": integer,
          "slowPal": enum,
          "framerateControl": enum,
          "telecine": enum,
          "framerateNumerator": integer,
          "framerateConversionAlgorithm": enum,
          "perFrameMetrics": [
            enum
          ]
        },
        "frameCaptureSettings": {
          "framerateNumerator": integer,
          "framerateDenominator": integer,
          "maxCaptures": integer,
          "quality": integer
        },
        "gifSettings": {
          "framerateControl": enum,
          "framerateConversionAlgorithm": enum,
          "framerateNumerator": integer,
          "framerateDenominator": integer
        },
        "h264Settings": {
```

```
            "interlaceMode": enum,
            "scanTypeConversionMode": enum,
            "parNumerator": integer,
            "numberReferenceFrames": integer,
            "syntax": enum,
            "softness": integer,
            "framerateDenominator": integer,
            "gopClosedCadence": integer,
            "hrdBufferInitialFillPercentage": integer,
            "gopSize": number,
            "slices": integer,
            "gopBReference": enum,
            "hrdBufferSize": integer,
            "maxBitrate": integer,
            "slowPal": enum,
            "parDenominator": integer,
            "spatialAdaptiveQuantization": enum,
            "temporalAdaptiveQuantization": enum,
            "flickerAdaptiveQuantization": enum,
            "entropyEncoding": enum,
            "bitrate": integer,
            "framerateControl": enum,
            "rateControlMode": enum,
            "qvbrSettings": {
              "qvbrQualityLevel": integer,
              "qvbrQualityLevelFineTune": number,
              "maxAverageBitrate": integer
            },
            "codecProfile": enum,
            "telecine": enum,
            "framerateNumerator": integer,
            "minIInterval": integer,
            "adaptiveQuantization": enum,
            "saliencyAwareEncoding": enum,
            "codecLevel": enum,
            "fieldEncoding": enum,
            "sceneChangeDetect": enum,
            "qualityTuningLevel": enum,
            "framerateConversionAlgorithm": enum,
            "unregisteredSeiTimecode": enum,
            "gopSizeUnits": enum,
            "parControl": enum,
            "numberBFramesBetweenReferenceFrames": integer,
            "repeatPps": enum,
```

```
          "writeMp4PackagingType": enum,
          "dynamicSubGop": enum,
          "hrdBufferFinalFillPercentage": integer,
          "bandwidthReductionFilter": {
            "strength": enum,
            "sharpening": enum
          },
          "endOfStreamMarkers": enum,
          "perFrameMetrics": [
            enum
          ]
        },
        "h265Settings": {
          "interlaceMode": enum,
          "scanTypeConversionMode": enum,
          "parNumerator": integer,
          "numberReferenceFrames": integer,
          "framerateDenominator": integer,
          "gopClosedCadence": integer,
          "alternateTransferFunctionSei": enum,
          "hrdBufferInitialFillPercentage": integer,
          "gopSize": number,
          "slices": integer,
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          "hrdBufferSize": integer,
          "maxBitrate": integer,
          "slowPal": enum,
          "parDenominator": integer,
          "spatialAdaptiveQuantization": enum,
          "temporalAdaptiveQuantization": enum,
          "flickerAdaptiveQuantization": enum,
          "bitrate": integer,
          "framerateControl": enum,
          "rateControlMode": enum,
          "qvbrSettings": {
            "qvbrQualityLevel": integer,
            "qvbrQualityLevelFineTune": number,
            "maxAverageBitrate": integer
          },
          "codecProfile": enum,
          "tiles": enum,
          "telecine": enum,
          "framerateNumerator": integer,
          "minIInterval": integer,
```

```
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        "codecLevel": enum,
        "sceneChangeDetect": enum,
        "qualityTuningLevel": enum,
        "framerateConversionAlgorithm": enum,
        "unregisteredSeiTimecode": enum,
        "gopSizeUnits": enum,
        "parControl": enum,
        "numberBFramesBetweenReferenceFrames": integer,
        "temporalIds": enum,
        "sampleAdaptiveOffsetFilterMode": enum,
        "writeMp4PackagingType": enum,
        "dynamicSubGop": enum,
        "hrdBufferFinalFillPercentage": integer,
        "endOfStreamMarkers": enum,
        "deblocking": enum,
        "bandwidthReductionFilter": {
          "strength": enum,
          "sharpening": enum
        },
        "perFrameMetrics": [
          enum
        ]
      },
      "mpeg2Settings": {
        "interlaceMode": enum,
        "scanTypeConversionMode": enum,
        "parNumerator": integer,
        "syntax": enum,
        "softness": integer,
        "framerateDenominator": integer,
        "gopClosedCadence": integer,
        "hrdBufferInitialFillPercentage": integer,
        "gopSize": number,
        "hrdBufferSize": integer,
        "maxBitrate": integer,
        "slowPal": enum,
        "parDenominator": integer,
        "spatialAdaptiveQuantization": enum,
        "temporalAdaptiveQuantization": enum,
        "bitrate": integer,
        "intraDcPrecision": enum,
        "framerateControl": enum,
        "rateControlMode": enum,
```

```
        "codecProfile": enum,
        "telecine": enum,
        "framerateNumerator": integer,
        "minIInterval": integer,
        "adaptiveQuantization": enum,
        "codecLevel": enum,
        "sceneChangeDetect": enum,
        "qualityTuningLevel": enum,
        "framerateConversionAlgorithm": enum,
        "gopSizeUnits": enum,
        "parControl": enum,
        "numberBFramesBetweenReferenceFrames": integer,
        "dynamicSubGop": enum,
        "hrdBufferFinalFillPercentage": integer,
        "perFrameMetrics": [
          enum
        ]
      },
      "proresSettings": {
        "interlaceMode": enum,
        "scanTypeConversionMode": enum,
        "parNumerator": integer,
        "framerateDenominator": integer,
        "codecProfile": enum,
        "slowPal": enum,
        "parDenominator": integer,
        "framerateControl": enum,
        "telecine": enum,
        "chromaSampling": enum,
        "framerateNumerator": integer,
        "framerateConversionAlgorithm": enum,
        "parControl": enum,
        "perFrameMetrics": [
          enum
        ]
      },
      "uncompressedSettings": {
        "framerateControl": enum,
        "framerateConversionAlgorithm": enum,
        "framerateNumerator": integer,
        "framerateDenominator": integer,
        "interlaceMode": enum,
        "scanTypeConversionMode": enum,
        "telecine": enum,
```

```
        "slowPal": enum,
        "fourcc": enum
      },
      "vc3Settings": {
        "vc3Class": enum,
        "interlaceMode": enum,
        "scanTypeConversionMode": enum,
        "framerateConversionAlgorithm": enum,
        "telecine": enum,
        "slowPal": enum,
        "framerateControl": enum,
        "framerateDenominator": integer,
        "framerateNumerator": integer
      },
      "vp8Settings": {
        "qualityTuningLevel": enum,
        "rateControlMode": enum,
        "gopSize": number,
        "maxBitrate": integer,
        "bitrate": integer,
        "hrdBufferSize": integer,
        "framerateControl": enum,
        "framerateConversionAlgorithm": enum,
        "framerateNumerator": integer,
        "framerateDenominator": integer,
        "parControl": enum,
        "parNumerator": integer,
        "parDenominator": integer
      },
      "vp9Settings": {
        "qualityTuningLevel": enum,
        "rateControlMode": enum,
        "gopSize": number,
        "maxBitrate": integer,
        "bitrate": integer,
        "hrdBufferSize": integer,
        "framerateControl": enum,
        "framerateConversionAlgorithm": enum,
        "framerateNumerator": integer,
        "framerateDenominator": integer,
        "parControl": enum,
        "parNumerator": integer,
        "parDenominator": integer
      },
```

```
        "xavcSettings": {
          "profile": enum,
          "xavcHdIntraCbgProfileSettings": {
            "xavcClass": enum
          },
          "xavc4kIntraCbgProfileSettings": {
            "xavcClass": enum
          },
          "xavc4kIntraVbrProfileSettings": {
            "xavcClass": enum
          },
          "xavcHdProfileSettings": {
            "bitrateClass": enum,
            "slices": integer,
            "hrdBufferSize": integer,
            "qualityTuningLevel": enum,
            "interlaceMode": enum,
            "telecine": enum,
            "gopClosedCadence": integer,
            "gopBReference": enum,
            "flickerAdaptiveQuantization": enum
          },
          "xavc4kProfileSettings": {
            "bitrateClass": enum,
            "slices": integer,
            "hrdBufferSize": integer,
            "codecProfile": enum,
            "qualityTuningLevel": enum,
            "gopClosedCadence": integer,
            "gopBReference": enum,
            "flickerAdaptiveQuantization": enum
          },
          "softness": integer,
          "framerateDenominator": integer,
          "slowPal": enum,
          "spatialAdaptiveQuantization": enum,
          "temporalAdaptiveQuantization": enum,
          "entropyEncoding": enum,
          "framerateControl": enum,
          "framerateNumerator": integer,
          "adaptiveQuantization": enum,
          "framerateConversionAlgorithm": enum,
          "perFrameMetrics": [
            enum
```

```
          ]
        }
      },
      "afdSignaling": enum,
      "dropFrameTimecode": enum,
      "respondToAfd": enum,
      "chromaPositionMode": enum,
      "colorMetadata": enum
    },
    "audioDescriptions": [
      {
        "audioTypeControl": enum,
        "audioSourceName": "string",
        "audioNormalizationSettings": {
          "algorithm": enum,
          "algorithmControl": enum,
          "correctionGateLevel": integer,
          "loudnessLogging": enum,
          "targetLkfs": number,
          "peakCalculation": enum,
          "truePeakLimiterThreshold": number
        },
        "audioChannelTaggingSettings": {
          "channelTag": enum,
          "channelTags": [
            enum
          ]
        },
        "codecSettings": {
          "codec": enum,
          "aacSettings": {
            "audioDescriptionBroadcasterMix": enum,
            "vbrQuality": enum,
            "bitrate": integer,
            "rateControlMode": enum,
            "codecProfile": enum,
            "codingMode": enum,
            "rawFormat": enum,
            "rapInterval": integer,
            "targetLoudnessRange": integer,
            "loudnessMeasurementMode": enum,
            "sampleRate": integer,
            "specification": enum
          },
```

```
        "ac3Settings": {
          "bitrate": integer,
          "bitstreamMode": enum,
          "codingMode": enum,
          "dialnorm": integer,
          "dynamicRangeCompressionProfile": enum,
          "dynamicRangeCompressionLine": enum,
          "dynamicRangeCompressionRf": enum,
          "metadataControl": enum,
          "lfeFilter": enum,
          "sampleRate": integer
        },
        "aiffSettings": {
          "bitDepth": integer,
          "channels": integer,
          "sampleRate": integer
        },
        "eac3Settings": {
          "metadataControl": enum,
          "surroundExMode": enum,
          "loRoSurroundMixLevel": number,
          "phaseControl": enum,
          "dialnorm": integer,
          "ltRtSurroundMixLevel": number,
          "bitrate": integer,
          "ltRtCenterMixLevel": number,
          "passthroughControl": enum,
          "lfeControl": enum,
          "loRoCenterMixLevel": number,
          "attenuationControl": enum,
          "codingMode": enum,
          "surroundMode": enum,
          "bitstreamMode": enum,
          "lfeFilter": enum,
          "stereoDownmix": enum,
          "dynamicRangeCompressionRf": enum,
          "sampleRate": integer,
          "dynamicRangeCompressionLine": enum,
          "dcFilter": enum
        },
        "eac3AtmosSettings": {
          "surroundExMode": enum,
          "loRoSurroundMixLevel": number,
          "ltRtSurroundMixLevel": number,
```

```
            "bitrate": integer,
            "ltRtCenterMixLevel": number,
            "loRoCenterMixLevel": number,
            "codingMode": enum,
            "bitstreamMode": enum,
            "stereoDownmix": enum,
            "dynamicRangeCompressionRf": enum,
            "sampleRate": integer,
            "dynamicRangeCompressionLine": enum,
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Response bodies

ListPresetsResponse schema

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      "name": "string",
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          "width": integer,
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          "crop": {
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            "width": integer,
            "x": integer,
            "y": integer
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```
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              "maxContentLightLevel": integer,
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            "hdrToSdrToneMapper": enum
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CreatePresetResponse schema

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            "bitrate": integer,
            "ltRtCenterMixLevel": number,
            "loRoCenterMixLevel": number,
            "codingMode": enum,
            "bitstreamMode": enum,
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            "sampleRate": integer,
            "dynamicRangeCompressionLine": enum,
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            "meteringMode": enum,
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            "speechThreshold": integer
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          "flacSettings": {
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            "channels": integer,
            "sampleRate": integer
          },
          "mp2Settings": {
            "audioDescriptionMix": enum,
```

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            "sampleRate": integer
          },
          "mp3Settings": {
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            "rateControlMode": enum,
            "sampleRate": integer,
            "vbrQuality": integer
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            "sampleRate": integer
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            "sampleRate": integer,
            "vbrQuality": integer
          },
          "wavSettings": {
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            "channels": integer,
            "sampleRate": integer,
            "format": enum
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                ],
                "inputChannelsFineTune": [
                  number
                ]
              }
            ]
          },
          "channelsIn": integer,
          "channelsOut": integer,
          "audioDescriptionAudioChannel": integer,
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          "languageCodeControl": enum,
          "audioType": integer,
          "customLanguageCode": "string",
          "languageCode": enum
        }
      ],
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        "m3u8Settings": {
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          "pcrControl": enum,
          "dataPTSControl": enum,
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          "pcrPid": integer,
          "pmtPid": integer,
          "privateMetadataPid": integer,
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          "patInterval": integer,
          "pmtInterval": integer,
          "scte35Source": enum,
          "scte35Pid": integer,
          "nielsenId3": enum,
          "timedMetadata": enum,
          "timedMetadataPid": integer,
          "transportStreamId": integer,
          "videoPid": integer,
          "ptsOffsetMode": enum,
          "ptsOffset": integer,
          "audioPtsOffsetDelta": integer,
          "audioPids": [
            integer
          ],
          "audioDuration": enum
        },
        "f4vSettings": {
          "moovPlacement": enum
        },
        "m2tsSettings": {
          "audioBufferModel": enum,
          "minEbpInterval": integer,
          "esRateInPes": enum,
```

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        "dvbNitSettings": {
          "nitInterval": integer,
          "networkId": integer,
          "networkName": "string"
        },
        "dvbSdtSettings": {
          "outputSdt": enum,
          "sdtInterval": integer,
          "serviceName": "string",
          "serviceProviderName": "string"
        },
        "scte35Source": enum,
        "scte35Pid": integer,
        "scte35Esam": {
          "scte35EsamPid": integer
        },
        "klvMetadata": enum,
        "videoPid": integer,
        "dvbTdtSettings": {
          "tdtInterval": integer
        },
        "pmtInterval": integer,
        "segmentationStyle": enum,
        "segmentationTime": number,
        "pmtPid": integer,
        "bitrate": integer,
        "audioPids": [
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        ],
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        "nielsenId3": enum,
        "timedMetadataPid": integer,
        "maxPcrInterval": integer,
        "transportStreamId": integer,
        "dvbSubPids": [
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        ],
        "rateMode": enum,
        "audioFramesPerPes": integer,
        "pcrControl": enum,
        "dataPTSControl": enum,
        "segmentationMarkers": enum,
        "ebpAudioInterval": enum,
```

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          "programNumber": integer,
          "pcrPid": integer,
          "bufferModel": enum,
          "dvbTeletextPid": integer,
          "fragmentTime": number,
          "ebpPlacement": enum,
          "nullPacketBitrate": number,
          "audioDuration": enum,
          "ptsOffsetMode": enum,
          "ptsOffset": integer,
          "audioPtsOffsetDelta": integer,
          "preventBufferUnderflow": enum
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        "movSettings": {
          "clapAtom": enum,
          "cslgAtom": enum,
          "paddingControl": enum,
          "reference": enum,
          "mpeg2FourCCControl": enum
        },
        "mp4Settings": {
          "cslgAtom": enum,
          "cttsVersion": integer,
          "freeSpaceBox": enum,
          "mp4MajorBrand": "string",
          "moovPlacement": enum,
          "audioDuration": enum,
          "c2paManifest": enum,
          "certificateSecret": "string",
          "signingKmsKey": "string"
        },
        "mpdSettings": {
          "accessibilityCaptionHints": enum,
          "captionContainerType": enum,
          "scte35Source": enum,
          "scte35Esam": enum,
          "audioDuration": enum,
          "timedMetadata": enum,
          "timedMetadataBoxVersion": enum,
          "timedMetadataSchemeIdUri": "string",
          "timedMetadataValue": "string",
          "manifestMetadataSignaling": enum,
          "klvMetadata": enum
```

```
        },
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          "scte35Source": enum,
          "scte35Esam": enum,
          "audioDuration": enum,
          "iFrameOnlyManifest": enum,
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          "audioRenditionSets": "string",
          "audioTrackType": enum,
          "descriptiveVideoServiceFlag": enum,
          "timedMetadata": enum,
          "timedMetadataBoxVersion": enum,
          "timedMetadataSchemeIdUri": "string",
          "timedMetadataValue": "string",
          "manifestMetadataSignaling": enum,
          "klvMetadata": enum
        },
        "mxfSettings": {
          "afdSignaling": enum,
          "profile": enum,
          "xavcProfileSettings": {
            "durationMode": enum,
            "maxAncDataSize": integer
          }
        }
      },
      "captionDescriptions": [
        {
          "destinationSettings": {
            "destinationType": enum,
            "burninDestinationSettings": {
              "backgroundOpacity": integer,
              "shadowXOffset": integer,
              "teletextSpacing": enum,
              "alignment": enum,
              "outlineSize": integer,
              "yPosition": integer,
              "shadowColor": enum,
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              "fontSize": integer,
              "fontScript": enum,
              "fallbackFont": enum,
              "fontFileRegular": "string",
              "fontFileBold": "string",
```

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            "fontFileItalic": "string",
            "fontFileBoldItalic": "string",
            "fontColor": enum,
            "hexFontColor": "string",
            "applyFontColor": enum,
            "backgroundColor": enum,
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            "outlineColor": enum,
            "shadowYOffset": integer,
            "xPosition": integer,
            "shadowOpacity": integer,
            "stylePassthrough": enum,
            "removeRubyReserveAttributes": enum
          },
          "dvbSubDestinationSettings": {
            "backgroundOpacity": integer,
            "shadowXOffset": integer,
            "teletextSpacing": enum,
            "alignment": enum,
            "outlineSize": integer,
            "yPosition": integer,
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            "fontSize": integer,
            "fontScript": enum,
            "fallbackFont": enum,
            "fontFileRegular": "string",
            "fontFileBold": "string",
            "fontFileItalic": "string",
            "fontFileBoldItalic": "string",
            "fontColor": enum,
            "hexFontColor": "string",
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            "ddsXCoordinate": integer,
            "ddsYCoordinate": integer,
            "width": integer,
```

```
            "height": integer,
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          "sccDestinationSettings": {
            "framerate": enum
          },
          "teletextDestinationSettings": {
            "pageNumber": "string",
            "pageTypes": [
              enum
            ]
          },
          "ttmlDestinationSettings": {
            "stylePassthrough": enum
          },
          "imscDestinationSettings": {
            "stylePassthrough": enum,
            "accessibility": enum
          },
          "embeddedDestinationSettings": {
            "destination608ChannelNumber": integer,
            "destination708ServiceNumber": integer
          },
          "webvttDestinationSettings": {
            "stylePassthrough": enum,
            "accessibility": enum
          },
          "srtDestinationSettings": {
            "stylePassthrough": enum
          }
        },
        "customLanguageCode": "string",
        "languageCode": enum,
        "languageDescription": "string"
      }
    ]
  }
 }
}
```

ExceptionBody schema

```
{
```

```
  "message": "string"
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD
NORMAL

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

LC
HEV1
HEV2
XHE

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and

channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

```
AD_RECEIVER_MIX
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_5_1
```

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

```
PROGRAM
ANCHOR
```

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

```
CBR
VBR
```

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

```
LATM_LOAS
```

NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix
Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality
Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the

values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode
Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154

Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000 to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False
Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

`MPEG2`
`MPEG4`

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

```
LOW
MEDIUM_LOW
MEDIUM_HIGH
HIGH
```

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

```
COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER
```

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

```
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_3_2_LFE
```

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related

setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

FILM_STANDARD
NONE

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD

MUSIC_LIGHT
SPEECH
NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer
Required: False
Minimum: 64000

Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode
Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile

Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine

Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf

Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl

Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

```
NONE
AUTO
FIXED
```

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False

Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

DISABLED
ENABLED

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L

R

C

LFE

LS

RS

LC

RC

CS

LSD

RSD

TCS

VHL

VHC

VHR

TBL

TBC

TBR

RSL

RSR

LW

RW

LFE2

LT

RT

HI

NAR

M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio

layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag
Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

AAC

MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
VORBIS
OPUS
PASSTHROUGH
FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec
Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate

control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings
Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings
Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings

Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings
Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl
Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer
Required: False
Minimum: 0
Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode

Required: False

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

```
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

```
CORRECT_AUDIO
MEASURE_ONLY
```

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

```
LOG
DONT_LOG
```

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

```
TRUE_PEAK
NONE
```

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm

Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float

Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

BIT_8

BIT_10

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

DISABLED

ENABLED

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False

Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization
Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a

part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

`DISABLED`

`ENABLED`

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

`CLASS_50`
`CLASS_100`
`CLASS_200`
`CLASS_4K_2K`

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass
Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When

you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when

comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

`DISABLED`

`ENABLED`

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

`NONE`

`HARD`

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in

the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS
MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel
Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening
Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

```
LOW
MEDIUM
HIGH
OFF
```

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

```
LOW
MEDIUM
HIGH
AUTO
```

OFF

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED

DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer

Required: False

Minimum: 0

Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor

Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of

1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer

Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes
Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

CENTERED
LEFT

AUTO

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF

PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

NONE
BLACK

```
WHITE
AUTO
```

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

```
FIXED_GRID
PROPORTIONAL
AUTO
```

CaptionDescriptionPreset

Caption Description for preset

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string

Required: False
Pattern: ^[A-Za-z]{2,3}(-[A-Za-z-]+)?$

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings

Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings

Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

BURN_IN

DVB_SUB

EMBEDDED

EMBEDDED_PLUS_SCTE20

IMSC

SCTE20_PLUS_EMBEDDED

SCC

SRT

SMI

TELETEXT

TTML

WEBVTT

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

AUTO
FORCE_CENTER
FORCE_TOP_LEFT

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5
Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90
Maximum: 105

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA

entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE
EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED
DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH
NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration

Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video

rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag

Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string

Required: False

MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling

Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata

Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH

NONE

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

`VERSION_0`
`VERSION_1`

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100

Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required. You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper
Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

```
IGNORE
INSERT
```

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

```
NONE
FORCE_601
FORCE_709
FORCE_HDR10
FORCE_HLG_2020
FORCE_P3DCI
FORCE_P3D65_SDR
FORCE_P3D65_HDR
```

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings

Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings
Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings

Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD

MXF
OGG
WEBM
RAW
Y4M

CreatePresetRequest

Send your create preset request with the name of the preset and the JSON for the output settings specified by the preset.

description

Optional. A description of the preset you are creating.

Type: string
Required: False

category

Optional. A category for the preset you are creating.

Type: string
Required: False

name

The name of the preset you are creating.

Type: string
Required: True

settings

Settings for preset

Type: PresetSettings
Required: True

tags

The tags that you want to add to the resource. You can tag resources with a key-value pair or with only a key.

Type: object
Required: False

CreatePresetResponse

Successful create preset requests will return the preset JSON.

preset

A preset is a collection of preconfigured media conversion settings that you want MediaConvert to apply to the output during the conversion process.

Type: Preset
Required: False

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

```
INTERPOLATE
INTERPOLATE_TICKER
BLEND
BLEND_TICKER
LINEAR_INTERPOLATION
```

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm
Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode
Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those

that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

FORCE_ALL_FRAMES
NORMAL

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

DEINTERLACE
INVERSE_TELECINE
ADAPTIVE

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode

Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata
Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

PASSTHROUGH
RECALCULATE
SPECIFY

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

HDR10_NOMAP
HDR10_1000

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

PROFILE_5

PROFILE_8_1

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

DISABLED

ENABLED

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer

Required: False

Minimum: 25

Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer

Required: False

Minimum: 0

Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string

Required: False

MinLength: 1

MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string

Required: False

MinLength: 1

MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor

Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no

explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType
Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or

less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling
Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

```
BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF
```

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

```
CENTERED
LEFT
AUTO
```

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

```
WHITE_TEXT_ONLY
```

ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

BLACK
WHITE
YELLOW
RED

GREEN
BLUE
AUTO

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

NONE
BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID

PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED
STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also

supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

NONE
SPECIFIED
NO_DISPLAY_WINDOW
SPECIFIED_OPTIMAL

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix

values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD

```
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
```

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

```
SPECIFIED
INITIALIZE_FROM_SOURCE
```

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

```
LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer

Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer

Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine
Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl
Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl
Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

```
NOT_INDICATED
STEREO
SURROUND
DPL2
```

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

ATTENUATE_3_DB
NONE

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

```
LFE
NO_LFE
```

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

```
ENABLED
DISABLED
```

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

```
FOLLOW_INPUT
USE_CONFIGURED
```

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

```
WHEN_POSSIBLE
NO_PASSTHROUGH
```

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0:

Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode

Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

`NOT_INDICATED`
`LO_RO`
`LT_RT`

DPL2

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

ExceptionBody

message

Type: string
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

`PROGRESSIVE_DOWNLOAD`
`NORMAL`

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False

Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

`AUTOMATIC`
`HANS`
`HANT`

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

```
DUPLICATE_DROP
INTERPOLATE
```

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl
Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

OFF

```
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

```
AUTO
LEVEL_1
LEVEL_1_1
LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2
```

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

```
BASELINE
HIGH
HIGH_10BIT
```

HIGH_422
HIGH_422_10BIT
MAIN

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE
SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC
CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

```
PAFF
FORCE_FIELD
MBAFF
```

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

```
DISABLED
ENABLED
```

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid

stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

DISABLED
ENABLED

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

FRAMES

SECONDS

AUTO

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose

Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED
ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

```
DISABLED
PREFERRED
```

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
```

TRANSITION_DETECTION

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation.

Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV

NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert

automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization

Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization

Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1

Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto.
Use this setting to specify the strength of any adaptive quantization filters that you enable.
If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization
Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding
Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect

Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode

Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps
Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer

Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed

visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending

on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT
RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
SOFT
HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more

bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED
ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1
AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you

do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

OFF
LOW
MEDIUM
HIGH
HIGHER
MAX
AUTO

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

DISABLED
ENABLED

H265CodecLevel

H.265 Level.

AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1

LEVEL_6_2

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH
MAIN_422_8BIT_MAIN
MAIN_422_8BIT_HIGH
MAIN_422_10BIT_MAIN
MAIN_422_10BIT_HIGH

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

ENABLED
DISABLED

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

```
INCLUDE
SUPPRESS
```

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

```
DISABLED
ENABLED
```

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid

stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
```

SECONDS
AUTO

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS

SINGLE_PASS_HQ
MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

```
VBR
CBR
QVBR
```

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

```
DEFAULT
ADAPTIVE
OFF
```

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you

choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer

Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference

Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV

NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer

Required: False

Minimum: 0

Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low

quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

`DISABLED`
`ENABLED`

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE
SOFT
HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is

likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

DISABLED

ENABLED

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

DISABLED

ENABLED

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the

following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

DISABLED
ENABLED

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

ENABLED
DISABLED

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer
Required: False
Minimum: 0
Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer
Required: False
Minimum: 0
Maximum: 100

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG
SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN
RUS
POR
ITA
URD
VIE
KOR
PAN
ABK

AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA
AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS
BOS
BRE
BUL
MYA
CAT
KHM
CHA
CHE
NYA
CHU
CHV
COR
COS
CRE
HRV

CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE
FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN
GUJ
HAT
HAU
HEB
HER
HMO
HUN
ISL
IDO
IBO
IND
INA
ILE
IKU

IPK
GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK
KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB
LTZ
MKD
MLG
MSA
MAL
MLT
GLV
MRI
MAR
MAH
MON
NAU

NAV
NDE
NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI
OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO
SAG
SAN
SRD
SRB
SNA
III
SND
SIN
SLK
SLV

SOM
SOT
SUN
SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT
TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN
VOL
WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA
ZUL

ORJ
QPC
TNG
SRP

ListPresetsRequest

You can send list presets requests with an empty body. Optionally, you can filter the response by category by specifying it in your request body. You can also optionally specify the maximum number, up to twenty, of queues to be returned.

listBy

Optional. When you request a list of presets, you can choose to list them alphabetically by NAME or chronologically by CREATION_DATE. If you don't specify, the service will list them by name.

Type: PresetListBy
Required: False

category

Optionally, specify a preset category to limit responses to only presets from that category.

Type: string
Required: False

order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

Type: Order
Required: False

nextToken

Use this string, provided with the response to a previous request, to request the next batch of presets.

Type: string
Required: False

maxResults

Optional. Number of presets, up to twenty, that will be returned at one time

Type: integer
Required: False
Format: int32
Minimum: 1
Maximum: 20

ListPresetsResponse

Successful list presets requests return a JSON array of presets. If you don't specify how they are ordered, you will receive them alphabetically by name.

presets

List of presets

Type: Array of type Preset
Required: False

nextToken

Use this string to request the next batch of presets.

Type: string
Required: False

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

```
MULTIPLEX
NONE
```

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than

the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR

CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH

NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

```
NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY
```

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

```
MAINTAIN_CADENCE
RESET_CADENCE
```

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel

Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings

Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False

Minimum: 32

Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False

Minimum: 0

Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False

Minimum: 0

Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer

Required: False

Minimum: 32

Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl
Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers
Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval
Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number

Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that

you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

PASSTHROUGH
NONE

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE
EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM

MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON

NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED

EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom

Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD
NONE

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix
Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False

Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer

Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest

Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave

these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE
EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW
FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE

PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT

NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints
Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType
Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

OFF
LOW
MEDIUM
HIGH

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

AUTO
LOW
MAIN
HIGH1440
HIGH

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

MAIN
PROFILE_422

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop

Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

DEFAULT
D_10

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother

picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
SOFT
HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED
ENABLED

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

NO_COPY
COPY_FROM_VIDEO

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

```
ALLOW_ANY_DURATION
DROP_FRAMES_FOR_COMPLIANCE
```

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode
Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is

1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra

NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

DISABLED
ENABLED
AUTO

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
CONSERVE
SPATIAL
TEMPORAL
```

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False

Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2
Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise

reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer

Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 16000
Maximum: 48000

Order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

```
ASCENDING
DESCENDING
```

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer
Required: False
Minimum: -60
Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number
Required: False
Format: float
Minimum: -60.0
Maximum: 6.0

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

`SDT_FOLLOW`
`SDT_FOLLOW_IF_PRESENT`
`SDT_MANUAL`
`SDT_NONE`

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings
Required: False

Preset

A preset is a collection of preconfigured media conversion settings that you want MediaConvert to apply to the output during the conversion process.

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

createdAt

The timestamp in epoch seconds for preset creation.

Type: string
Required: False
Format: date-time

lastUpdated

The timestamp in epoch seconds when the preset was last updated.

Type: string
Required: False
Format: date-time

description

An optional description you create for each preset.

Type: string
Required: False

category

An optional category you create to organize your presets.

Type: string
Required: False

name

A name you create for each preset. Each name must be unique within your account.

Type: string
Required: True

type

A preset can be of two types: system or custom. System or built-in preset can't be modified or deleted by the user.

Type: Type
Required: False

settings

Settings for preset

Type: PresetSettings
Required: True

PresetListBy

Optional. When you request a list of presets, you can choose to list them alphabetically by NAME or chronologically by CREATION_DATE. If you don't specify, the service will list them by name.

NAME
CREATION_DATE
SYSTEM

PresetSettings

Settings for preset

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

containerSettings

Container specific settings.

Type: ContainerSettings
Required: False

captionDescriptions

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

Type: Array of type CaptionDescriptionPreset
Required: False

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and

your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

PRESERVE_444_SAMPLING
SUBSAMPLE_TO_422

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

APPLE_PRORES_422
APPLE_PRORES_422_HQ
APPLE_PRORES_422_LT
APPLE_PRORES_422_PROXY
APPLE_PRORES_4444
APPLE_PRORES_4444_XQ

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated

interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile

Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal

Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine
Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl

Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping
Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your

final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume

according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

DISABLED
ENABLED

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE
RESPOND
PASSTHROUGH

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-

bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

LIMITED_RANGE_SQUEEZE

NONE

LIMITED_RANGE_CLIP

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

DEFAULT

STRETCH_TO_OUTPUT

FIT

FIT_NO_UPSCALE

FILL

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

FRAMERATE_23_97

FRAMERATE_24

FRAMERATE_25

FRAMERATE_29_97_DROPFRAME

FRAMERATE_29_97_NON_DROPFRAME

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate
Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

ENABLED
DISABLED

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

PAGE_TYPE_INITIAL
PAGE_TYPE_SUBTITLE
PAGE_TYPE_ADDL_INFO

PAGE_TYPE_PROGRAM_SCHEDULE
PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: ^[-~]+$

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

```
TOP_CENTER
TOP_LEFT
TOP_RIGHT
MIDDLE_LEFT
MIDDLE_CENTER
MIDDLE_RIGHT
BOTTOM_LEFT
BOTTOM_CENTER
BOTTOM_RIGHT
```

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

```
DISABLED
ENABLED
```

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

```
PASSTHROUGH
NONE
```

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

AUTO

SECONDS

MILLISECONDS

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough
Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

ENABLED

DISABLED

Type

SYSTEM

CUSTOM

UncompressedFourcc

The four character code for the uncompressed video.

I420

I422

I444

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother

picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal
Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother

picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

CLASS_145_8BIT
CLASS_220_8BIT
CLASS_220_10BIT

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already

been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class
Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24

Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

DISABLED
ENABLED

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264
H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3

VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer
Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode

source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle
Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

Type: VideoCodecSettings
Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode

Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata
Required: False

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector
Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking
Required: False

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

```
DISABLED
```

PIC_TIMING_SEI

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer
Required: False
Minimum: -1
Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose

SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

MULTI_PASS
MULTI_PASS_HQ

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer

Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using

FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

MULTI_PASS

MULTI_PASS_HQ

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using

FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

RIFF
RF64
EXTENSIBLE

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False

Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat
Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

```
DISABLED
ENABLED
```

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

```
ENABLED
DISABLED
STRICT
MERGE
```

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_100
CLASS_300
CLASS_480
```

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass
Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass
Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

HIGH
HIGH_422

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
```

MAX

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

AUTO
CABAC
CAVLC

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

DISABLED
ENABLED

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

INITIALIZE_FROM_SOURCE

SPECIFIED

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

DISABLED

ENABLED

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_50
CLASS_100
CLASS_200

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass
Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_25
BITRATE_CLASS_35
BITRATE_CLASS_50

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 4
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode
Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE
HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

`PROGRESSIVE`

`TOP_FIELD`

`BOTTOM_FIELD`

`FOLLOW_TOP_FIELD`

`FOLLOW_BOTTOM_FIELD`

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

`XAVC_HD_INTRA_CBG`

`XAVC_4K_INTRA_CBG`

`XAVC_4K_INTRA_VBR`

`XAVC_HD`

`XAVC_4K`

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content

complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When

you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

```
DISABLED
ENABLED
```

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of

quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

```
PSNR
SSIM
MS_SSIM
PSNR_HVS
VMAF
QVBR
```

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

ListPresets

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreatePreset

- AWS Command Line Interface V2

- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Presets name

URI

`/2017-08-29/presets/name`

HTTP methods

GET

Operation ID: `GetPreset`

Retrieve the JSON for a specific preset.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	GetPresetResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem

Status code	Response model	Description
		in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

PUT

Operation ID: `UpdatePreset`

Modify one of your existing presets.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	UpdatePresetResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

DELETE

Operation ID: `DeletePreset`

Permanently delete a preset you have created.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
202	DeletePresetResponse	202 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "name": "string"
}
```

PUT schema

```
{
  "description": "string",
  "category": "string",
  "name": "string",
  "settings": {
    "videoDescription": {
      "fixedAfd": integer,
      "width": integer,
      "scalingBehavior": enum,
      "crop": {
        "height": integer,
```

```
        "width": integer,
        "x": integer,
        "y": integer
      },
      "height": integer,
      "videoPreprocessors": {
        "colorCorrector": {
          "brightness": integer,
          "colorSpaceConversion": enum,
          "sampleRangeConversion": enum,
          "clipLimits": {
            "minimumYUV": integer,
            "maximumYUV": integer,
            "minimumRGBTolerance": integer,
            "maximumRGBTolerance": integer
          },
          "sdrReferenceWhiteLevel": integer,
          "contrast": integer,
          "hue": integer,
          "saturation": integer,
          "maxLuminance": integer,
          "hdr10Metadata": {
            "redPrimaryX": integer,
            "redPrimaryY": integer,
            "greenPrimaryX": integer,
            "greenPrimaryY": integer,
            "bluePrimaryX": integer,
            "bluePrimaryY": integer,
            "whitePointX": integer,
            "whitePointY": integer,
            "maxFrameAverageLightLevel": integer,
            "maxContentLightLevel": integer,
            "maxLuminance": integer,
            "minLuminance": integer
          },
          "hdrToSdrToneMapper": enum
        },
        "deinterlacer": {
          "algorithm": enum,
          "mode": enum,
          "control": enum
        },
        "dolbyVision": {
          "profile": enum,
```

```
          "l6Mode": enum,
          "l6Metadata": {
            "maxCll": integer,
            "maxFall": integer
          },
          "mapping": enum
        },
        "hdr10Plus": {
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DELETE schema

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{
  "name": "string"
}
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Response bodies

GetPresetResponse schema

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    "createdAt": "string",
    "lastUpdated": "string",
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    "category": "string",
    "name": "string",
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UpdatePresetResponse schema

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        }
      ]
    }
  }
}
```

DeletePresetResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
```

```
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

```
BROADCASTER_MIXED_AD
NORMAL
```

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

```
LC
HEV1
HEV2
XHE
```

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and

channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

```
AD_RECEIVER_MIX
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_5_1
```

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

```
PROGRAM
ANCHOR
```

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

```
CBR
VBR
```

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

```
LATM_LOAS
```

NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix
Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality
Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the

values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode
Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154

Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000 to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False
Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

`MPEG2`
`MPEG4`

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

```
LOW
MEDIUM_LOW
MEDIUM_HIGH
HIGH
```

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

```
COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER
```

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

```
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_3_2_LFE
```

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related

setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
NONE

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

FILM_STANDARD
NONE

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD

MUSIC_LIGHT
SPEECH
NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer
Required: False
Minimum: 64000

Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode
Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile

Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine

Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf

Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl

Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

```
NONE
AUTO
FIXED
```

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False

Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

```
DISABLED
ENABLED
```

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L

R

C

LFE

LS

RS

LC

RC

CS

LSD

RSD

TCS

VHL

VHC

VHR

TBL

TBC

TBR

RSL

RSR

LW

RW

LFE2

LT

RT

HI

NAR

M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio

layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag
Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

AAC

MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
VORBIS
OPUS
PASSTHROUGH
FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec
Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate

control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings
Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings
Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings

Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings
Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl
Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer
Required: False
Minimum: 0
Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode

Required: False

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

```
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

```
CORRECT_AUDIO
MEASURE_ONLY
```

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

```
LOG
DONT_LOG
```

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

```
TRUE_PEAK
NONE
```

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm

Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float

Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

BIT_8

BIT_10

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

DISABLED

ENABLED

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False

Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization
Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a

part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

`DISABLED`

`ENABLED`

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

`CLASS_50`
`CLASS_100`
`CLASS_200`
`CLASS_4K_2K`

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass
Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When

you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when

comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

`DISABLED`

`ENABLED`

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

`NONE`

`HARD`

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in

the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS
MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel
Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening
Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

```
LOW
MEDIUM
HIGH
OFF
```

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

```
LOW
MEDIUM
HIGH
AUTO
```

OFF

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED

DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer

Required: False

Minimum: 0

Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor

Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of

1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer

Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes
Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

CENTERED
LEFT

AUTO

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF

PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

NONE
BLACK

```
WHITE
AUTO
```

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

```
FIXED_GRID
PROPORTIONAL
AUTO
```

CaptionDescriptionPreset

Caption Description for preset

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string

Required: False
Pattern: ^[A-Za-z]{2,3}(-[A-Za-z-]+)?$

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings

Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings

Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

BURN_IN

DVB_SUB

EMBEDDED

EMBEDDED_PLUS_SCTE20

IMSC

SCTE20_PLUS_EMBEDDED

SCC

SRT

SMI

TELETEXT

TTML

WEBVTT

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

AUTO
FORCE_CENTER
FORCE_TOP_LEFT

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5
Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90
Maximum: 105

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA

entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE
EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED
DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH
NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration

Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video

rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag

Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string

Required: False

MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling

Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata

Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH

NONE

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

`VERSION_0`
`VERSION_1`

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100

Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required. You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper
Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

```
IGNORE
INSERT
```

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

```
NONE
FORCE_601
FORCE_709
FORCE_HDR10
FORCE_HLG_2020
FORCE_P3DCI
FORCE_P3D65_SDR
FORCE_P3D65_HDR
```

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings

Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings
Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings

Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD
MXF

OGG

WEBM

RAW

Y4M

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

INTERPOLATE

INTERPOLATE_TICKER

BLEND

BLEND_TICKER

LINEAR_INTERPOLATION

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm

Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode
Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

FORCE_ALL_FRAMES
NORMAL

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

```
DEINTERLACE
INVERSE_TELECINE
ADAPTIVE
```

DeletePresetRequest

Delete a preset by sending a request with the preset name

name

The name of the preset to be deleted.

Type: string
Required: False

DeletePresetResponse

Delete preset requests will return an OK message or error message with an empty body.

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode
Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata
Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer

Required: False

Minimum: 0

Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer

Required: False

Minimum: 0

Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

PASSTHROUGH

RECALCULATE

SPECIFY

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

HDR10_NOMAP

HDR10_1000

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

PROFILE_5
PROFILE_8_1

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

DISABLED
ENABLED

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer

Required: False
Minimum: 0
Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing
Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor

Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 0

Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no

explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType
Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or

less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling
Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

```
BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF
```

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

```
CENTERED
LEFT
AUTO
```

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

```
WHITE_TEXT_ONLY
```

ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

BLACK
WHITE
YELLOW
RED

GREEN
BLUE
AUTO

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

NONE
BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID

PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED
STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also

supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

NONE
SPECIFIED
NO_DISPLAY_WINDOW
SPECIFIED_OPTIMAL

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix

values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD

```
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH
```

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

```
SPECIFIED
INITIALIZE_FROM_SOURCE
```

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

```
LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4
```

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer

Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer

Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine
Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl
Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl
Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

```
NOT_INDICATED
STEREO
SURROUND
DPL2
```

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

ATTENUATE_3_DB
NONE

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

```
LFE
NO_LFE
```

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

```
ENABLED
DISABLED
```

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

```
FOLLOW_INPUT
USE_CONFIGURED
```

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

```
WHEN_POSSIBLE
NO_PASSTHROUGH
```

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0:

Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode

Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

`NOT_INDICATED`
`LO_RO`
`LT_RT`

DPL2

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

ExceptionBody

message

Type: string
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

`PROGRESSIVE_DOWNLOAD`
`NORMAL`

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False

Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

`AUTOMATIC`
`HANS`
`HANT`

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GetPresetRequest

Query a preset by sending a request with the preset name.

name

The name of the preset.

Type: string
Required: False

GetPresetResponse

Successful get preset requests will return an OK message and the preset JSON.

preset

A preset is a collection of preconfigured media conversion settings that you want MediaConvert to apply to the output during the conversion process.

Type: Preset
Required: False

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

`DUPLICATE_DROP`
`INTERPOLATE`

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl

Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False

Minimum: 1

Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

```
AUTO
```

```
LEVEL_1
LEVEL_1_1
LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2
```

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

```
BASELINE
HIGH
HIGH_10BIT
HIGH_422
HIGH_422_10BIT
MAIN
```

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

```
ADAPTIVE
STATIC
```

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE
SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC
CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

PAFF
FORCE_FIELD
MBAFF

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you

enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER

```
MAINTAIN_FRAME_COUNT
```

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer

Required: False

Minimum: 1000

Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR

CBR

QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED

ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

DISABLED

PREFERRED

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator.

When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH,

or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization

and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting

Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization
Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000

Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To

disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer

Required: False

Minimum: 0

Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization

Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding

Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect
Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps
Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but

not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT

RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1

AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

AUTO

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

DISABLED
ENABLED

H265CodecLevel

H.265 Level.

AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1
LEVEL_6_2

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH

MAIN_422_8BIT_MAIN

MAIN_422_8BIT_HIGH

MAIN_422_10BIT_MAIN

MAIN_422_10BIT_HIGH

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

ENABLED

DISABLED

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

`DISABLED`

`ENABLED`

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`

`SPECIFIED`

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow,

default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

DEFAULT
ADAPTIVE
OFF

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

```
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing,

MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low,

Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid

stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization

depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE

SOFT

HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

```
DISABLED
ENABLED
```

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

```
DISABLED
ENABLED
```

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

```
DISABLED
ENABLED
```

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer

Required: False

Minimum: 0

Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0

Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage

Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

`DISABLED`
`ENABLED`

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

```
ENABLED
DISABLED
```

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer

Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer
Required: False
Minimum: 0
Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer

Required: False
Minimum: 0
Maximum: 100

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG
SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN
RUS
POR
ITA
URD
VIE
KOR
PAN
ABK
AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA

AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS
BOS
BRE
BUL
MYA
CAT
KHM
CHA
CHE
NYA
CHU
CHV
COR
COS
CRE
HRV
CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE

FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN
GUJ
HAT
HAU
HEB
HER
HMO
HUN
ISL
IDO
IBO
IND
INA
ILE
IKU
IPK
GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK

KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB
LTZ
MKD
MLG
MSA
MAL
MLT
GLV
MRI
MAR
MAH
MON
NAU
NAV
NDE
NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI

OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO
SAG
SAN
SRD
SRB
SNA
III
SND
SIN
SLK
SLV
SOM
SOT
SUN
SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT

TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN
VOL
WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA
ZUL
ORJ
QPC
TNG
SRP

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

```
MULTIPLEX
NONE
```

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than

the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR
CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH
NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

```
NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY
```

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

```
MAINTAIN_CADENCE
RESET_CADENCE
```

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel

Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings

Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False

Minimum: 32

Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False

Minimum: 0

Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False

Minimum: 0

Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer

Required: False

Minimum: 32

Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl
Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers
Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval
Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer

Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number

Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that

you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

PASSTHROUGH
NONE

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE
EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM

MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON

NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED

EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom

Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD
NONE

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix
Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False

Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer

Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest

Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave

these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE
EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW
FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate

event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE

PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT

NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints
Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType
Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
```

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

```
AUTO
LOW
MAIN
HIGH1440
HIGH
```

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

```
MAIN
PROFILE_422
```

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

```
ADAPTIVE
STATIC
```

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop

Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

DEFAULT
D_10

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother

picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
SOFT
HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED
ENABLED

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

NO_COPY
COPY_FROM_VIDEO

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

```
ALLOW_ANY_DURATION
DROP_FRAMES_FOR_COMPLIANCE
```

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode
Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is

1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra

NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

DISABLED
ENABLED
AUTO

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
CONSERVE
SPATIAL
TEMPORAL
```

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False

Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2
Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise

reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer

Required: False

Minimum: 1

Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer

Required: False

Minimum: 16000

Maximum: 48000

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer

Required: False

Minimum: -60

Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number

Required: False

Format: float

Minimum: -60.0

Maximum: 6.0

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

SDT_FOLLOW
SDT_FOLLOW_IF_PRESENT
SDT_MANUAL
SDT_NONE

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings
Required: False

Preset

A preset is a collection of preconfigured media conversion settings that you want MediaConvert to apply to the output during the conversion process.

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

createdAt

The timestamp in epoch seconds for preset creation.

Type: string
Required: False
Format: date-time

lastUpdated

The timestamp in epoch seconds when the preset was last updated.

Type: string
Required: False
Format: date-time

description

An optional description you create for each preset.

Type: string
Required: False

category

An optional category you create to organize your presets.

Type: string
Required: False

name

A name you create for each preset. Each name must be unique within your account.

Type: string
Required: True

type

A preset can be of two types: system or custom. System or built-in preset can't be modified or deleted by the user.

Type: Type
Required: False

settings

Settings for preset

Type: PresetSettings
Required: True

PresetSettings

Settings for preset

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

containerSettings

Container specific settings.

Type: ContainerSettings

Required: False

captionDescriptions

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

Type: Array of type CaptionDescriptionPreset

Required: False

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

`PRESERVE_444_SAMPLING`

`SUBSAMPLE_TO_422`

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

`APPLE_PRORES_422`

`APPLE_PRORES_422_HQ`

`APPLE_PRORES_422_LT`

`APPLE_PRORES_422_PROXY`

`APPLE_PRORES_4444`

`APPLE_PRORES_4444_XQ`

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow,

default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
```

```
INTERLACED_OPTIMIZE
```

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that

enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine

Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using

FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

HARD

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer

Required: False

Minimum: 2

Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you

want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping
Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

`DISABLED`
`ENABLED`

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE

RESPOND

PASSTHROUGH

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

LIMITED_RANGE_SQUEEZE

NONE

LIMITED_RANGE_CLIP

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

DEFAULT

STRETCH_TO_OUTPUT

FIT

FIT_NO_UPSCALE

FILL

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

FRAMERATE_23_97

FRAMERATE_24

FRAMERATE_25

FRAMERATE_29_97_DROPFRAME

FRAMERATE_29_97_NON_DROPFRAME

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate

Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

```
ENABLED
DISABLED
```

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string

Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

`PAGE_TYPE_INITIAL`
`PAGE_TYPE_SUBTITLE`
`PAGE_TYPE_ADDL_INFO`
`PAGE_TYPE_PROGRAM_SCHEDULE`
`PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE`

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: `^[ -~]+$`

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

```
TOP_CENTER
TOP_LEFT
TOP_RIGHT
MIDDLE_LEFT
MIDDLE_CENTER
MIDDLE_RIGHT
BOTTOM_LEFT
BOTTOM_CENTER
BOTTOM_RIGHT
```

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting

information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

DISABLED

ENABLED

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

PASSTHROUGH

NONE

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

AUTO

SECONDS

MILLISECONDS

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough
Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

```
ENABLED
DISABLED
```

Type

```
SYSTEM
CUSTOM
```

UncompressedFourcc

The four character code for the uncompressed video.

```
I420
I422
I444
```

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
```

```
SPECIFIED
```

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing,

MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert

will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal
Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

DISABLED
ENABLED

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

UpdatePresetRequest

Modify a preset by sending a request with the preset name and any of the following that you wish to change: description, category, and transcoding settings.

description

The new description for the preset, if you are changing it.

Type: string
Required: False

category

The new category for the preset, if you are changing it.

Type: string
Required: False

name

The name of the preset you are modifying.

Type: string
Required: False

settings

Settings for preset

Type: PresetSettings
Required: False

UpdatePresetResponse

Successful update preset requests will return the new preset JSON.

preset

A preset is a collection of preconfigured media conversion settings that you want MediaConvert to apply to the output during the conversion process.

Type: Preset
Required: False

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution

is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

```
CLASS_145_8BIT
CLASS_220_8BIT
CLASS_220_10BIT
```

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
```

```
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

```
INTERLACED
PROGRESSIVE
```

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of

approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class
Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated

interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

`DISABLED`

ENABLED

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264
H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3
VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum,

settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer
Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle
Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

Type: VideoCodecSettings
Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode
Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input

display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata
Required: False

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector

Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking
Required: False

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

```
DISABLED
PIC_TIMING_SEI
```

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer
Required: False
Minimum: -1
Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The

framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

```
MULTI_PASS
MULTI_PASS_HQ
```

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

```
VBR
```

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False

Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The

framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

MULTI_PASS
MULTI_PASS_HQ

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl

Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

```
RIFF
RF64
EXTENSIBLE
```

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer

Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat
Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

```
DISABLED
ENABLED
```

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input

captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

```
ENABLED
DISABLED
STRICT
MERGE
```

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_100
CLASS_300
CLASS_480
```

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass
Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100
CLASS_300
CLASS_480

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass
Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

HIGH
HIGH_422

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0

Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization

Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

AUTO

CABAC

CAVLC

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

DISABLED

ENABLED

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

INITIALIZE_FROM_SOURCE

SPECIFIED

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

```
DISABLED
ENABLED
```

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_50
CLASS_100
CLASS_200
```

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass
Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
BITRATE_CLASS_25
BITRATE_CLASS_35
BITRATE_CLASS_50
```

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 4
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field

first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode
Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE
HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

XAVC_HD_INTRA_CBG
XAVC_4K_INTRA_CBG
XAVC_4K_INTRA_VBR
XAVC_HD
XAVC_4K

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value

for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

```
DISABLED
ENABLED
```

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the

viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

PSNR

SSIM

MS_SSIM

PSNR_HVS

VMAF

QVBR

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

GetPreset

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

UpdatePreset

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3

- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeletePreset

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Probe

URI

`/2017-08-29/probe`

HTTP methods

POST

Operation ID: `Probe`

Use Probe to obtain detailed information about your input media files. Probe returns a JSON that includes container, codec, frame rate, resolution, track count, audio layout, captions, and more. You can use this information to learn more about your media files, or to help make decisions while automating your transcoding workflow.

Responses

Status code	Response model	Description
200	ProbeResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

POST schema

```
{
  "inputFiles": [
    {
      "fileUrl": "string"
    }
  ]
}
```

Response bodies

ProbeResponse schema

```
{
  "probeResults": [
    {
      "metadata": {
        "fileSize": integer,
        "eTag": "string",
        "lastModified": "string",
        "mimeType": "string"
      },
      "container": {
        "format": enum,
        "duration": number,
        "tracks": [
          {
            "index": integer,
            "codec": enum,
```

```
            "duration": number,
            "trackType": enum,
            "videoProperties": {
              "frameRate": {
                "numerator": integer,
                "denominator": integer
              },
              "width": integer,
              "height": integer,
              "bitDepth": integer,
              "bitRate": integer,
              "colorPrimaries": enum,
              "matrixCoefficients": enum,
              "transferCharacteristics": enum,
              "codecMetadata": {
                "profile": "string",
                "level": "string",
                "chromaSubsampling": "string",
                "scanType": "string",
                "codedFrameRate": {
                  "numerator": integer,
                  "denominator": integer
                },
                "width": integer,
                "height": integer,
                "bitDepth": integer,
                "colorPrimaries": enum,
                "matrixCoefficients": enum,
                "transferCharacteristics": enum
              }
            },
            "audioProperties": {
              "frameRate": {
                "numerator": integer,
                "denominator": integer
              },
              "sampleRate": integer,
              "channels": integer,
              "languageCode": "string",
              "bitDepth": integer,
              "bitRate": integer
            },
            "dataProperties": {
              "languageCode": "string"
```

```
            }
          }
        ]
      },
      "trackMappings": [
        {
          "videoTrackIndexes": [
            integer
          ],
          "audioTrackIndexes": [
            integer
          ],
          "dataTrackIndexes": [
            integer
          ]
        }
      ]
    }
  ]
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

AudioProperties

Details about the media file's audio track.

frameRate

The frame rate of the video or audio track, expressed as a fraction with numerator and denominator values.

Type: FrameRate

Required: False

sampleRate

The sample rate of the audio track.

Type: integer
Required: False

channels

The number of audio channels in the audio track.

Type: integer
Required: False

languageCode

The language code of the audio track, in three character ISO 639-3 format.

Type: string
Required: False

bitDepth

The bit depth of the audio track.

Type: integer
Required: False

bitRate

The bit rate of the audio track, in bits per second.

Type: integer
Required: False
Format: int64

CodecMetadata

Codec-specific parameters parsed from the video essence headers. This information provides detailed technical specifications about how the video was encoded, including profile settings, resolution details, and color space information that can help you understand the source video characteristics and make informed encoding decisions.

profile

The codec profile used to encode the video. Profiles define specific feature sets and capabilities within a codec standard. For example, H.264 profiles include Baseline, Main, and High, each supporting different encoding features and complexity levels.

Type: string
Required: False

level

The codec level or tier that specifies the maximum processing requirements and capabilities. Levels define constraints such as maximum bit rate, frame rate, and resolution.

Type: string
Required: False

chromaSubsampling

The chroma subsampling format used in the video encoding, such as "4:2:0" or "4:4:4". This describes how color information is sampled relative to brightness information. Different subsampling ratios affect video quality and file size, with "4:4:4" providing the highest color fidelity and "4:2:0" being most common for standard video.

Type: string
Required: False

scanType

The scanning method specified in the video essence, indicating whether the video uses progressive or interlaced scanning.

Type: string

Required: False

codedFrameRate

The frame rate of the video or audio track, expressed as a fraction with numerator and denominator values.

Type: FrameRate

Required: False

width

The width in pixels as coded by the codec. This represents the actual encoded video width as specified in the video stream headers.

Type: integer

Required: False

height

The height in pixels as coded by the codec. This represents the actual encoded video height as specified in the video stream headers.

Type: integer

Required: False

bitDepth

The number of bits used per color component in the video essence such as 8, 10, or 12 bits. Standard range (SDR) video typically uses 8-bit, while 10-bit is common for high dynamic range (HDR).

Type: integer

Required: False

colorPrimaries

The color space primaries of the video track, defining the red, green, and blue color coordinates used for the video. This information helps ensure accurate color reproduction during playback and transcoding.

Type: ColorPrimaries
Required: False

matrixCoefficients

The color space matrix coefficients of the video track, defining how RGB color values are converted to and from YUV color space. This affects color accuracy during encoding and decoding processes.

Type: MatrixCoefficients
Required: False

transferCharacteristics

The color space transfer characteristics of the video track, defining the relationship between linear light values and the encoded signal values. This affects brightness and contrast reproduction.

Type: TransferCharacteristics
Required: False

ColorPrimaries

The color space primaries of the video track, defining the red, green, and blue color coordinates used for the video. This information helps ensure accurate color reproduction during playback and transcoding.

```
ITU_709
UNSPECIFIED
RESERVED
ITU_470M
ITU_470BG
SMPTE_170M
SMPTE_240M
```

GENERIC_FILM
ITU_2020
SMPTE_428_1
SMPTE_431_2
SMPTE_EG_432_1
IPT
SMPTE_2067XYZ
EBU_3213_E
LAST

Container

The container of your media file. This information helps you understand the overall structure and details of your media, including format, duration, and track layout.

format

The format of your media file. For example: MP4, QuickTime (MOV), Matroska (MKV), WebM or MXF. Note that this will be blank if your media file has a format that the MediaConvert Probe operation does not recognize.

Type: string
Required: False
Values: `mp4 | quicktime | matroska | webm | mxf`

duration

The total duration of your media file, in seconds.

Type: number
Required: False
Format: double

tracks

Details about each track (video, audio, or data) in the media file.

Type: Array of type Track

Required: False

DataProperties

Details about the media file's data track.

languageCode

The language code of the data track, in three character ISO 639-3 format.

Type: string
Required: False

ExceptionBody

message

Type: string
Required: False

FrameRate

The frame rate of the video or audio track, expressed as a fraction with numerator and denominator values.

numerator

The numerator, or top number, in the fractional frame rate. For example, if your frame rate is 24000 / 1001 (23.976 frames per second), then the numerator would be 24000.

Type: integer
Required: False

denominator

The denominator, or bottom number, in the fractional frame rate. For example, if your frame rate is 24000 / 1001 (23.976 frames per second), then the denominator would be 1001.

Type: integer

Required: False

MatrixCoefficients

The color space matrix coefficients of the video track, defining how RGB color values are converted to and from YUV color space. This affects color accuracy during encoding and decoding processes.

RGB
ITU_709
UNSPECIFIED
RESERVED
FCC
ITU_470BG
SMPTE_170M
SMPTE_240M
YCgCo
ITU_2020_NCL
ITU_2020_CL
SMPTE_2085
CD_NCL
CD_CL
ITU_2100ICtCp
IPT
EBU3213
LAST

Metadata

Metadata and other file information.

fileSize

The size of the media file, in bytes.

Type: integer
Required: False
Format: int64

eTag

The entity tag (ETag) of the file.

Type: string
Required: False

lastModified

The last modification timestamp of the media file, in Unix time.

Type: string
Required: False
Format: date-time

mimeType

The MIME type of the media file.

Type: string
Required: False

ProbeInputFile

The input file that needs to be analyzed.

fileUrl

Specify the S3, HTTP, or HTTPS URL for your media file.

Type: string
Required: False

ProbeRequest

The request to probe one or more media files and retrieve metadata about them.

inputFiles

Specify a media file to probe.

Type: Array of type ProbeInputFile
Required: False

ProbeResponse

The response from a MediaConvert Probe operation, in JSON form, with detailed information about your input media.

probeResults

Probe results for your media file.

Type: Array of type ProbeResult
Required: False

ProbeResult

Probe results for your media file.

metadata

Metadata and other file information.

Type: Metadata
Required: False

container

The container of your media file. This information helps you understand the overall structure and details of your media, including format, duration, and track layout.

Type: Container
Required: False

trackMappings

An array containing track mapping information.

Type: Array of type TrackMapping
Required: False

Track

Details about each track (video, audio, or data) in the media file.

index

The unique index number of the track, starting at 1.

Type: integer
Required: False

codec

The codec of the audio or video track, or caption format of the data track.

Type: string
Required: False
Values: `UNKNOWN | AAC | AC3 | EAC3 | FLAC | MP3 | OPUS | PCM | VORBIS | AV1 | AVC | HEVC | JPEG2000 | MJPEG | MPEG1 | MP4V | MPEG2 | PRORES | THEORA | VFW | VP8 | VP9 | QTRLE | C608 | C708 | WEBVTT`

duration

The duration of the track, in seconds.

Type: number
Required: False
Format: double

trackType

The type of track: video, audio, or data.

Type: string
Required: False
Values: `video | audio | data`

videoProperties

Details about the media file's video track.

Type: VideoProperties
Required: False

audioProperties

Details about the media file's audio track.

Type: AudioProperties
Required: False

dataProperties

Details about the media file's data track.

Type: DataProperties
Required: False

TrackMapping

An array containing track mapping information.

videoTrackIndexes

The index numbers of the video tracks in your media file.

Type: Array of type integer
Required: False

audioTrackIndexes

The index numbers of the audio tracks in your media file.

Type: Array of type integer
Required: False

dataTrackIndexes

The index numbers of the data tracks in your media file.

Type: Array of type integer
Required: False

TransferCharacteristics

The color space transfer characteristics of the video track, defining the relationship between linear light values and the encoded signal values. This affects brightness and contrast reproduction.

```
ITU_709
UNSPECIFIED
RESERVED
ITU_470M
ITU_470BG
SMPTE_170M
SMPTE_240M
LINEAR
LOG10_2
LOC10_2_5
IEC_61966_2_4
ITU_1361
IEC_61966_2_1
ITU_2020_10bit
ITU_2020_12bit
SMPTE_2084
SMPTE_428_1
ARIB_B67
LAST
```

VideoProperties

Details about the media file's video track.

frameRate

The frame rate of the video or audio track, expressed as a fraction with numerator and denominator values.

Type: FrameRate
Required: False

width

The width of the video track, in pixels.

Type: integer
Required: False

height

The height of the video track, in pixels.

Type: integer
Required: False

bitDepth

The number of bits used per color component such as 8, 10, or 12 bits. Standard range (SDR) video typically uses 8-bit, while 10-bit is common for high dynamic range (HDR).

Type: integer
Required: False

bitRate

The bit rate of the video track, in bits per second.

Type: integer
Required: False
Format: int64

colorPrimaries

The color space primaries of the video track, defining the red, green, and blue color coordinates used for the video. This information helps ensure accurate color reproduction during playback and transcoding.

Type: ColorPrimaries
Required: False

matrixCoefficients

The color space matrix coefficients of the video track, defining how RGB color values are converted to and from YUV color space. This affects color accuracy during encoding and decoding processes.

Type: MatrixCoefficients
Required: False

transferCharacteristics

The color space transfer characteristics of the video track, defining the relationship between linear light values and the encoded signal values. This affects brightness and contrast reproduction.

Type: TransferCharacteristics
Required: False

codecMetadata

Codec-specific parameters parsed from the video essence headers. This information provides detailed technical specifications about how the video was encoded, including profile settings, resolution details, and color space information that can help you understand the source video characteristics and make informed encoding decisions.

Type: CodecMetadata
Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

Probe

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Queues

URI

`/2017-08-29/queues`

HTTP methods

GET

Operation ID: `ListQueues`

Retrieve a JSON array of up to twenty of your queues. This will return the queues themselves, not just a list of them. To retrieve the next twenty queues, use the nextToken string returned with the array.

Query parameters

Name	Type	Required	Description
`listBy`	String	False	
`nextToken`	String	False	
`maxResults`	String	False	
`order`	String	False	

Responses

Status code	Response model	Description
200	ListQueuesResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

POST

Operation ID: `CreateQueue`

Create a new transcoding queue. For information about queues, see Working With Queues in the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html

Responses

Status code	Response model	Description
201	CreateQueueResponse	201 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "listBy": enum,
  "order": enum,
  "nextToken": "string",
  "maxResults": integer
}
```

POST schema

```
{
  "description": "string",
  "tags": {
  },
  "name": "string",
  "pricingPlan": enum,
  "reservationPlanSettings": {
    "reservedSlots": integer,
    "renewalType": enum,
    "commitment": enum
  },
  "status": enum,
  "concurrentJobs": integer
}
```

Response bodies

ListQueuesResponse schema

```
{
  "queues": [
    {
      "arn": "string",
      "createdAt": "string",
      "lastUpdated": "string",
      "type": enum,
      "pricingPlan": enum,
      "status": enum,
      "description": "string",
      "name": "string",
      "submittedJobsCount": integer,
      "progressingJobsCount": integer,
      "reservationPlan": {
        "reservedSlots": integer,
        "renewalType": enum,
        "commitment": enum,
        "purchasedAt": "string",
        "expiresAt": "string",
        "status": enum
      },
      "concurrentJobs": integer,
      "serviceOverrides": [
        {
          "name": "string",
          "value": "string",
          "overrideValue": "string",
          "message": "string"
        }
      ]
    }
  ],
  "nextToken": "string",
  "totalConcurrentJobs": integer,
  "unallocatedConcurrentJobs": integer
}
```

CreateQueueResponse schema

```
{
  "queue": {
    "arn": "string",
    "createdAt": "string",
    "lastUpdated": "string",
    "type": enum,
    "pricingPlan": enum,
    "status": enum,
    "description": "string",
    "name": "string",
    "submittedJobsCount": integer,
    "progressingJobsCount": integer,
    "reservationPlan": {
      "reservedSlots": integer,
      "renewalType": enum,
      "commitment": enum,
      "purchasedAt": "string",
      "expiresAt": "string",
      "status": enum
    },
    "concurrentJobs": integer,
    "serviceOverrides": [
      {
        "name": "string",
        "value": "string",
        "overrideValue": "string",
        "message": "string"
      }
    ]
  }
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

Commitment

The length of the term of your reserved queue pricing plan commitment.

ONE_YEAR

CreateQueueRequest

Create an on-demand queue by sending a CreateQueue request with the name of the queue. Create a reserved queue by sending a CreateQueue request with the pricing plan set to RESERVED and with values specified for the settings under reservationPlanSettings. When you create a reserved queue, you enter into a 12-month commitment to purchase the RTS that you specify. You can't cancel this commitment.

description

Optional. A description of the queue that you are creating.

Type: string
Required: False

tags

The tags that you want to add to the resource. You can tag resources with a key-value pair or with only a key.

Type: object
Required: False

name

The name of the queue that you are creating.

Type: string
Required: True

pricingPlan

Specifies whether the pricing plan for the queue is on-demand or reserved. For on-demand, you pay per minute, billed in increments of .01 minute. For reserved, you pay for the transcoding capacity of the entire queue, regardless of how much or how little you use it. Reserved pricing requires a 12-month commitment. When you use the API to create a queue, the default is on-demand.

Type: PricingPlan
Required: False

reservationPlanSettings

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

Type: ReservationPlanSettings
Required: False

status

Initial state of the queue. If you create a paused queue, then jobs in that queue won't begin.

Type: QueueStatus
Required: False

concurrentJobs

Specify the maximum number of jobs your queue can process concurrently. For on-demand queues, the value you enter is constrained by your service quotas for Maximum concurrent jobs, per on-demand queue and Maximum concurrent jobs, per account. For reserved queues, specify the number of jobs you can process concurrently in your reservation plan instead.

Type: integer
Required: False
Format: int64

CreateQueueResponse

Successful create queue requests return the name of the queue that you just created and information about it.

queue

You can use queues to manage the resources that are available to your AWS account for running multiple transcoding jobs at the same time. If you don't specify a queue, the service sends all jobs through the default queue. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html.

Type: Queue
Required: False

ExceptionBody

message

Type: string
Required: False

ListQueuesRequest

You can send list queues requests with an empty body. You can optionally specify the maximum number, up to twenty, of queues to be returned.

listBy

Optional. When you request a list of queues, you can choose to list them alphabetically by NAME or chronologically by CREATION_DATE. If you don't specify, the service will list them by creation date.

Type: QueueListBy
Required: False

order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

Type: Order
Required: False

nextToken

Use this string, provided with the response to a previous request, to request the next batch of queues.

Type: string
Required: False

maxResults

Optional. Number of queues, up to twenty, that will be returned at one time.

Type: integer
Required: False
Format: int32
Minimum: 1
Maximum: 20

ListQueuesResponse

Successful list queues requests return a JSON array of queues. If you don't specify how they are ordered, you will receive them alphabetically by name.

queues

List of queues.

Type: Array of type Queue
Required: False

nextToken

Use this string to request the next batch of queues.

Type: string

Required: False

totalConcurrentJobs

The maximum number of jobs that MediaConvert can process at one time, across all of your on-demand queues in the current AWS Region.

Type: integer
Required: False
Format: int64

unallocatedConcurrentJobs

The remaining number of concurrent jobs that are not associated with a queue and are available to allocate to a queue. You can allocate these jobs when you create or update a queue.

Type: integer
Required: False
Format: int64

Order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

```
ASCENDING
DESCENDING
```

PricingPlan

Specifies whether the pricing plan for the queue is on-demand or reserved. For on-demand, you pay per minute, billed in increments of .01 minute. For reserved, you pay for the transcoding capacity of the entire queue, regardless of how much or how little you use it. Reserved pricing requires a 12-month commitment.

```
ON_DEMAND
RESERVED
```

Queue

You can use queues to manage the resources that are available to your AWS account for running multiple transcoding jobs at the same time. If you don't specify a queue, the service sends all jobs through the default queue. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html.

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

createdAt

The timestamp in epoch seconds for when you created the queue.

Type: string
Required: False
Format: date-time

lastUpdated

The timestamp in epoch seconds for when you most recently updated the queue.

Type: string
Required: False
Format: date-time

type

Specifies whether this on-demand queue is system or custom. System queues are built in. You can't modify or delete system queues. You can create and modify custom queues.

Type: Type
Required: False

pricingPlan

Specifies whether the pricing plan for the queue is on-demand or reserved. For on-demand, you pay per minute, billed in increments of .01 minute. For reserved, you pay for the transcoding capacity of the entire queue, regardless of how much or how little you use it. Reserved pricing requires a 12-month commitment.

Type: PricingPlan
Required: False

status

Queues can be ACTIVE or PAUSED. If you pause a queue, the service won't begin processing jobs in that queue. Jobs that are running when you pause the queue continue to run until they finish or result in an error.

Type: QueueStatus
Required: False

description

An optional description that you create for each queue.

Type: string
Required: False

name

A name that you create for each queue. Each name must be unique within your account.

Type: string
Required: True

submittedJobsCount

The estimated number of jobs with a SUBMITTED status.

Type: integer
Required: False

Format: int64

progressingJobsCount

The estimated number of jobs with a PROGRESSING status.

Type: integer
Required: False
Format: int64

reservationPlan

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

Type: ReservationPlan
Required: False

concurrentJobs

The maximum number of jobs your queue can process concurrently.

Type: integer
Required: False
Format: int64

serviceOverrides

A list of any service overrides applied by MediaConvert to the settings that you have configured. If you see any overrides, we recommend that you contact Support.

Type: Array of type ServiceOverride
Required: False

QueueListBy

Optional. When you request a list of queues, you can choose to list them alphabetically by NAME or chronologically by CREATION_DATE. If you don't specify, the service will list them by creation date.

NAME

CREATION_DATE

QueueStatus

Queues can be ACTIVE or PAUSED. If you pause a queue, jobs in that queue won't begin. Jobs that are running when you pause a queue continue to run until they finish or result in an error.

ACTIVE

PAUSED

RenewalType

Specifies whether the term of your reserved queue pricing plan is automatically extended (AUTO_RENEW) or expires (EXPIRE) at the end of the term.

AUTO_RENEW

EXPIRE

ReservationPlan

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

reservedSlots

Specifies the number of reserved transcode slots (RTS) for this queue. The number of RTS determines how many jobs the queue can process in parallel; each RTS can process one job at a time. When you increase this number, you extend your existing commitment with a new 12-month commitment for a larger number of RTS. The new commitment begins when you purchase the additional capacity. You can't decrease the number of RTS in your reserved queue.

Type: integer

Required: False

Format: int32

renewalType

Specifies whether the term of your reserved queue pricing plan is automatically extended (AUTO_RENEW) or expires (EXPIRE) at the end of the term.

Type: RenewalType
Required: False

commitment

The length of the term of your reserved queue pricing plan commitment.

Type: Commitment
Required: False

purchasedAt

The timestamp in epoch seconds for when you set up the current pricing plan for this reserved queue.

Type: string
Required: False
Format: date-time

expiresAt

The timestamp in epoch seconds for when the current pricing plan term for this reserved queue expires.

Type: string
Required: False
Format: date-time

status

Specifies whether the pricing plan for your reserved queue is ACTIVE or EXPIRED.

Type: ReservationPlanStatus
Required: False

ReservationPlanSettings

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

reservedSlots

Specifies the number of reserved transcode slots (RTS) for this queue. The number of RTS determines how many jobs the queue can process in parallel; each RTS can process one job at a time. You can't decrease the number of RTS in your reserved queue. You can increase the number of RTS by extending your existing commitment with a new 12-month commitment for the larger number. The new commitment begins when you purchase the additional capacity. You can't cancel your commitment or revert to your original commitment after you increase the capacity.

Type: integer
Required: True
Format: int32

renewalType

Specifies whether the term of your reserved queue pricing plan is automatically extended (AUTO_RENEW) or expires (EXPIRE) at the end of the term. When your term is auto renewed, you extend your commitment by 12 months from the auto renew date. You can cancel this commitment.

Type: RenewalType
Required: True

commitment

The length of the term of your reserved queue pricing plan commitment.

Type: Commitment
Required: True

ReservationPlanStatus

Specifies whether the pricing plan for your reserved queue is ACTIVE or EXPIRED.

ACTIVE
EXPIRED

ServiceOverride

A service override applied by MediaConvert to the settings that you have configured. If you see any overrides, we recommend that you contact Support.

name

The name of the setting that MediaConvert has applied an override to.

Type: string
Required: False

value

The value of the setting that you configured, prior to any overrides that MediaConvert has applied.

Type: string
Required: False

overrideValue

The current value of the service override that MediaConvert has applied.

Type: string
Required: False

message

Details about the service override that MediaConvert has applied.

Type: string
Required: False

Type

SYSTEM

CUSTOM

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

ListQueues

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateQueue

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Queues name

URI

`/2017-08-29/queues/name`

HTTP methods

GET

Operation ID: `GetQueue`

Retrieve the JSON for a specific queue.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	GetQueueResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request

Status code	Response model	Description
		because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

PUT

Operation ID: `UpdateQueue`

Modify one of your existing queues.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	UpdateQueueResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.

Status code	Response model	Description
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

DELETE

Operation ID: `DeleteQueue`

Permanently delete a queue you have created.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
202	DeleteQueueResponse	202 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Path parameters

Name	Type	Required	Description
name	String	True	

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "name": "string"
}
```

PUT schema

```
{
  "description": "string",
  "status": enum,
  "name": "string",
  "reservationPlanSettings": {
    "reservedSlots": integer,
    "renewalType": enum,
    "commitment": enum
  },
  "concurrentJobs": integer
}
```

DELETE schema

```
{
```

```
  "name": "string"
}
```

Response bodies

GetQueueResponse schema

```
{
  "queue": {
    "arn": "string",
    "createdAt": "string",
    "lastUpdated": "string",
    "type": enum,
    "pricingPlan": enum,
    "status": enum,
    "description": "string",
    "name": "string",
    "submittedJobsCount": integer,
    "progressingJobsCount": integer,
    "reservationPlan": {
      "reservedSlots": integer,
      "renewalType": enum,
      "commitment": enum,
      "purchasedAt": "string",
      "expiresAt": "string",
      "status": enum
    },
    "concurrentJobs": integer,
    "serviceOverrides": [
      {
        "name": "string",
        "value": "string",
        "overrideValue": "string",
        "message": "string"
      }
    ]
  }
}
```

UpdateQueueResponse schema

```
{
```

```
  "queue": {
    "arn": "string",
    "createdAt": "string",
    "lastUpdated": "string",
    "type": enum,
    "pricingPlan": enum,
    "status": enum,
    "description": "string",
    "name": "string",
    "submittedJobsCount": integer,
    "progressingJobsCount": integer,
    "reservationPlan": {
      "reservedSlots": integer,
      "renewalType": enum,
      "commitment": enum,
      "purchasedAt": "string",
      "expiresAt": "string",
      "status": enum
    },
    "concurrentJobs": integer,
    "serviceOverrides": [
      {
        "name": "string",
        "value": "string",
        "overrideValue": "string",
        "message": "string"
      }
    ]
  }
}
```

DeleteQueueResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

Commitment

The length of the term of your reserved queue pricing plan commitment.

ONE_YEAR

DeleteQueueRequest

Delete a queue by sending a request with the queue name. You can't delete a queue with an active pricing plan or one that has unprocessed jobs in it.

name

The name of the queue that you want to delete.

Type: string
Required: False

DeleteQueueResponse

Delete queue requests return an OK message or error message with an empty body.

ExceptionBody

message

Type: string
Required: False

GetQueueRequest

Get information about a queue by sending a request with the queue name.

name

The name of the queue that you want information about.

Type: string

Required: False

GetQueueResponse

Successful get queue requests return an OK message and information about the queue in JSON.

queue

You can use queues to manage the resources that are available to your AWS account for running multiple transcoding jobs at the same time. If you don't specify a queue, the service sends all jobs through the default queue. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html.

Type: Queue
Required: False

PricingPlan

Specifies whether the pricing plan for the queue is on-demand or reserved. For on-demand, you pay per minute, billed in increments of .01 minute. For reserved, you pay for the transcoding capacity of the entire queue, regardless of how much or how little you use it. Reserved pricing requires a 12-month commitment.

```
ON_DEMAND
RESERVED
```

Queue

You can use queues to manage the resources that are available to your AWS account for running multiple transcoding jobs at the same time. If you don't specify a queue, the service sends all jobs through the default queue. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html.

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

createdAt

The timestamp in epoch seconds for when you created the queue.

Type: string
Required: False
Format: date-time

lastUpdated

The timestamp in epoch seconds for when you most recently updated the queue.

Type: string
Required: False
Format: date-time

type

Specifies whether this on-demand queue is system or custom. System queues are built in. You can't modify or delete system queues. You can create and modify custom queues.

Type: Type
Required: False

pricingPlan

Specifies whether the pricing plan for the queue is on-demand or reserved. For on-demand, you pay per minute, billed in increments of .01 minute. For reserved, you pay for the transcoding capacity of the entire queue, regardless of how much or how little you use it. Reserved pricing requires a 12-month commitment.

Type: PricingPlan
Required: False

status

Queues can be ACTIVE or PAUSED. If you pause a queue, the service won't begin processing jobs in that queue. Jobs that are running when you pause the queue continue to run until they finish or result in an error.

Type: QueueStatus
Required: False

description

An optional description that you create for each queue.

Type: string
Required: False

name

A name that you create for each queue. Each name must be unique within your account.

Type: string
Required: True

submittedJobsCount

The estimated number of jobs with a SUBMITTED status.

Type: integer
Required: False
Format: int64

progressingJobsCount

The estimated number of jobs with a PROGRESSING status.

Type: integer
Required: False
Format: int64

reservationPlan

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

Type: ReservationPlan

Required: False

concurrentJobs

The maximum number of jobs your queue can process concurrently.

Type: integer
Required: False
Format: int64

serviceOverrides

A list of any service overrides applied by MediaConvert to the settings that you have configured. If you see any overrides, we recommend that you contact Support.

Type: Array of type ServiceOverride
Required: False

QueueStatus

Queues can be ACTIVE or PAUSED. If you pause a queue, jobs in that queue won't begin. Jobs that are running when you pause a queue continue to run until they finish or result in an error.

```
ACTIVE
PAUSED
```

RenewalType

Specifies whether the term of your reserved queue pricing plan is automatically extended (AUTO_RENEW) or expires (EXPIRE) at the end of the term.

```
AUTO_RENEW
EXPIRE
```

ReservationPlan

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

reservedSlots

Specifies the number of reserved transcode slots (RTS) for this queue. The number of RTS determines how many jobs the queue can process in parallel; each RTS can process one job at a time. When you increase this number, you extend your existing commitment with a new 12-month commitment for a larger number of RTS. The new commitment begins when you purchase the additional capacity. You can't decrease the number of RTS in your reserved queue.

Type: integer
Required: False
Format: int32

renewalType

Specifies whether the term of your reserved queue pricing plan is automatically extended (AUTO_RENEW) or expires (EXPIRE) at the end of the term.

Type: RenewalType
Required: False

commitment

The length of the term of your reserved queue pricing plan commitment.

Type: Commitment
Required: False

purchasedAt

The timestamp in epoch seconds for when you set up the current pricing plan for this reserved queue.

Type: string
Required: False
Format: date-time

expiresAt

The timestamp in epoch seconds for when the current pricing plan term for this reserved queue expires.

Type: string
Required: False
Format: date-time

status

Specifies whether the pricing plan for your reserved queue is ACTIVE or EXPIRED.

Type: ReservationPlanStatus
Required: False

ReservationPlanSettings

Details about the pricing plan for your reserved queue. Required for reserved queues and not applicable to on-demand queues.

reservedSlots

Specifies the number of reserved transcode slots (RTS) for this queue. The number of RTS determines how many jobs the queue can process in parallel; each RTS can process one job at a time. You can't decrease the number of RTS in your reserved queue. You can increase the number of RTS by extending your existing commitment with a new 12-month commitment for the larger number. The new commitment begins when you purchase the additional capacity. You can't cancel your commitment or revert to your original commitment after you increase the capacity.

Type: integer
Required: True
Format: int32

renewalType

Specifies whether the term of your reserved queue pricing plan is automatically extended (AUTO_RENEW) or expires (EXPIRE) at the end of the term. When your term is auto renewed,

you extend your commitment by 12 months from the auto renew date. You can cancel this commitment.

Type: RenewalType
Required: True

commitment

The length of the term of your reserved queue pricing plan commitment.

Type: Commitment
Required: True

ReservationPlanStatus

Specifies whether the pricing plan for your reserved queue is ACTIVE or EXPIRED.

```
ACTIVE
EXPIRED
```

ServiceOverride

A service override applied by MediaConvert to the settings that you have configured. If you see any overrides, we recommend that you contact Support.

name

The name of the setting that MediaConvert has applied an override to.

Type: string
Required: False

value

The value of the setting that you configured, prior to any overrides that MediaConvert has applied.

Type: string
Required: False

overrideValue

The current value of the service override that MediaConvert has applied.

Type: string
Required: False

message

Details about the service override that MediaConvert has applied.

Type: string
Required: False

Type

SYSTEM
CUSTOM

UpdateQueueRequest

Modify a queue by sending a request with the queue name and any changes to the queue.

description

The new description for the queue, if you are changing it.

Type: string
Required: False

status

Pause or activate a queue by changing its status between ACTIVE and PAUSED. If you pause a queue, jobs in that queue won't begin. Jobs that are running when you pause the queue continue to run until they finish or result in an error.

Type: QueueStatus
Required: False

name

The name of the queue that you are modifying.

Type: string
Required: False

reservationPlanSettings

The new details of your pricing plan for your reserved queue. When you set up a new pricing plan to replace an expired one, you enter into another 12-month commitment. When you add capacity to your queue by increasing the number of RTS, you extend the term of your commitment to 12 months from when you add capacity. After you make these commitments, you can't cancel them.

Type: ReservationPlanSettings
Required: False

concurrentJobs

Specify the maximum number of jobs your queue can process concurrently. For on-demand queues, the value you enter is constrained by your service quotas for Maximum concurrent jobs, per on-demand queue and Maximum concurrent jobs, per account. For reserved queues, update your reservation plan instead in order to increase your yearly commitment.

Type: integer
Required: False
Format: int64

UpdateQueueResponse

Successful update queue requests return the new queue information in JSON format.

queue

You can use queues to manage the resources that are available to your AWS account for running multiple transcoding jobs at the same time. If you don't specify a queue, the service sends all jobs through the default queue. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html.

Type: Queue
Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

GetQueue

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

UpdateQueue

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V3

DeleteQueue

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ResourceShares

URI

`/2017-08-29/resourceShares`

HTTP methods

POST

Operation ID: `CreateResourceShare`

Create a new resource share request for MediaConvert resources with Support.

Responses

Status code	Response model	Description
202	`CreateResourceShareResponse`	202 response

Status code	Response model	Description
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

POST schema

```
{
  "jobId": "string",
  "supportCaseId": "string"
}
```

Response bodies

CreateResourceShareResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

CreateResourceShareRequest

The request to share MediaConvert resources with Support.

jobId

Specify MediaConvert Job ID or ARN to share

Type: string
Required: True

supportCaseId

Support case identifier

Type: string

Required: True

CreateResourceShareResponse

Successfully accepted the request to share MediaConvert resources.

ExceptionBody

message

Type: string

Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

CreateResourceShare

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Search

URI

`/2017-08-29/search`

HTTP methods

GET

Operation ID: `SearchJobs`

Retrieve a JSON array that includes job details for up to twenty of your most recent jobs. Optionally filter results further according to input file, queue, or status. To retrieve the twenty next most recent jobs, use the nextToken string returned with the array.

Query parameters

Name	Type	Required	Description
`status`	String	False	
`nextToken`	String	False	
`maxResults`	String	False	
`inputFile`	String	False	
`order`	String	False	
`queue`	String	False	

Responses

Status code	Response model	Description
200	`SearchJobsResponse`	200 response
400	`ExceptionBody`	The service can't process your request because of a problem

Status code	Response model	Description
		in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "queue": "string",
  "status": enum,
  "inputFile": "string",
  "order": enum,
  "nextToken": "string",
  "maxResults": integer
}
```

Response bodies

SearchJobsResponse schema

```
{
  "jobs": [
    {
      "arn": "string",
      "id": "string",
      "createdAt": "string",
      "jobTemplate": "string",
      "jobEngineVersionRequested": "string",
      "jobEngineVersionUsed": "string",
      "queue": "string",
      "userMetadata": {
      },
      "role": "string",
      "settings": {
        "timecodeConfig": {
          "anchor": "string",
          "source": enum,
          "start": "string",
          "timestampOffset": "string"
        },
        "outputGroups": [
          {
            "customName": "string",
            "name": "string",
```

```
        "outputs": [
          {
            "containerSettings": {
              "container": enum,
              "m3u8Settings": {
                "audioFramesPerPes": integer,
                "pcrControl": enum,
                "dataPTSControl": enum,
                "maxPcrInterval": integer,
                "pcrPid": integer,
                "pmtPid": integer,
                "privateMetadataPid": integer,
                "programNumber": integer,
                "patInterval": integer,
                "pmtInterval": integer,
                "scte35Source": enum,
                "scte35Pid": integer,
                "nielsenId3": enum,
                "timedMetadata": enum,
                "timedMetadataPid": integer,
                "transportStreamId": integer,
                "videoPid": integer,
                "ptsOffsetMode": enum,
                "ptsOffset": integer,
                "audioPtsOffsetDelta": integer,
                "audioPids": [
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                ],
                "audioDuration": enum
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              "f4vSettings": {
                "moovPlacement": enum
              },
              "m2tsSettings": {
                "audioBufferModel": enum,
                "minEbpInterval": integer,
                "esRateInPes": enum,
                "patInterval": integer,
                "dvbNitSettings": {
                  "nitInterval": integer,
                  "networkId": integer,
                  "networkName": "string"
                },
                "dvbSdtSettings": {
```

```
      "outputSdt": enum,
      "sdtInterval": integer,
      "serviceName": "string",
      "serviceProviderName": "string"
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    "scte35Pid": integer,
    "scte35Esam": {
      "scte35EsamPid": integer
    },
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    "videoPid": integer,
    "dvbTdtSettings": {
      "tdtInterval": integer
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    "pmtInterval": integer,
    "segmentationStyle": enum,
    "segmentationTime": number,
    "pmtPid": integer,
    "bitrate": integer,
    "audioPids": [
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    ],
    "privateMetadataPid": integer,
    "nielsenId3": enum,
    "timedMetadataPid": integer,
    "maxPcrInterval": integer,
    "transportStreamId": integer,
    "dvbSubPids": [
      integer
    ],
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    "audioFramesPerPes": integer,
    "pcrControl": enum,
    "dataPTSControl": enum,
    "segmentationMarkers": enum,
    "ebpAudioInterval": enum,
    "forceTsVideoEbpOrder": enum,
    "programNumber": integer,
    "pcrPid": integer,
    "bufferModel": enum,
    "dvbTeletextPid": integer,
    "fragmentTime": number,
    "ebpPlacement": enum,
```

```
      "nullPacketBitrate": number,
      "audioDuration": enum,
      "ptsOffsetMode": enum,
      "ptsOffset": integer,
      "audioPtsOffsetDelta": integer,
      "preventBufferUnderflow": enum
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      "mp4MajorBrand": "string",
      "moovPlacement": enum,
      "audioDuration": enum,
      "c2paManifest": enum,
      "certificateSecret": "string",
      "signingKmsKey": "string"
    },
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      "captionContainerType": enum,
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      "scte35Esam": enum,
      "audioDuration": enum,
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      "timedMetadataSchemeIdUri": "string",
      "timedMetadataValue": "string",
      "manifestMetadataSignaling": enum,
      "klvMetadata": enum
    },
    "cmfcSettings": {
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      "scte35Esam": enum,
      "audioDuration": enum,
      "iFrameOnlyManifest": enum,
      "audioGroupId": "string",
```

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            "audioRenditionSets": "string",
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            "descriptiveVideoServiceFlag": enum,
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            "timedMetadataBoxVersion": enum,
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            "timedMetadataValue": "string",
            "manifestMetadataSignaling": enum,
            "klvMetadata": enum
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              "maxAncDataSize": integer
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          }
        },
        "preset": "string",
        "videoDescription": {
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          "width": integer,
          "scalingBehavior": enum,
          "crop": {
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            "width": integer,
            "x": integer,
            "y": integer
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          "height": integer,
          "videoPreprocessors": {
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              "brightness": integer,
              "colorSpaceConversion": enum,
              "sampleRangeConversion": enum,
              "clipLimits": {
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                "maximumYUV": integer,
                "minimumRGBTolerance": integer,
                "maximumRGBTolerance": integer
              },
              "sdrReferenceWhiteLevel": integer,
              "contrast": integer,
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          "saturation": integer,
          "maxLuminance": integer,
          "hdr10Metadata": {
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            "redPrimaryY": integer,
            "greenPrimaryX": integer,
            "greenPrimaryY": integer,
            "bluePrimaryX": integer,
            "bluePrimaryY": integer,
            "whitePointX": integer,
            "whitePointY": integer,
            "maxFrameAverageLightLevel": integer,
            "maxContentLightLevel": integer,
            "maxLuminance": integer,
            "minLuminance": integer
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          "hdrToSdrToneMapper": enum
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        "deinterlacer": {
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          "mode": enum,
          "control": enum
        },
        "dolbyVision": {
          "profile": enum,
          "l6Mode": enum,
          "l6Metadata": {
            "maxCll": integer,
            "maxFall": integer
          },
          "mapping": enum
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        "hdr10Plus": {
          "masteringMonitorNits": integer,
          "targetMonitorNits": integer
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          "insertableImages": [
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              "width": integer,
              "height": integer,
              "imageX": integer,
              "imageY": integer,
```

```
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            "layer": integer,
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          "postFilterSharpenStrength": integer
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        "temporalFilterSettings": {
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          "speed": integer,
          "aggressiveMode": integer,
          "postTemporalSharpening": enum,
          "postTemporalSharpeningStrength": enum
        }
      },
      "timecodeBurnin": {
        "fontSize": integer,
        "position": enum,
        "prefix": "string"
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      "partnerWatermarking": {
        "nexguardFileMarkerSettings": {
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          "preset": "string",
          "payload": integer,
          "strength": enum
        }
      }
    },
    "timecodeInsertion": enum,
```

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                  "y": integer
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                    "rateControlMode": enum,
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                    "framerateConversionAlgorithm": enum,
                    "framerateNumerator": integer,
                    "framerateDenominator": integer,
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                    "perFrameMetrics": [
                      enum
                    ]
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                  "avcIntraSettings": {
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                    "avcIntraUhdSettings": {
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                    "scanTypeConversionMode": enum,
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                    "slowPal": enum,
                    "framerateControl": enum,
                    "telecine": enum,
```

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        "framerateConversionAlgorithm": enum,
        "perFrameMetrics": [
          enum
        ]
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        "framerateDenominator": integer,
        "maxCaptures": integer,
        "quality": integer
      },
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        "framerateNumerator": integer,
        "framerateDenominator": integer
      },
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        "scanTypeConversionMode": enum,
        "parNumerator": integer,
        "numberReferenceFrames": integer,
        "syntax": enum,
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        "framerateDenominator": integer,
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        "slices": integer,
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        "bitrate": integer,
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        "rateControlMode": enum,
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          "qvbrQualityLevelFineTune": number,
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        "telecine": enum,
        "framerateNumerator": integer,
        "minIInterval": integer,
        "adaptiveQuantization": enum,
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        "codecLevel": enum,
        "fieldEncoding": enum,
        "sceneChangeDetect": enum,
        "qualityTuningLevel": enum,
        "framerateConversionAlgorithm": enum,
        "unregisteredSeiTimecode": enum,
        "gopSizeUnits": enum,
        "parControl": enum,
        "numberBFramesBetweenReferenceFrames": integer,
        "repeatPps": enum,
        "writeMp4PackagingType": enum,
        "dynamicSubGop": enum,
        "hrdBufferFinalFillPercentage": integer,
        "bandwidthReductionFilter": {
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          "sharpening": enum
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        "endOfStreamMarkers": enum,
        "perFrameMetrics": [
          enum
        ]
      },
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        "hrdBufferInitialFillPercentage": integer,
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```
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          "parControl": enum,
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            "sharpening": enum
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          ]
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      "framerateDenominator": integer,
      "gopClosedCadence": integer,
      "hrdBufferInitialFillPercentage": integer,
      "gopSize": number,
      "hrdBufferSize": integer,
      "maxBitrate": integer,
      "slowPal": enum,
      "parDenominator": integer,
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      "temporalAdaptiveQuantization": enum,
      "bitrate": integer,
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      "codecLevel": enum,
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      "gopSizeUnits": enum,
      "parControl": enum,
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      "dynamicSubGop": enum,
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      "perFrameMetrics": [
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      ]
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      "slowPal": enum,
```

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      "chromaSampling": enum,
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      "parControl": enum,
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        enum
      ]
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      "bitrate": integer,
      "hrdBufferSize": integer,
      "framerateControl": enum,
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      "framerateDenominator": integer,
```

```
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      "parDenominator": integer
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      "bitrate": integer,
      "hrdBufferSize": integer,
      "framerateControl": enum,
      "framerateConversionAlgorithm": enum,
      "framerateNumerator": integer,
      "framerateDenominator": integer,
      "parControl": enum,
      "parNumerator": integer,
      "parDenominator": integer
    },
    "xavcSettings": {
      "profile": enum,
      "xavcHdIntraCbgProfileSettings": {
        "xavcClass": enum
      },
      "xavc4kIntraCbgProfileSettings": {
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        "xavcClass": enum
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```

```
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          ]
        }
      },
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      "respondToAfd": enum,
      "chromaPositionMode": enum,
      "colorMetadata": enum
    },
    "audioDescriptions": [
      {
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        "audioNormalizationSettings": {
          "algorithm": enum,
          "algorithmControl": enum,
          "correctionGateLevel": integer,
          "loudnessLogging": enum,
          "targetLkfs": number,
          "peakCalculation": enum,
          "truePeakLimiterThreshold": number
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        "audioChannelTaggingSettings": {
          "channelTag": enum,
          "channelTags": [
```

```
            enum
          ]
        },
        "codecSettings": {
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          "aacSettings": {
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            "vbrQuality": enum,
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            "rawFormat": enum,
            "rapInterval": integer,
            "targetLoudnessRange": integer,
            "loudnessMeasurementMode": enum,
            "sampleRate": integer,
            "specification": enum
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          "ac3Settings": {
            "bitrate": integer,
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            "codingMode": enum,
            "dialnorm": integer,
            "dynamicRangeCompressionProfile": enum,
            "dynamicRangeCompressionLine": enum,
            "dynamicRangeCompressionRf": enum,
            "metadataControl": enum,
            "lfeFilter": enum,
            "sampleRate": integer
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          "aiffSettings": {
            "bitDepth": integer,
            "channels": integer,
            "sampleRate": integer
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          "eac3Settings": {
            "metadataControl": enum,
            "surroundExMode": enum,
            "loRoSurroundMixLevel": number,
            "phaseControl": enum,
            "dialnorm": integer,
            "ltRtSurroundMixLevel": number,
            "bitrate": integer,
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      "passthroughControl": enum,
      "lfeControl": enum,
      "loRoCenterMixLevel": number,
      "attenuationControl": enum,
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      "surroundMode": enum,
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      "stereoDownmix": enum,
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      "dynamicRangeCompressionLine": enum,
      "dcFilter": enum
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      "loRoCenterMixLevel": number,
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      "dynamicRangeCompressionLine": enum,
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      "dynamicRangeControl": enum,
      "meteringMode": enum,
      "dialogueIntelligence": enum,
      "speechThreshold": integer
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    "flacSettings": {
      "bitDepth": integer,
      "channels": integer,
      "sampleRate": integer
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    "mp2Settings": {
      "audioDescriptionMix": enum,
      "bitrate": integer,
      "channels": integer,
      "sampleRate": integer
```

```
        },
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          "vbrQuality": integer
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          "channels": integer,
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          "vbrQuality": integer
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          "format": enum
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              "inputChannelsFineTune": [
                number
              ]
            }
          ]
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        "channelsOut": integer,
        "audioDescriptionAudioChannel": integer,
        "audioDescriptionDataChannel": integer
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        "languageCode": enum
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        "captionSegmentLengthControl": enum
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        "segmentLength": integer,
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      "mpdProfile": enum,
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        "tileHeight": integer,
        "tileWidth": integer,
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      "videoCompositionOffsets": enum,
      "dashManifestStyle": enum
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            "kmsKeyArn": "string",
            "kmsEncryptionContext": "string"
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          "storageClass": enum
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          },
          "storageClass": enum
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            "width": integer,
            "x": integer,
            "y": integer
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                "yPosition": integer,
                "width": integer,
                "height": integer,
                "unit": enum
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                  "yPosition": integer,
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                  "height": integer,
                  "unit": enum
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              }
            ]
          }
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                "heightInPx": integer
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            }
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          "string"
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          "count": integer
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    }
  ],
  "nextToken": "string"
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

AacAudioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

BROADCASTER_MIXED_AD
NORMAL

AacCodecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

LC
HEV1
HEV2
XHE

AacCodingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

AD_RECEIVER_MIX
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_5_1

AacLoudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend

that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

PROGRAM
ANCHOR

AacRateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

CBR
VBR

AacRawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

LATM_LOAS
NONE

AacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

audioDescriptionBroadcasterMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing.

When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NORMAL when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: AacAudioDescriptionBroadcasterMix
Required: False

vbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

Type: AacVbrQuality
Required: False

bitrate

Specify the average bitrate in bits per second. The set of valid values for this setting is: 6000, 8000, 10000, 12000, 14000, 16000, 20000, 24000, 28000, 32000, 40000, 48000, 56000, 64000, 80000, 96000, 112000, 128000, 160000, 192000, 224000, 256000, 288000, 320000, 384000, 448000, 512000, 576000, 640000, 768000, 896000, 1024000. The value you set is also constrained by the values that you choose for Profile, Bitrate control mode, and Sample rate. Default values depend on Bitrate control mode and Profile.

Type: integer
Required: False
Minimum: 6000
Maximum: 1024000

rateControlMode

Specify the AAC rate control mode. For a constant bitrate: Choose CBR. Your AAC output bitrate will be equal to the value that you choose for Bitrate. For a variable bitrate: Choose VBR. Your AAC output bitrate will vary according to your audio content and the value that you choose for Bitrate quality.

Type: AacRateControlMode

Required: False

codecProfile

Specify the AAC profile. For the widest player compatibility and where higher bitrates are acceptable: Keep the default profile, LC (AAC-LC) For improved audio performance at lower bitrates: Choose HEV1 or HEV2. HEV1 (AAC-HE v1) adds spectral band replication to improve speech audio at low bitrates. HEV2 (AAC-HE v2) adds parametric stereo, which optimizes for encoding stereo audio at very low bitrates. For improved audio quality at lower bitrates, adaptive audio bitrate switching, and loudness control: Choose XHE.

Type: AacCodecProfile
Required: False

codingMode

The Coding mode that you specify determines the number of audio channels and the audio channel layout metadata in your AAC output. Valid coding modes depend on the Rate control mode and Profile that you select. The following list shows the number of audio channels and channel layout for each coding mode. * 1.0 Audio Description (Receiver Mix): One channel, C. Includes audio description data from your stereo input. For more information see ETSI TS 101 154 Annex E. * 1.0 Mono: One channel, C. * 2.0 Stereo: Two channels, L, R. * 5.1 Surround: Six channels, C, L, R, Ls, Rs, LFE.

Type: AacCodingMode
Required: False

rawFormat

Enables LATM/LOAS AAC output. Note that if you use LATM/LOAS AAC in an output, you must choose "No container" for the output container.

Type: AacRawFormat
Required: False

rapInterval

Specify the RAP (Random Access Point) interval for your XHE audio output. A RAP allows a decoder to decode audio data mid-stream, without the need to reference previous audio frames, and perform adaptive audio bitrate switching. To specify the RAP interval: Enter an integer from 2000 to 30000, in milliseconds. Smaller values allow for better seeking and more frequent stream switching, while large values improve compression efficiency. To have MediaConvert automatically determine the RAP interval: Leave blank.

Type: integer
Required: False
Minimum: 2000
Maximum: 30000

targetLoudnessRange

Specify the XHE loudness target. Enter an integer from 6 to 16, representing "loudness units". For more information, see the following specification: Supplementary information for R 128 EBU Tech 3342-2023.

Type: integer
Required: False
Minimum: 6
Maximum: 16

loudnessMeasurementMode

Choose the loudness measurement mode for your audio content. For music or advertisements: We recommend that you keep the default value, Program. For speech or other content: We recommend that you choose Anchor. When you do, MediaConvert optimizes the loudness of your output for clarify by applying speech gates.

Type: AacLoudnessMeasurementMode
Required: False

sampleRate

Specify the AAC sample rate in samples per second (Hz). Valid sample rates depend on the AAC profile and Coding mode that you select. For a list of supported sample rates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html

Type: integer
Required: False
Minimum: 8000
Maximum: 96000

specification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

Type: AacSpecification
Required: False

AacSpecification

Use MPEG-2 AAC instead of MPEG-4 AAC audio for raw or MPEG-2 Transport Stream containers.

`MPEG2`
`MPEG4`

AacVbrQuality

Specify the quality of your variable bitrate (VBR) AAC audio. For a list of approximate VBR bitrates, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/aac-support.html#aac_vbr

`LOW`
`MEDIUM_LOW`
`MEDIUM_HIGH`
`HIGH`

Ac3BitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

```
COMPLETE_MAIN
COMMENTARY
DIALOGUE
EMERGENCY
HEARING_IMPAIRED
MUSIC_AND_EFFECTS
VISUALLY_IMPAIRED
VOICE_OVER
```

Ac3CodingMode

Dolby Digital coding mode. Determines number of channels.

```
CODING_MODE_1_0
CODING_MODE_1_1
CODING_MODE_2_0
CODING_MODE_3_2_LFE
```

Ac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

```
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
```

SPEECH

NONE

Ac3DynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

FILM_STANDARD

NONE

Ac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

FILM_STANDARD

FILM_LIGHT

MUSIC_STANDARD

MUSIC_LIGHT

SPEECH

NONE

Ac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED

DISABLED

Ac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT

USE_CONFIGURED

Ac3Settings

Required when you set Codec to the value AC3.

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 64000. Maximum: 128000. Valid bitrates for coding mode 1/1: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 128000. Maximum: 384000. Valid bitrates for coding mode 3/2 with FLE: Default: 384000. Minimum: 384000. Maximum: 640000.

Type: integer

Required: False

Minimum: 64000

Maximum: 640000

bitstreamMode

Specify the bitstream mode for the AC-3 stream that the encoder emits. For more information about the AC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Ac3BitstreamMode

Required: False

codingMode

Dolby Digital coding mode. Determines number of channels.

Type: Ac3CodingMode
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

dynamicRangeCompressionProfile

When you want to add Dolby dynamic range compression (DRC) signaling to your output stream, we recommend that you use the mode-specific settings instead of Dynamic range compression profile. The mode-specific settings are Dynamic range compression profile, line mode and Dynamic range compression profile, RF mode. Note that when you specify values for all three settings, MediaConvert ignores the value of this setting in favor of the mode-specific settings. If you do use this setting instead of the mode-specific settings, choose None to leave out DRC signaling. Keep the default Film standard to set the profile to Dolby's film standard profile for all operating modes.

Type: Ac3DynamicRangeCompressionProfile
Required: False

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes

and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionLine
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Ac3DynamicRangeCompressionRf
Required: False

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Ac3MetadataControl
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Ac3LfeFilter
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

AccelerationMode

Specify whether the service runs your job with accelerated transcoding. Choose DISABLED if you don't want accelerated transcoding. Choose ENABLED if you want your job to run with accelerated transcoding and to fail if your input files or your job settings aren't compatible with accelerated transcoding. Choose PREFERRED if you want your job to run with accelerated transcoding if the job is compatible with the feature and to run at standard speed if it's not.

```
DISABLED
ENABLED
PREFERRED
```

AccelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

mode

Specify the conditions when the service will run your job with accelerated transcoding.

Type: AccelerationMode
Required: True

AccelerationStatus

Describes whether the current job is running with accelerated transcoding. For jobs that have Acceleration (AccelerationMode) set to DISABLED, AccelerationStatus is always NOT_APPLICABLE. For jobs that have Acceleration (AccelerationMode) set to ENABLED or PREFERRED, AccelerationStatus is one of the other states. AccelerationStatus is IN_PROGRESS initially, while the service determines whether the input files and job settings are compatible with accelerated transcoding. If they are, AcclerationStatus is ACCELERATED. If your input files and job settings aren't compatible with accelerated transcoding, the service either fails your job or runs it without

accelerated transcoding, depending on how you set Acceleration (AccelerationMode). When the service runs your job without accelerated transcoding, AccelerationStatus is NOT_ACCELERATED.

NOT_APPLICABLE
IN_PROGRESS
ACCELERATED
NOT_ACCELERATED

AdvancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

ENABLED
DISABLED

AdvancedInputFilterAddTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

ENABLED
DISABLED

AdvancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

sharpening

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

Type: AdvancedInputFilterSharpen
Required: False

addTexture

Add texture and detail to areas of your input video content that were lost after applying the Advanced input filter. To adaptively add texture and reduce softness: Choose Enabled. To not add any texture: Keep the default value, Disabled. We recommend that you choose Disabled for input video content that doesn't have texture, including screen recordings, computer graphics, or cartoons.

Type: AdvancedInputFilterAddTexture
Required: False

AdvancedInputFilterSharpen

Optionally specify the amount of sharpening to apply when you use the Advanced input filter. Sharpening adds contrast to the edges of your video content and can reduce softness. To apply no sharpening: Keep the default value, Off. To apply a minimal amount of sharpening choose Low, or for the maximum choose High.

```
OFF
LOW
HIGH
```

AfdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values

and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

NONE
AUTO
FIXED

AiffSettings

Required when you set Codec to the value AIFF.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

AllowedRenditionSize

Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

required

Set to ENABLED to force a rendition to be included.

Type: RequiredFlag
Required: False

AlphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input

MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

DISCARD
REMAP_TO_LUMA

AncillaryConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

AncillarySourceSettings

Settings for ancillary captions source.

sourceAncillaryChannelNumber

Specifies the 608 channel number in the ancillary data track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: AncillaryTerminateCaptions
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: AncillaryConvert608To708
Required: False

AncillaryTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

END_OF_INPUT
DISABLED

AntiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

DISABLED
ENABLED

AudioChannelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

L
R
C
LFE

LS
RS
LC
RC
CS
LSD
RSD
TCS
VHL
VHC
VHR
TBL
TBC
TBR
RSL
RSR
LW
RW
LFE2
LT
RT
HI
NAR
M

AudioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

channelTag

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R)

for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: AudioChannelTag
Required: False

channelTags

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. Enter channel layout tags in the same order as your output's audio channel order. For example, if your output audio track has a left and a right channel, enter Left (L) for the first channel and Right (R) for the second. If your output has multiple single-channel audio tracks, enter a single channel layout tag for each track.

Type: Array of type AudioChannelTag
Required: False

AudioCodec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

```
AAC
MP2
MP3
WAV
AIFF
AC3
EAC3
EAC3_ATMOS
```

VORBIS

OPUS

PASSTHROUGH

FLAC

AudioCodecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

codec

Choose the audio codec for this output. Note that the option Dolby Digital passthrough applies only to Dolby Digital and Dolby Digital Plus audio inputs. Make sure that you choose a codec that's supported with your output container: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#reference-codecs-containers-output-audio For audio-only outputs, make sure that both your input audio codec and your output audio codec are supported for audio-only workflows. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers-input.html#reference-codecs-containers-input-audio-only and https://docs.aws.amazon.com/mediaconvert/latest/ug/reference-codecs-containers.html#audio-only-output

Type: AudioCodec

Required: False

aacSettings

Required when you set Codec to the value AAC. The service accepts one of two mutually exclusive groups of AAC settings--VBR and CBR. To select one of these modes, set the value of Bitrate control mode to "VBR" or "CBR". In VBR mode, you control the audio quality with the setting VBR quality. In CBR mode, you use the setting Bitrate. Defaults and valid values depend on the rate control mode.

Type: AacSettings

Required: False

ac3Settings

Required when you set Codec to the value AC3.

Type: Ac3Settings
Required: False

aiffSettings

Required when you set Codec to the value AIFF.

Type: AiffSettings
Required: False

eac3Settings

Required when you set Codec to the value EAC3.

Type: Eac3Settings
Required: False

eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

Type: Eac3AtmosSettings
Required: False

flacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

Type: FlacSettings
Required: False

mp2Settings

Required when you set Codec to the value MP2.

Type: Mp2Settings
Required: False

mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

Type: Mp3Settings
Required: False

opusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

Type: OpusSettings
Required: False

vorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

Type: VorbisSettings
Required: False

wavSettings

Required when you set Codec to the value WAV.

Type: WavSettings
Required: False

AudioDefaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

```
DEFAULT
NOT_DEFAULT
```

AudioDescription

Settings related to one audio tab on the MediaConvert console. In your job JSON, an instance of AudioDescription is equivalent to one audio tab in the console. Usually, one audio tab corresponds to one output audio track. Depending on how you set up your input audio selectors and whether you use audio selector groups, one audio tab can correspond to a group of output audio tracks.

audioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

Type: AudioTypeControl
Required: False

audioSourceName

Specifies which audio data to use from each input. In the simplest case, specify an "Audio Selector":#inputs-audio_selector by name based on its order within each input. For example if you specify "Audio Selector 3", then the third audio selector will be used from each input. If an input does not have an "Audio Selector 3", then the audio selector marked as "default" in that input will be used. If there is no audio selector marked as "default", silence will be inserted for the duration of that input. Alternatively, an "Audio Selector Group":#inputs-audio_selector_group name may be specified, with similar default/silence behavior. If no audio_source_name is specified, then "Audio Selector 1" will be chosen automatically.

Type: string
Required: False
MaxLength: 2048

audioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

Type: AudioNormalizationSettings

Required: False

audioChannelTaggingSettings

Specify the QuickTime audio channel layout tags for the audio channels in this audio track. When you don't specify a value, MediaConvert labels your track as Center (C) by default. To use Audio layout tagging, your output must be in a QuickTime (MOV) container and your audio codec must be AAC, WAV, or AIFF.

Type: AudioChannelTaggingSettings
Required: False

codecSettings

Settings related to audio encoding. The settings in this group vary depending on the value that you choose for your audio codec.

Type: AudioCodecSettings
Required: False

remixSettings

Advanced audio remixing settings.

Type: RemixSettings
Required: False

streamName

Specify a label for this output audio stream. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False
Pattern: `^[\w\s]*$`

languageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

Type: AudioLanguageCodeControl
Required: False

audioType

Applies only if Follow Input Audio Type is unchecked (false). A number between 0 and 255. The following are defined in ISO-IEC 13818-1: 0 = Undefined, 1 = Clean Effects, 2 = Hearing Impaired, 3 = Visually Impaired Commentary, 4-255 = Reserved.

Type: integer
Required: False
Minimum: 0
Maximum: 255

customLanguageCode

Specify the language for this audio output track. The service puts this language code into your output audio track when you set Language code control to Use configured. The service also uses your specified custom language code when you set Language code control to Follow input, but your input file doesn't specify a language code. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z0-9-]+)?$`

languageCode

Indicates the language of the audio output track. The ISO 639 language specified in the 'Language Code' drop down will be used when 'Follow Input Language Code' is not selected or when 'Follow Input Language Code' is selected but there is no ISO 639 language code specified by the input.

Type: LanguageCode

Required: False

AudioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

`DISABLED`

`AUTO`

`TRACK`

`FRAME`

`FORCE`

AudioLanguageCodeControl

Specify which source for language code takes precedence for this audio track. When you choose Follow input, the service uses the language code from the input track if it's present. If there's no

languge code on the input track, the service uses the code that you specify in the setting Language code. When you choose Use configured, the service uses the language code that you specify.

FOLLOW_INPUT
USE_CONFIGURED

AudioNormalizationAlgorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4

AudioNormalizationAlgorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

CORRECT_AUDIO
MEASURE_ONLY

AudioNormalizationLoudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

LOG
DONT_LOG

AudioNormalizationPeakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

TRUE_PEAK
NONE

AudioNormalizationSettings

Advanced audio normalization settings. Ignore these settings unless you need to comply with a loudness standard.

algorithm

Choose one of the following audio normalization algorithms: ITU-R BS.1770-1: Ungated loudness. A measurement of ungated average loudness for an entire piece of content, suitable for measurement of short-form content under ATSC recommendation A/85. Supports up to 5.1 audio channels. ITU-R BS.1770-2: Gated loudness. A measurement of gated average loudness compliant with the requirements of EBU-R128. Supports up to 5.1 audio channels. ITU-R BS.1770-3: Modified peak. The same loudness measurement algorithm as 1770-2, with an updated true peak measurement. ITU-R BS.1770-4: Higher channel count. Allows for more audio channels than the other algorithms, including configurations such as 7.1.

Type: AudioNormalizationAlgorithm
Required: False

algorithmControl

When enabled the output audio is corrected using the chosen algorithm. If disabled, the audio will be measured but not adjusted.

Type: AudioNormalizationAlgorithmControl
Required: False

correctionGateLevel

Content measuring above this level will be corrected to the target level. Content measuring below this level will not be corrected.

Type: integer
Required: False
Minimum: -70
Maximum: 0

loudnessLogging

If set to LOG, log each output's audio track loudness to a CSV file.

Type: AudioNormalizationLoudnessLogging
Required: False

targetLkfs

When you use Audio normalization, optionally use this setting to specify a target loudness. If you don't specify a value here, the encoder chooses a value for you, based on the algorithm that you choose for Algorithm. If you choose algorithm 1770-1, the encoder will choose -24 LKFS; otherwise, the encoder will choose -23 LKFS.

Type: number
Required: False
Format: float
Minimum: -59.0
Maximum: 0.0

peakCalculation

If set to TRUE_PEAK, calculate and log the TruePeak for each output's audio track loudness.

Type: AudioNormalizationPeakCalculation
Required: False

truePeakLimiterThreshold

Specify the True-peak limiter threshold in decibels relative to full scale (dBFS). The peak inter-audio sample loudness in your output will be limited to the value that you specify, without affecting the overall target LKFS. Enter a value from 0 to -8. Leave blank to use the default value 0.

Type: number
Required: False
Format: float
Minimum: -8.0
Maximum: 0.0

AudioSelector

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

tracks

Identify a track from the input audio to include in this selector by entering the track index number. To include several tracks in a single audio selector, specify multiple tracks as follows. Using the console, enter a comma-separated list. For example, type "1,2,3" to include tracks 1 through 3.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

defaultSelection

Enable this setting on one audio selector to set it as the default for the job. The service uses this default for outputs where it can't find the specified input audio. If you don't set a default, those outputs have no audio.

Type: AudioDefaultSelection
Required: False

selectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

Type: AudioSelectorType
Required: False

pids

Selects a specific PID from within an audio source (e.g. 257 selects PID 0x101).

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

programSelection

Use this setting for input streams that contain Dolby E, to have the service extract specific program data from the track. To select multiple programs, create multiple selectors with the same Track and different Program numbers. In the console, this setting is visible when you set Selector type to Track. Choose the program number from the dropdown list. If your input file has incorrect metadata, you can choose All channels instead of a program number to have the service ignore the program IDs and include all the programs in the track.

Type: integer
Required: False
Minimum: 0
Maximum: 8

customLanguageCode

Selects a specific language code from within an audio source, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string
Required: False
Pattern: `^[A-Za-z]{3}$`
MinLength: 3
MaxLength: 3

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

remixSettings

Use these settings to reorder the audio channels of one input to match those of another input. This allows you to combine the two files into a single output, one after the other.

Type: RemixSettings

Required: False

hlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

Type: HlsRenditionGroupSettings

Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection

Required: False

AudioSelectorGroup

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

audioSelectorNames

Name of an Audio Selector within the same input to include in the group. Audio selector names are standardized, based on their order within the input (e.g., "Audio Selector 1"). The audio selector name parameter can be repeated to add any number of audio selectors to the group.

Type: Array of type string

Required: False

MinLength: 1

AudioSelectorType

Specify how MediaConvert selects audio content within your input. The default is Track. PID: Select audio by specifying the Packet Identifier (PID) values for MPEG Transport Stream inputs. Use this when you know the exact PID values of your audio streams. Track: Default. Select audio by track number. This is the most common option and works with most input container formats. Language code: Select audio by language using ISO 639-2 or ISO 639-3 three-letter language codes. Use this when your source has embedded language metadata and you want to select tracks based on their language. HLS rendition group: Select audio from an HLS rendition group. Use this when your input is an HLS package with multiple audio renditions and you want to select specific rendition groups. All PCM: Select all uncompressed PCM audio tracks from your input automatically. This is useful when you want to include all PCM audio tracks without specifying individual track numbers.

`PID`

`TRACK`

`LANGUAGE_CODE`

`HLS_RENDITION_GROUP`

`ALL_PCM`

AudioTypeControl

When set to FOLLOW_INPUT, if the input contains an ISO 639 audio_type, then that value is passed through to the output. If the input contains no ISO 639 audio_type, the value in Audio Type is included in the output. Otherwise the value in Audio Type is included in the output. Note that this field and audioType are both ignored if audioDescriptionBroadcasterMix is set to BROADCASTER_MIXED_AD.

```
FOLLOW_INPUT
USE_CONFIGURED
```

AutomatedAbrRule

Specify one or more Automated ABR rule types. Note: Force include and Allowed renditions are mutually exclusive.

type

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR

stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

Type: RuleType
Required: False

minTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

Type: MinTopRenditionSize
Required: False

minBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

Type: MinBottomRenditionSize
Required: False

forceIncludeRenditions

When customer adds the force include renditions rule for auto ABR ladder, they are required to add at leat one rendition to forceIncludeRenditions list

Type: Array of type ForceIncludeRenditionSize
Required: False

allowedRenditions

When customer adds the allowed renditions rule for auto ABR ladder, they are required to add at leat one rendition to allowedRenditions list

Type: Array of type AllowedRenditionSize
Required: False

AutomatedAbrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

maxQualityLevel

Optional. Specify the QVBR quality level to use for all renditions in your automated ABR stack. To have MediaConvert automatically determine the quality level: Leave blank. To manually specify a quality level: Enter a value from 1 to 10. MediaConvert will use a quality level up to the value that you specify, depending on your source. For more information about QVBR quality levels, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/qvbr-guidelines.html

Type: number
Required: False
Format: float
Minimum: 1.0
Maximum: 10.0

maxRenditions

Optional. The maximum number of renditions that MediaConvert will create in your automated ABR stack. The number of renditions is determined automatically, based on analysis of each job, but will never exceed this limit. When you set this to Auto in the console, which is equivalent to excluding it from your JSON job specification, MediaConvert defaults to a limit of 15.

Type: integer
Required: False
Minimum: 3
Maximum: 15

maxAbrBitrate

Specify the maximum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 8,000,000 (8 mb/s) by default. The average bitrate of your highest-quality rendition will be equal to or below this value, depending on the quality, complexity, and resolution of your content. Note that the instantaneous maximum bitrate may vary above the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

minAbrBitrate

Specify the minimum average bitrate for MediaConvert to use in your automated ABR stack. If you don't specify a value, MediaConvert uses 600,000 (600 kb/s) by default. The average bitrate of your lowest-quality rendition will be near this value. Note that the instantaneous minimum bitrate may vary below the value that you specify.

Type: integer
Required: False
Minimum: 100000
Maximum: 100000000

rules

Optional. Use Automated ABR rules to specify restrictions for the rendition sizes MediaConvert will create in your ABR stack. You can use these rules if your ABR workflow has specific rendition size requirements, but you still want MediaConvert to optimize for video quality and overall file size.

Type: Array of type AutomatedAbrRule
Required: False

AutomatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

abrSettings

Use automated ABR to have MediaConvert set up the renditions in your ABR package for you automatically, based on characteristics of your input video. This feature optimizes video quality while minimizing the overall size of your ABR package.

Type: AutomatedAbrSettings
Required: False

Av1AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
HIGHER
MAX
```

Av1BitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

```
BIT_8
BIT_10
```

Av1FilmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

```
DISABLED
ENABLED
```

Av1FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

`INITIALIZE_FROM_SOURCE`
`SPECIFIED`

Av1FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

`DUPLICATE_DROP`
`INTERPOLATE`
`FRAMEFORMER`
`MAINTAIN_FRAME_COUNT`

Av1QvbrSettings

Settings for quality-defined variable bitrate encoding with the AV1 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

Av1RateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

QVBR

Av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

gopSize

Specify the GOP length (keyframe interval) in frames. With AV1, MediaConvert doesn't support GOP length in seconds. This value must be greater than zero and preferably equal to 1 + ((numberBFrames + 1) * x), where x is an integer value.

Type: number
Required: False
Format: float
Minimum: 0.0

numberBFramesBetweenReferenceFrames

Specify from the number of B-frames, in the range of 0-15. For AV1 encoding, we recommend using 7 or 15. Choose a larger number for a lower bitrate and smaller file size; choose a smaller number for better video quality.

Type: integer
Required: False
Minimum: 0
Maximum: 15

slices

Specify the number of slices per picture. This value must be 1, 2, 4, 8, 16, or 32. For progressive pictures, this value must be less than or equal to the number of macroblock rows. For interlaced pictures, this value must be less than or equal to half the number of macroblock rows.

Type: integer
Required: False
Minimum: 1
Maximum: 32

bitDepth

Specify the Bit depth. You can choose 8-bit or 10-bit.

Type: Av1BitDepth
Required: False

rateControlMode

'With AV1 outputs, for rate control mode, MediaConvert supports only quality-defined variable bitrate (QVBR). You can''t use CBR or VBR.'

Type: Av1RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: Av1QvbrSettings
Required: False

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to Spatial adaptive quantization.

Type: Av1AdaptiveQuantization

Required: False

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Av1SpatialAdaptiveQuantization
Required: False

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Av1FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already

been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Av1FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

filmGrainSynthesis

Film grain synthesis replaces film grain present in your content with similar quality synthesized AV1 film grain. We recommend that you choose Enabled to reduce the bandwidth of your QVBR quality level 5, 6, 7, or 8 outputs. For QVBR quality level 9 or 10 outputs we recommend that you keep the default value, Disabled. When you include Film grain synthesis, you cannot include the Noise reducer preprocessor.

Type: Av1FilmGrainSynthesis
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Av1SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will

almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

AvailBlanking

Use ad avail blanking settings to specify your output content during SCTE-35 triggered ad avails. You can blank your video or overlay it with an image. MediaConvert also removes any audio and embedded captions during the ad avail. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ad-avail-blanking.html.

availBlankingImage

Blanking image to be used. Leave empty for solid black. Only bmp and png images are supported.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG))|(https?://(.*?)\.(bmp|BMP|png|PNG)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

AvcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

CLASS_50
CLASS_100
CLASS_200
CLASS_4K_2K

AvcIntraFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

AvcIntraFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

AvcIntraInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow,

default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

AvcIntraScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

AvcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

avcIntraClass

Specify the AVC-Intra class of your output. The AVC-Intra class selection determines the output video bit rate depending on the frame rate of the output. Outputs with higher class values have higher bitrates and improved image quality. Note that for Class 4K/2K, MediaConvert supports only 4:2:2 chroma subsampling.

Type: AvcIntraClass
Required: False

avcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

Type: AvcIntraUhdSettings
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: AvcIntraInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output.

Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: AvcIntraScanTypeConversionMode
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: AvcIntraSlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: AvcIntraFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: AvcIntraTelecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend

that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: AvcIntraFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

AvcIntraSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

AvcIntraTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

HARD

AvcIntraUhdQualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

SINGLE_PASS

MULTI_PASS

AvcIntraUhdSettings

Optional when you set AVC-Intra class to Class 4K/2K. When you set AVC-Intra class to a different value, this object isn't allowed.

qualityTuningLevel

Optional. Use Quality tuning level to choose how many transcoding passes MediaConvert does with your video. When you choose Multi-pass, your video quality is better and your output bitrate is more accurate. That is, the actual bitrate of your output is closer to the target bitrate defined in the specification. When you choose Single-pass, your encoding time is faster. The default behavior is Single-pass.

Type: AvcIntraUhdQualityTuningLevel
Required: False

BandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

strength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

Type: BandwidthReductionFilterStrength
Required: False

sharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

Type: BandwidthReductionFilterSharpening

Required: False

BandwidthReductionFilterSharpening

Optionally specify the level of sharpening to apply when you use the Bandwidth reduction filter. Sharpening adds contrast to the edges of your video content and can reduce softness. Keep the default value Off to apply no sharpening. Set Sharpening strength to Low to apply a minimal amount of sharpening, or High to apply a maximum amount of sharpening.

LOW
MEDIUM
HIGH
OFF

BandwidthReductionFilterStrength

Specify the strength of the Bandwidth reduction filter. For most workflows, we recommend that you choose Auto to reduce the bandwidth of your output with little to no perceptual decrease in video quality. For high quality and high bitrate outputs, choose Low. For the most bandwidth reduction, choose High. We recommend that you choose High for low bitrate outputs. Note that High may incur a slight increase in the softness of your output.

LOW
MEDIUM
HIGH
AUTO
OFF

BillingTagsSource

The tag type that AWS Billing and Cost Management will use to sort your AWS Elemental MediaConvert costs on any billing report that you set up.

QUEUE
PRESET
JOB_TEMPLATE
JOB

BurnInSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

BurninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left.

Type: integer

Required: False

Minimum: -2147483648

Maximum: 2147483647

teletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

Type: BurninSubtitleTeletextSpacing

Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

Type: BurninSubtitleAlignment

Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present.

Type: integer

Required: False

Minimum: 0

Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

Type: BurninSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: BurninSubtitleFallbackFont
Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string

Required: False

fontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

Type: BurninSubtitleFontColor

Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of

1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`
MinLength: 6
MaxLength: 8

applyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: BurninSubtitleApplyFontColor
Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: BurninSubtitleBackgroundColor
Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch).

Type: integer
Required: False
Minimum: 96
Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

Type: BurninSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions.

Type: integer

Required: False
Minimum: 0
Maximum: 255

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: BurnInSubtitleStylePassthrough
Required: False

removeRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

Type: RemoveRubyReserveAttributes
Required: False

BurninSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates.

CENTERED
LEFT

AUTO

BurninSubtitleApplyFontColor

Ignore this setting unless Style passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

BurninSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

BurninSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF

PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF

BurninSubtitleFontColor

Specify the color of the burned-in captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

BurninSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

BurninSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present.

NONE

BLACK
WHITE
AUTO

BurninSubtitleTeletextSpacing

Specify whether the text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions.

FIXED_GRID
PROPORTIONAL
AUTO

CaptionDescription

This object holds groups of settings related to captions for one output. For each output that has captions, include one instance of CaptionDescriptions.

captionSelectorName

Specifies which "Caption Selector":#inputs-caption_selector to use from each input when generating captions. The name should be of the format "Caption Selector <N>", which denotes that the Nth Caption Selector will be used from each input.

Type: string
Required: False
MinLength: 1

destinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

Type: CaptionDestinationSettings
Required: False

customLanguageCode

Specify the language for this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information when automatically selecting the font script for rendering the captions text. For all outputs, you can use an ISO 639-2 or ISO 639-3 code. For streaming outputs, you can also use any other code in the full RFC-5646 specification. Streaming outputs are those that are in one of the following output groups: CMAF, DASH ISO, Apple HLS, or Microsoft Smooth Streaming.

Type: string
Required: False
Pattern: `^[A-Za-z]{2,3}(-[A-Za-z-]+)?$`

languageCode

Specify the language of this captions output track. For most captions output formats, the encoder puts this language information in the output captions metadata. If your output captions format is DVB-Sub or Burn in, the encoder uses this language information to choose the font language for rendering the captions text.

Type: LanguageCode
Required: False

languageDescription

Specify a label for this set of output captions. For example, "English", "Director commentary", or "track_2". For streaming outputs, MediaConvert passes this information into destination manifests for display on the end-viewer's player device. For outputs in other output groups, the service ignores this setting.

Type: string
Required: False

CaptionDestinationSettings

Settings related to one captions tab on the MediaConvert console. Usually, one captions tab corresponds to one output captions track. Depending on your output captions format, one

tab might correspond to a set of output captions tracks. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/including-captions.html.

destinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

Type: CaptionDestinationType
Required: False

burninDestinationSettings

Burn-in is a captions delivery method, rather than a captions format. Burn-in writes the captions directly on your video frames, replacing pixels of video content with the captions. Set up burn-in captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/burn-in-output-captions.html.

Type: BurninDestinationSettings
Required: False

dvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

Type: DvbSubDestinationSettings
Required: False

sccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different

output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

Type: SccDestinationSettings
Required: False

teletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

Type: TeletextDestinationSettings
Required: False

ttmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: TtmlDestinationSettings
Required: False

imscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: ImscDestinationSettings
Required: False

embeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

Type: EmbeddedDestinationSettings
Required: False

webvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

Type: WebvttDestinationSettings
Required: False

srtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

Type: SrtDestinationSettings
Required: False

CaptionDestinationType

Specify the format for this set of captions on this output. The default format is embedded without SCTE-20. Note that your choice of video output container constrains your choice of output captions format. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/captions-support-tables.html. If you are using SCTE-20 and you want to create an output that complies with the SCTE-43 spec, choose SCTE-20 plus embedded. To create a non-compliant output where the embedded captions come first, choose Embedded plus SCTE-20.

`BURN_IN`

DVB_SUB
EMBEDDED
EMBEDDED_PLUS_SCTE20
IMSC
SCTE20_PLUS_EMBEDDED
SCC
SRT
SMI
TELETEXT
TTML
WEBVTT

CaptionSelector

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

customLanguageCode

The specific language to extract from source, using the ISO 639-2 or ISO 639-3 three-letter language code. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: string
Required: False
Pattern: ^[A-Za-z]{3}$
MinLength: 3
MaxLength: 3

languageCode

The specific language to extract from source. If input is SCTE-27, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub and output is Burn-in, complete this field and/or PID to select the caption language to extract. If input is DVB-Sub that is being passed

through, omit this field (and PID field); there is no way to extract a specific language with pass-through captions.

Type: LanguageCode
Required: False

sourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: CaptionSourceSettings
Required: False

CaptionSourceByteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

ENABLED
DISABLED

CaptionSourceConvertPaintOnToPopOn

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

ENABLED
DISABLED

CaptionSourceFramerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate denominator.

Type: integer
Required: False
Minimum: 1
Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for the setting Caption source frame rate. Use this setting along with the setting Framerate numerator.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

CaptionSourceSettings

If your input captions are SCC, TTML, STL, SMI, SRT, or IMSC in an xml file, specify the URI of the input captions source file. If your input captions are IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

Type: CaptionSourceType

Required: False

ancillarySourceSettings

Settings for ancillary captions source.

Type: AncillarySourceSettings
Required: False

dvbSubSourceSettings

DVB Sub Source Settings

Type: DvbSubSourceSettings
Required: False

embeddedSourceSettings

Settings for embedded captions Source

Type: EmbeddedSourceSettings
Required: False

fileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

Type: FileSourceSettings
Required: False

teletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

Type: TeletextSourceSettings
Required: False

trackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

Type: TrackSourceSettings
Required: False

webvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

Type: WebvttHlsSourceSettings
Required: False

CaptionSourceType

Use Source to identify the format of your input captions. The service cannot auto-detect caption format.

```
ANCILLARY
DVB_SUB
EMBEDDED
SCTE20
SCC
TTML
STL
SRT
SMI
SMPTE_TT
TELETEXT
NULL_SOURCE
```

IMSC
WEBVTT

CaptionSourceUpconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

UPCONVERT
DISABLED

ChannelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

outputChannels

In your JSON job specification, include one child of OutputChannels for each audio channel that you want in your output. Each child should contain one instance of InputChannels or InputChannelsFineTune.

Type: Array of type OutputChannelMapping
Required: False

ChromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep

the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

AUTO
FORCE_CENTER
FORCE_TOP_LEFT

ClipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

minimumYUV

Specify the Minimum YUV color sample limit. MediaConvert conforms any pixels in your input below the value that you specify to typical limited range bounds. Enter an integer from 0 to 128. Leave blank to use the default value 64. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Minumum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 0
Maximum: 128

maximumYUV

Specify the Maximum YUV color sample limit. MediaConvert conforms any pixels in your input above the value that you specify to typical limited range bounds. Enter an integer from 920 to 1023. Leave blank to use the default value 940. The value that you enter applies to 10-bit ranges. For 8-bit ranges, MediaConvert automatically scales this value down. When you specify a value for Maximum YUV, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 920
Maximum: 1023

minimumRGBTolerance

Specify the Minimum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the lower tolerance that you specify. Enter an integer from -5 to 10 as an offset percentage to the minimum possible value. Leave blank to use the default value 0. When you specify a value for Minimum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: -5
Maximum: 10

maximumRGBTolerance

Specify the Maximum RGB color sample range tolerance for your output. MediaConvert corrects any YUV values that, when converted to RGB, would be outside the upper tolerance that you specify. Enter an integer from 90 to 105 as an offset percentage to the maximum possible value. Leave blank to use the default value 100. When you specify a value for Maximum RGB tolerance, you must set Sample range conversion to Limited range clip.

Type: integer
Required: False
Minimum: 90
Maximum: 105

CmafAdditionalManifest

Specify the details for each pair of HLS and DASH additional manifests that you want the service to generate for this CMAF output group. Each pair of manifests can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the

nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

CmafClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

```
DISABLED
ENABLED
```

CmafCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

```
RFC_6381
RFC_4281
```

CmafEncryptionSettings

Settings for CMAF encryption

encryptionMethod

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

Type: CmafEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: `^[0-9a-fA-F]{32}$`
MinLength: 32
MaxLength: 32

initializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

Type: CmafInitializationVectorInManifest
Required: False

spekeKeyProvider

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

Type: SpekeKeyProviderCmaf
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: CmafKeyProviderType
Required: False

CmafEncryptionType

Specify the encryption scheme that you want the service to use when encrypting your CMAF segments. Choose AES-CBC subsample or AES_CTR.

SAMPLE_AES
AES_CTR

CmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: CmafTargetDurationCompatibilityMode
Required: False

writeHlsManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

Type: CmafWriteHLSManifest
Required: False

writeDashManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

Type: CmafWriteDASHManifest
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: CmafSegmentLengthControl
Required: False

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings

Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest and one top -level .mpd DASH manifest for each CMAF output group in your job. These default manifests reference every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here. For each additional manifest that you specify, the service creates one HLS manifest and one DASH manifest.

Type: Array of type CmafAdditionalManifest
Required: False

encryption

DRM settings.

Type: CmafEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Specify the length, in whole seconds, of the mp4 fragments. When you don't specify a value, MediaConvert defaults to 2. Related setting: Use Fragment length control to specify whether the encoder enforces this value strictly.

Type: integer
Required: False

Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: CmafSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: CmafPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max

bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: CmafMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: CmafMpdProfile
Required: False

writeSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

Type: CmafWriteSegmentTimelineInRepresentation
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: CmafManifestDurationFormat
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: CmafStreamInfResolution
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: CmafClientCache
Required: False

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: CmafManifestCompression
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: CmafCodecSpecification
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: CmafImageBasedTrickPlay

Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string

Required: False

MinLength: 1

MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: CmafImageBasedTrickPlaySettings

Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: CmafVideoCompositionOffsets

Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle

Required: False

CmafImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. When you enable Write HLS manifest, MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. When you enable Write DASH manifest, MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

```
NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED
```

CmafImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: CmafIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

CmafInitializationVectorInManifest

When you use DRM with CMAF outputs, choose whether the service writes the 128-bit encryption initialization vector in the HLS and DASH manifests.

INCLUDE
EXCLUDE

CmafIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME

FOLLOW_CUSTOM

CmafKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE

STATIC_KEY

CmafManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP

NONE

CmafManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT

INTEGER

CmafMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

AVERAGE

MAX

CmafMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

MAIN_PROFILE
ON_DEMAND_PROFILE

CmafPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

ZERO_BASED
MATCH_INITIAL_PTS

CmafSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

SINGLE_FILE
SEGMENTED_FILES

CmafSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result

in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

CmafStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE

EXCLUDE

CmafTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY

SPEC_COMPLIANT

CmafVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

CmafWriteDASHManifest

When set to ENABLED, a DASH MPD manifest will be generated for this output.

DISABLED

ENABLED

CmafWriteHLSManifest

When set to ENABLED, an Apple HLS manifest will be generated for this output.

DISABLED

ENABLED

CmafWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in DASH manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

ENABLED

DISABLED

CmfcAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

`DEFAULT_CODEC_DURATION`
`MATCH_VIDEO_DURATION`

CmfcAudioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

`ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT`
`ALTERNATE_AUDIO_AUTO_SELECT`
`ALTERNATE_AUDIO_NOT_AUTO_SELECT`

AUDIO_ONLY_VARIANT_STREAM

CmfcDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG

FLAG

CmfcIFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

INCLUDE

EXCLUDE

CmfcKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH

NONE

CmfcManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED

DISABLED

CmfcScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT

NONE

CmfcScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

CmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: CmfcScte35Source
Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: CmfcScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

iFrameOnlyManifest

Choose Include to have MediaConvert generate an HLS child manifest that lists only the I-frames for this rendition, in addition to your regular manifest for this rendition. You might use this

manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only child manifest and the regular child manifest to the parent manifest. When you don't need the I-frame only child manifest, keep the default value Exclude.

Type: CmfcIFrameOnlyManifest
Required: False

audioGroupId

Specify the audio rendition group for this audio rendition. Specify up to one value for each audio output in your output group. This value appears in your HLS parent manifest in the EXT-X-MEDIA tag of TYPE=AUDIO, as the value for the GROUP-ID attribute. For example, if you specify "audio_aac_1" for Audio group ID, it appears in your manifest like this: #EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="audio_aac_1". Related setting: To associate the rendition group that this audio track belongs to with a video rendition, include the same value that you provide here for that video output's setting Audio rendition sets.

Type: string
Required: False

audioRenditionSets

List the audio rendition groups that you want included with this video rendition. Use a comma-separated list. For example, say you want to include the audio rendition groups that have the audio group IDs "audio_aac_1" and "audio_dolby". Then you would specify this value: "audio_aac_1,audio_dolby". Related setting: The rendition groups that you include in your comma-separated list should all match values that you specify in the setting Audio group ID for audio renditions in the same output group as this video rendition. Default behavior: If you don't specify anything here and for Audio group ID, MediaConvert puts each audio variant in its own audio rendition group and associates it with every video variant. Each value in your list appears in your HLS parent manifest in the EXT-X-STREAM-INF tag as the value for the AUDIO attribute. To continue the previous example, say that the file name for the child manifest for your video rendition is "amazing_video_1.m3u8". Then, in your parent manifest, each value will appear on separate lines, like this: #EXT-X-STREAM-INF:AUDIO="audio_aac_1"... amazing_video_1.m3u8 #EXT-X-STREAM-INF:AUDIO="audio_dolby"... amazing_video_1.m3u8

Type: string
Required: False

audioTrackType

Use this setting to control the values that MediaConvert puts in your HLS parent playlist to control how the client player selects which audio track to play. Choose Audio-only variant stream (AUDIO_ONLY_VARIANT_STREAM) for any variant that you want to prohibit the client from playing with video. This causes MediaConvert to represent the variant as an EXT-X-STREAM-INF in the HLS manifest. The other options for this setting determine the values that MediaConvert writes for the DEFAULT and AUTOSELECT attributes of the EXT-X-MEDIA entry for the audio variant. For more information about these attributes, see the Apple documentation article https://developer.apple.com/documentation/http_live_streaming/example_playlists_for_http_live_streaming/adding_alternate_media_to_a_playlist. Choose Alternate audio, auto select, default to set DEFAULT=YES and AUTOSELECT=YES. Choose this value for only one variant in your output group. Choose Alternate audio, auto select, not default to set DEFAULT=NO and AUTOSELECT=YES. Choose Alternate Audio, Not Auto Select to set DEFAULT=NO and AUTOSELECT=NO. When you don't specify a value for this setting, MediaConvert defaults to Alternate audio, auto select, default. When there is more than one variant in your output group, you must explicitly choose a value for this setting.

Type: CmfcAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: CmfcDescriptiveVideoServiceFlag
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in

a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: CmfcTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: CmfcTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: CmfcManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: CmfcKlvMetadata
Required: False

CmfcTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

```
PASSTHROUGH
NONE
```

CmfcTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0

VERSION_1

ColorConversion3DLUTSetting

Custom 3D lut settings

inputMasteringLuminance

Specify which inputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) inputs with a specific mastering luminance: Enter an integer from 0 to 2147483647, corresponding to the input's Maximum luminance value. To apply this 3D LUT to any input regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

inputColorSpace

Specify which inputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

outputMasteringLuminance

Specify which outputs use this 3D LUT, according to their luminance. To apply this 3D LUT to HDR10 or P3D65 (HDR) outputs with a specific luminance: Enter an integer from 0 to 2147483647, corresponding to the output's luminance. To apply this 3D LUT to any output regardless of its luminance: Leave blank, or enter 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

outputColorSpace

Specify which outputs use this 3D LUT, according to their color space.

Type: ColorSpace
Required: False

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your 3D LUT .cube file. Note that MediaConvert accepts 3D LUT files up to 8MB in size.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(cube|CUBE))|(https?://(.*?)\.(cube|CUBE)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

ColorCorrector

Settings for color correction.

brightness

Brightness level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

colorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space,

MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpaceConversion
Required: False

sampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

Type: SampleRangeConversion
Required: False

clipLimits

Specify YUV limits and RGB tolerances when you set Sample range conversion to Limited range clip.

Type: ClipLimits
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your SDR inputs. Use to correct brightness levels within HDR10 outputs. The following color metadata must be present in your SDR input: color primaries, transfer characteristics, and matrix coefficients. If your SDR input has missing

color metadata, or if you want to correct input color metadata, manually specify a color space in the input video selector. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

contrast

Contrast level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

hue

Hue in degrees.

Type: integer
Required: False
Minimum: -180
Maximum: 180

saturation

Saturation level.

Type: integer
Required: False
Minimum: 1
Maximum: 100

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings when you convert to the HDR 10 color space. Specify the SMPTE ST 2086 Mastering Display Color Volume static metadata that you want signaled in the output. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator. When you set Color space conversion to HDR 10, these settings are required. You must set values for Max frame average light level and Max content light level; these settings don't have a default value. The default values for the other HDR 10 metadata settings are defined by the P3D65 color space. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

hdrToSdrToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

Type: HDRToSDRToneMapper

Required: False

ColorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

IGNORE

INSERT

ColorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

FOLLOW

REC_601

REC_709

HDR10

HLG_2020

P3DCI

P3D65_SDR

P3D65_HDR

ColorSpaceConversion

Specify the color space you want for this output. The service supports conversion between HDR formats, between SDR formats, from SDR to HDR, and from HDR to SDR. SDR to HDR conversion doesn't upgrade the dynamic range. The converted video has an HDR format, but visually appears the same as an unconverted output. HDR to SDR conversion uses tone mapping to approximate the outcome of manually regrading from HDR to SDR. When you specify an output color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

NONE
FORCE_601
FORCE_709
FORCE_HDR10
FORCE_HLG_2020
FORCE_P3DCI
FORCE_P3D65_SDR
FORCE_P3D65_HDR

ColorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

FORCE
FALLBACK

ContainerSettings

Container specific settings.

container

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

Type: ContainerType
Required: False

m3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

Type: M3u8Settings
Required: False

f4vSettings

Settings for F4v container

Type: F4vSettings
Required: False

m2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

Type: M2tsSettings
Required: False

movSettings

These settings relate to your QuickTime MOV output container.

Type: MovSettings
Required: False

mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

Type: Mp4Settings
Required: False

mpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

Type: MpdSettings
Required: False

cmfcSettings

These settings relate to the fragmented MP4 container for the segments in your CMAF outputs.

Type: CmfcSettings
Required: False

mxfSettings

These settings relate to your MXF output container.

Type: MxfSettings
Required: False

ContainerType

Container for this output. Some containers require a container settings object. If not specified, the default object will be created.

F4V
GIF
ISMV
M2TS
M3U8
CMFC
MOV
MP4
MPD
MXF
OGG
WEBM
RAW
Y4M

CopyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

DashAdditionalManifest

Specify the details for each additional DASH manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the

default main manifest for your DASH group is film-name.mpd. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.mpd.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

DashIsoEncryptionSettings

Specifies DRM settings for DASH outputs.

playbackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

Type: DashIsoPlaybackDeviceCompatibility
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

DashIsoGroupAudioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

```
MPEG_CHANNEL_CONFIGURATION
DOLBY_CHANNEL_CONFIGURATION
```

DashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

audioChannelConfigSchemeIdUri

Use this setting only when your audio codec is a Dolby one (AC3, EAC3, or Atmos) and your downstream workflow requires that your DASH manifest use the Dolby channel configuration tag, rather than the MPEG one. For example, you might need to use this to make dynamic ad insertion work. Specify which audio channel configuration scheme ID URI MediaConvert writes in your DASH manifest. Keep the default value, MPEG channel configuration, to have MediaConvert write this: urn:mpeg:mpegB:cicp:ChannelConfiguration. Choose Dolby channel configuration to have MediaConvert write this instead: tag:dolby.com,2014:dash:audio_channel_configuration:2011.

Type: DashIsoGroupAudioChannelConfigSchemeIdUri
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 30. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer

Required: False
Minimum: 1
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: DashIsoSegmentLengthControl
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .mpd DASH manifest for each DASH ISO output group in your job. This default manifest references every output in the output group. To create additional DASH manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type DashAdditionalManifest
Required: False

encryption

DRM settings.

Type: DashIsoEncryptionSettings
Required: False

minBufferTime

Minimum time of initially buffered media that is needed to ensure smooth playout.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fragmentLength

Length of fragments to generate (in seconds). Fragment length must be compatible with GOP size and Framerate. Note that fragments will end on the next keyframe after this number of seconds, so actual fragment length may be longer. When Emit Single File is checked, the fragmentation is internal to a single output file and it does not cause the creation of many output files as in other output types.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

baseUrl

A partial URI prefix that will be put in the manifest (.mpd) file at the top level BaseURL element. Can be used if streams are delivered from a different URL than the manifest file.

Type: string
Required: False

segmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

Type: DashIsoSegmentControl
Required: False

ptsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

Type: DashIsoPtsOffsetHandlingForBFrames
Required: False

mpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

Type: DashIsoMpdManifestBandwidthType
Required: False

mpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

Type: DashIsoMpdProfile
Required: False

hbbtvCompliance

Supports HbbTV specification as indicated

Type: DashIsoHbbtvCompliance
Required: False

writeSegmentTimelineInRepresentation

If you get an HTTP error in the 400 range when you play back your DASH output, enable this setting and run your transcoding job again. When you enable this setting, the service writes precise segment durations in the DASH manifest. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When you don't enable this setting, the service writes approximate segment durations in your DASH manifest.

Type: DashIsoWriteSegmentTimelineInRepresentation
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: DashIsoImageBasedTrickPlay
Required: False

dashIFrameTrickPlayNameModifier

Specify whether MediaConvert generates I-frame only video segments for DASH trick play, also known as trick mode. When specified, the I-frame only video segments are included within an additional AdaptationSet in your DASH output manifest. To generate I-frame only video segments: Enter a name as a text string, up to 256 character long. This name is appended to the end of this output group's base filename, that you specify as part of your destination URI, and used for the I-frame only video segment files. You may also include format identifiers. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html#using-settings-variables-with-streaming-outputs To not generate I-frame only video segments: Leave blank.

Type: string

Required: False

MinLength: 1

MaxLength: 256

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: DashIsoImageBasedTrickPlaySettings

Required: False

videoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

Type: DashIsoVideoCompositionOffsets

Required: False

dashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

Type: DashManifestStyle

Required: False

DashIsoHbbtvCompliance

Supports HbbTV specification as indicated

HBBTV_1_5
NONE

DashIsoImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert adds an entry in the .mpd manifest for each set of images that you generate. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

DashIsoImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: DashIsoIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

DashIsoIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

```
FOLLOW_IFRAME
FOLLOW_CUSTOM
```

DashIsoMpdManifestBandwidthType

Specify how the value for bandwidth is determined for each video Representation in your output MPD manifest. We recommend that you choose a MPD manifest bandwidth type that is compatible with your downstream player configuration. Max: Use the same value that you specify for Max bitrate in the video output, in bits per second. Average: Use the calculated average bitrate of the encoded video output, in bits per second.

```
AVERAGE
MAX
```

DashIsoMpdProfile

Specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your .mpd DASH manifest. When you

choose On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your .mpd. When you choose On-demand, you must also set the output group setting Segment control to Single file.

```
MAIN_PROFILE
ON_DEMAND_PROFILE
```

DashIsoPlaybackDeviceCompatibility

This setting can improve the compatibility of your output with video players on obsolete devices. It applies only to DASH H.264 outputs with DRM encryption. Choose Unencrypted SEI only to correct problems with playback on older devices. Otherwise, keep the default setting CENC v1. If you choose Unencrypted SEI, for that output, the service will exclude the access unit delimiter and will leave the SEI NAL units unencrypted.

```
CENC_V1
UNENCRYPTED_SEI
```

DashIsoPtsOffsetHandlingForBFrames

Use this setting only when your output video stream has B-frames, which causes the initial presentation time stamp (PTS) to be offset from the initial decode time stamp (DTS). Specify how MediaConvert handles PTS when writing time stamps in output DASH manifests. Choose Match initial PTS when you want MediaConvert to use the initial PTS as the first time stamp in the manifest. Choose Zero-based to have MediaConvert ignore the initial PTS in the video stream and instead write the initial time stamp as zero in the manifest. For outputs that don't have B-frames, the time stamps in your DASH manifests start at zero regardless of your choice here.

```
ZERO_BASED
MATCH_INITIAL_PTS
```

DashIsoSegmentControl

When set to SINGLE_FILE, a single output file is generated, which is internally segmented using the Fragment Length and Segment Length. When set to SEGMENTED_FILES, separate segment files will be created.

```
SINGLE_FILE
```

SEGMENTED_FILES

DashIsoSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

DashIsoVideoCompositionOffsets

Specify the video sample composition time offset mode in the output fMP4 TRUN box. For wider player compatibility, set Video composition offsets to Unsigned or leave blank. The earliest presentation time may be greater than zero, and sample composition time offsets will increment using unsigned integers. For strict fMP4 video and audio timing, set Video composition offsets to Signed. The earliest presentation time will be equal to zero, and sample composition time offsets will increment using signed integers.

SIGNED

UNSIGNED

DashIsoWriteSegmentTimelineInRepresentation

When you enable Precise segment duration in manifests, your DASH manifest shows precise segment durations. The segment duration information appears inside the SegmentTimeline element, inside SegmentTemplate at the Representation level. When this feature isn't enabled, the segment durations in your DASH manifest are approximate. The segment duration information appears in the duration attribute of the SegmentTemplate element.

```
ENABLED
DISABLED
```

DashManifestStyle

Specify how MediaConvert writes SegmentTimeline in your output DASH manifest. To write a SegmentTimeline in each video Representation: Keep the default value, Basic. To write a common SegmentTimeline in the video AdaptationSet: Choose Compact. Note that MediaConvert will still write a SegmentTimeline in any Representation that does not share a common timeline. To write a video AdaptationSet for each different output framerate, and a common SegmentTimeline in each AdaptationSet: Choose Distinct.

```
BASIC
COMPACT
DISTINCT
```

DecryptionMode

Specify the encryption mode that you used to encrypt your input files.

```
AES_CTR
AES_CBC
AES_GCM
```

DeinterlaceAlgorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To

apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

```
INTERPOLATE
INTERPOLATE_TICKER
BLEND
BLEND_TICKER
LINEAR_INTERPOLATION
```

Deinterlacer

Settings for deinterlacer

algorithm

Only applies when you set Deinterlace mode to Deinterlace or Adaptive. Interpolate produces sharper pictures, while blend produces smoother motion. If your source file includes a ticker, such as a scrolling headline at the bottom of the frame: Choose Interpolate ticker or Blend ticker. To apply field doubling: Choose Linear interpolation. Note that Linear interpolation may introduce video artifacts into your output.

Type: DeinterlaceAlgorithm
Required: False

mode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

Type: DeinterlacerMode
Required: False

control

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that

the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

Type: DeinterlacerControl
Required: False

DeinterlacerControl

- When set to NORMAL (default), the deinterlacer does not convert frames that are tagged in metadata as progressive. It will only convert those that are tagged as some other type. - When set to FORCE_ALL_FRAMES, the deinterlacer converts every frame to progressive - even those that are already tagged as progressive. Turn Force mode on only if there is a good chance that the metadata has tagged frames as progressive when they are not progressive. Do not turn on otherwise; processing frames that are already progressive into progressive will probably result in lower quality video.

```
FORCE_ALL_FRAMES
NORMAL
```

DeinterlacerMode

Use Deinterlacer to choose how the service will do deinterlacing. Default is Deinterlace. - Deinterlace converts interlaced to progressive. - Inverse telecine converts Hard Telecine 29.97i to progressive 23.976p. - Adaptive auto-detects and converts to progressive.

```
DEINTERLACE
INVERSE_TELECINE
ADAPTIVE
```

DestinationSettings

Settings associated with the destination. Will vary based on the type of destination

s3Settings

Settings associated with S3 destination

Type: S3DestinationSettings

Required: False

DolbyVision

Create Dolby Vision Profile 5 or Profile 8.1 compatible video output.

profile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

Type: DolbyVisionProfile
Required: False

l6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

Type: DolbyVisionLevel6Mode
Required: False

l6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

Type: DolbyVisionLevel6Metadata
Required: False

mapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata

that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

Type: DolbyVisionMapping
Required: False

DolbyVisionLevel6Metadata

Use these settings when you set DolbyVisionLevel6Mode to SPECIFY to override the MaxCLL and MaxFALL values in your input with new values.

maxCll

Maximum Content Light Level. Static HDR metadata that corresponds to the brightest pixel in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxFall

Maximum Frame-Average Light Level. Static HDR metadata that corresponds to the highest frame-average brightness in the entire stream. Measured in nits.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

DolbyVisionLevel6Mode

Use Dolby Vision Mode to choose how the service will handle Dolby Vision MaxCLL and MaxFALL properies.

PASSTHROUGH
RECALCULATE
SPECIFY

DolbyVisionMapping

Required when you set Dolby Vision Profile to Profile 8.1. When you set Content mapping to None, content mapping is not applied to the HDR10-compatible signal. Depending on the source peak nit level, clipping might occur on HDR devices without Dolby Vision. When you set Content mapping to HDR10 1000, the transcoder creates a 1,000 nits peak HDR10-compatible signal by applying static content mapping to the source. This mode is speed-optimized for PQ10 sources with metadata that is created from analysis. For graded Dolby Vision content, be aware that creative intent might not be guaranteed with extreme 1,000 nits trims.

`HDR10_NOMAP`
`HDR10_1000`

DolbyVisionProfile

Required when you enable Dolby Vision. Use Profile 5 to include frame-interleaved Dolby Vision metadata in your output. Your input must include Dolby Vision metadata or an HDR10 YUV color space. Use Profile 8.1 to include frame-interleaved Dolby Vision metadata and HDR10 metadata in your output. Your input must include Dolby Vision metadata.

`PROFILE_5`
`PROFILE_8_1`

DropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

`DISABLED`
`ENABLED`

DvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

nitInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 10000

networkId

The numeric value placed in the Network Information Table (NIT).

Type: integer
Required: False
Minimum: 0
Maximum: 65535

networkName

The network name text placed in the network_name_descriptor inside the Network Information Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

outputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input,

otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

Type: OutputSdt
Required: False

sdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 25
Maximum: 2000

serviceName

The service name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

serviceProviderName

The service provider name placed in the service_descriptor in the Service Description Table. Maximum length is 256 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 256

DvbSubDestinationSettings

Settings related to DVB-Sub captions. Set up DVB-Sub captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/dvb-sub-output-captions.html.

backgroundOpacity

Specify the opacity of the background rectangle. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to enabled, leave blank to pass through the background style information in your input captions to your output captions. If Style passthrough is set to disabled, leave blank to use a value of 0 and remove all backgrounds from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

shadowXOffset

Specify the horizontal offset of the shadow, relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels to the left. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

teletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleTeletextSpacing

Required: False

alignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleAlignment
Required: False

outlineSize

Specify the Outline size of the caption text, in pixels. Leave Outline size blank and set Style passthrough to enabled to use the outline size data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 10

yPosition

Specify the vertical position of the captions, relative to the top of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the top of the output. If no explicit y_position is provided, the caption will be positioned towards the bottom of the output. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleShadowColor
Required: False

fontOpacity

Specify the opacity of the burned-in captions. 255 is opaque; 0 is transparent. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

fontSize

Specify the Font size in pixels. Must be a positive integer. Set to 0, or leave blank, for automatic font size. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 96

fontScript

Set Font script to Automatically determined, or leave blank, to automatically determine the font script in your input captions. Otherwise, set to Simplified Chinese (HANS) or Traditional Chinese (HANT) if your input font script uses Simplified or Traditional Chinese. Within your job settings, all of your DVB-Sub settings must be identical.

Type: FontScript
Required: False

fallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

Type: DvbSubSubtitleFallbackFont

Required: False

fontFileRegular

Specify a regular TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a bold, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBold

Specify a bold TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, an italic, and a bold italic font file.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileItalic

Specify an italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and a bold italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontFileBoldItalic

Specify a bold italic TrueType font file to use when rendering your output captions. Enter an S3, HTTP, or HTTPS URL. When you do, you must also separately specify a regular, a bold, and an italic font file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(ttf))|(https?://(.*?)\.(ttf)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

fontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleFontColor
Required: False

hexFontColor

Ignore this setting unless your Font color is set to Hex. Enter either six or eight hexidecimal digits, representing red, green, and blue, with two optional extra digits for alpha. For example a value of 1122AABB is a red value of 0x11, a green value of 0x22, a blue value of 0xAA, and an alpha value of 0xBB.

Type: string

Required: False

Pattern: `^[0-9a-fA-F]{6}([0-9a-fA-F]{2})?$`

MinLength: 6

MaxLength: 8

applyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

Type: DvbSubtitleApplyFontColor

Required: False

backgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

Type: DvbSubtitleBackgroundColor

Required: False

fontResolution

Specify the Font resolution in DPI (dots per inch). Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer

Required: False

Minimum: 96

Maximum: 600

outlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: DvbSubtitleOutlineColor
Required: False

shadowYOffset

Specify the vertical offset of the shadow relative to the captions in pixels. A value of -2 would result in a shadow offset 2 pixels above the text. Leave Shadow y-offset blank and set Style passthrough to enabled to use the shadow y-offset data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

xPosition

Specify the horizontal position of the captions, relative to the left side of the output in pixels. A value of 10 would result in the captions starting 10 pixels from the left of the output. If no explicit x_position is provided, the horizontal caption position will be determined by the alignment parameter. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

shadowOpacity

Specify the opacity of the shadow. Enter a value from 0 to 255, where 0 is transparent and 255 is opaque. If Style passthrough is set to Enabled, leave Shadow opacity blank to pass through the shadow style information in your input captions to your output captions. If Style passthrough is

set to disabled, leave blank to use a value of 0 and remove all shadows from your output captions. Within your job settings, all of your DVB-Sub settings must be identical.

Type: integer
Required: False
Minimum: 0
Maximum: 255

subtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

Type: DvbSubtitlingType
Required: False

ddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

Type: DvbddsHandling
Required: False

ddsXCoordinate

Use this setting, along with DDS y-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the left side of the frame and the left side of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

ddsYCoordinate

Use this setting, along with DDS x-coordinate, to specify the upper left corner of the display definition segment (DDS) display window. With this setting, specify the distance, in pixels, between the top of the frame and the top of the DDS display window. Keep the default value, 0, to have MediaConvert automatically choose this offset. Related setting: When you use this setting, you must set DDS handling to a value other than None. MediaConvert uses these values to determine whether to write page position data to the DDS or to the page composition segment (PCS). All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

width

Specify the width, in pixels, of this set of DVB-Sub captions. The default value is 720 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False

Minimum: 1
Maximum: 2147483647

height

Specify the height, in pixels, of this set of DVB-Sub captions. The default value is 576 pixels. Related setting: When you use this setting, you must set DDS handling to a value other than None. All burn-in and DVB-Sub font settings must match.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

stylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

Type: DvbSubtitleStylePassthrough
Required: False

DvbSubSourceSettings

DVB Sub Source Settings

pid

When using DVB-Sub with Burn-in, use this PID for the source content. Unused for DVB-Sub passthrough. All DVB-Sub content is passed through, regardless of selectors.

Type: integer

Required: False
Minimum: 1
Maximum: 2147483647

DvbSubSubtitleFallbackFont

Specify the font that you want the service to use for your burn in captions when your input captions specify a font that MediaConvert doesn't support. When you set Fallback font to best match, or leave blank, MediaConvert uses a supported font that most closely matches the font that your input captions specify. When there are multiple unsupported fonts in your input captions, MediaConvert matches each font with the supported font that matches best. When you explicitly choose a replacement font, MediaConvert uses that font to replace all unsupported fonts from your input.

```
BEST_MATCH
MONOSPACED_SANSSERIF
MONOSPACED_SERIF
PROPORTIONAL_SANSSERIF
PROPORTIONAL_SERIF
```

DvbSubtitleAlignment

Specify the alignment of your captions. If no explicit x_position is provided, setting alignment to centered will placethe captions at the bottom center of the output. Similarly, setting a left alignment willalign captions to the bottom left of the output. If x and y positions are given in conjunction with the alignment parameter, the font will be justified (either left or centered) relative to those coordinates. Within your job settings, all of your DVB-Sub settings must be identical.

```
CENTERED
LEFT
AUTO
```

DvbSubtitleApplyFontColor

Ignore this setting unless Style Passthrough is set to Enabled and Font color set to Black, Yellow, Red, Green, Blue, or Hex. Use Apply font color for additional font color controls. When you choose White text only, or leave blank, your font color setting only applies to white text in your input

captions. For example, if your font color setting is Yellow, and your input captions have red and white text, your output captions will have red and yellow text. When you choose ALL_TEXT, your font color setting applies to all of your output captions text.

WHITE_TEXT_ONLY
ALL_TEXT

DvbSubtitleBackgroundColor

Specify the color of the rectangle behind the captions. Leave background color blank and set Style passthrough to enabled to use the background color data from your input captions, if present.

NONE
BLACK
WHITE
AUTO

DvbSubtitleFontColor

Specify the color of the captions text. Leave Font color blank and set Style passthrough to enabled to use the font color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

WHITE
BLACK
YELLOW
RED
GREEN
BLUE
HEX
AUTO

DvbSubtitleOutlineColor

Specify font outline color. Leave Outline color blank and set Style passthrough to enabled to use the font outline color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

BLACK
WHITE
YELLOW
RED
GREEN
BLUE
AUTO

DvbSubtitleShadowColor

Specify the color of the shadow cast by the captions. Leave Shadow color blank and set Style passthrough to enabled to use the shadow color data from your input captions, if present. Within your job settings, all of your DVB-Sub settings must be identical.

NONE
BLACK
WHITE
AUTO

DvbSubtitleStylePassthrough

To use the available style, color, and position information from your input captions: Set Style passthrough to Enabled. Note that MediaConvert uses default settings for any missing style or position information in your input captions To ignore the style and position information from your input captions and use default settings: Leave blank or keep the default value, Disabled. Default settings include white text with black outlining, bottom-center positioning, and automatic sizing. Whether you set Style passthrough to enabled or not, you can also choose to manually override any of the individual style and position settings. You can also override any fonts by manually specifying custom font files.

ENABLED
DISABLED

DvbSubtitleTeletextSpacing

Specify whether the Text spacing in your captions is set by the captions grid, or varies depending on letter width. Choose fixed grid to conform to the spacing specified in the captions file more

accurately. Choose proportional to make the text easier to read for closed captions. Within your job settings, all of your DVB-Sub settings must be identical.

FIXED_GRID
PROPORTIONAL
AUTO

DvbSubtitlingType

Specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

HEARING_IMPAIRED
STANDARD

DvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

tdtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 1000
Maximum: 30000

DvbddsHandling

Specify how MediaConvert handles the display definition segment (DDS). To exclude the DDS from this set of captions: Keep the default, None. To include the DDS: Choose Specified. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate. To include the DDS, but not include display window data: Choose No display window. When you do, you can write position metadata to the page composition segment (PCS) with DDS x-coordinate and DDS y-coordinate. For video resolutions with a height of 576 pixels or

less, MediaConvert doesn't include the DDS, regardless of the value you choose for DDS handling. All burn-in and DVB-Sub font settings must match. To include the DDS, with optimized subtitle placement and reduced data overhead: We recommend that you choose Specified (optimal). This option provides the same visual positioning as Specified while using less bandwidth. This also supports resolutions higher than 1080p while maintaining full DVB-Sub compatibility. When you do, also specify the offset coordinates of the display window with DDS x-coordinate and DDS y-coordinate.

```
NONE
SPECIFIED
NO_DISPLAY_WINDOW
SPECIFIED_OPTIMAL
```

DynamicAudioSelector

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an audio track within that output for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

offset

Specify a time delta, in milliseconds, to offset the audio from the input video. To specify no offset: Keep the default value, 0. To specify an offset: Enter an integer from -2147483648 to 2147483647

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

selectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

Type: DynamicAudioSelectorType
Required: False

externalAudioFileInput

Specify the S3, HTTP, or HTTPS URL for your external audio file input.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

languageCode

Specify the language to select from your audio input. In the MediaConvert console choose from a list of languages. In your JSON job settings choose from an ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php

Type: LanguageCode
Required: False

audioDurationCorrection

Apply audio timing corrections to help synchronize audio and video in your output. To apply timing corrections, your input must meet the following requirements: * Container: MP4, or MOV, with an accurate time-to-sample (STTS) table. * Audio track: AAC. Choose from the following audio timing correction settings: * Disabled (Default): Apply no correction. * Auto: Recommended for most inputs. MediaConvert analyzes the audio timing in your input and determines which correction setting to use, if needed. * Track: Adjust the duration of each audio frame by a constant amount to align the audio track length with STTS duration. Track-level correction does not affect pitch, and is recommended for tonal audio content such as music. * Frame: Adjust the duration of each audio frame by a variable amount to align audio frames with STTS timestamps. No corrections are made to already-aligned frames. Frame-level correction may affect the pitch of corrected frames, and is recommended for atonal audio content such as speech or percussion. * Force: Apply audio duration correction, either Track or Frame depending on your input, regardless of the accuracy of your input's STTS table. Your output audio and video may not be aligned or it may contain audio artifacts.

Type: AudioDurationCorrection

Required: False

DynamicAudioSelectorType

Specify which audio tracks to dynamically select from your source. To select all audio tracks: Keep the default value, All tracks. To select all audio tracks with a specific language code: Choose Language code. When you do, you must also specify a language code under the Language code setting. If there is no matching Language code in your source, then no track will be selected.

ALL_TRACKS
LANGUAGE_CODE

Eac3AtmosBitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

COMPLETE_MAIN

Eac3AtmosCodingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

CODING_MODE_AUTO
CODING_MODE_5_1_4
CODING_MODE_7_1_4
CODING_MODE_9_1_6

Eac3AtmosDialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

ENABLED
DISABLED

Eac3AtmosDownmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosDynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range

Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3AtmosDynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

SPECIFIED
INITIALIZE_FROM_SOURCE

Eac3AtmosMeteringMode

Choose how the service meters the loudness of your audio.

LEQ_A
ITU_BS_1770_1
ITU_BS_1770_2
ITU_BS_1770_3
ITU_BS_1770_4

Eac3AtmosSettings

Required when you set Codec to the value EAC3_ATMOS.

surroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

Type: Eac3AtmosSurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only. MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

ltRtSurroundMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total surround mix (Lt/Rt surround). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate for this output in bits per second. Valid values: 384k, 448k, 576k, 640k, 768k, 1024k Default value: 448k Note that MediaConvert supports 384k only with channel-based immersive (CBI) 7.1.4 and 5.1.4 inputs. For CBI 9.1.6 and other input types, MediaConvert automatically increases your output bitrate to 448k.

Type: integer
Required: False
Minimum: 384000
Maximum: 1024000

ltRtCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left total/Right total center mix (Lt/Rt center). MediaConvert uses this value for downmixing. Default value: -3 dB Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -6.0
Maximum: 3.0

loRoCenterMixLevel

Specify a value for the following Dolby Atmos setting: Left only/Right only center mix (Lo/Ro center). MediaConvert uses this value for downmixing. Default value: -3 dB. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, and -6.0. Related setting: How the service uses this value depends on the value that you choose for Stereo downmix. Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Left only/Right only center.

Type: number
Required: False

Format: float
Minimum: -6.0
Maximum: 3.0

codingMode

The coding mode for Dolby Digital Plus JOC (Atmos).

Type: Eac3AtmosCodingMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3AtmosBitstreamMode
Required: False

stereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

Type: Eac3AtmosStereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the RF operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression RF. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby stream for the line operating mode. Default value: Film light Related setting: To have MediaConvert use the value you specify here, keep the default value, Custom for the setting Dynamic range control. Otherwise, MediaConvert ignores Dynamic range compression line. For information about the Dolby DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3AtmosDynamicRangeCompressionLine
Required: False

downmixControl

Specify whether MediaConvert should use any downmix metadata from your input file. Keep the default value, Custom to provide downmix values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your downmix values: Left only/Right only surround, Left total/Right total surround, Left total/Right total center, Left only/Right only center, and Stereo downmix. When you keep Custom for Downmix control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDownmixControl
Required: False

dynamicRangeControl

Specify whether MediaConvert should use any dynamic range control metadata from your input file. Keep the default value, Custom, to provide dynamic range control values in your job settings. Choose Follow source to use the metadata from your input. Related settings--Use these settings to specify your dynamic range control values: Dynamic range compression line and Dynamic range compression RF. When you keep the value Custom for Dynamic range control and you don't specify values for the related settings, MediaConvert uses default values for those settings.

Type: Eac3AtmosDynamicRangeControl
Required: False

meteringMode

Choose how the service meters the loudness of your audio.

Type: Eac3AtmosMeteringMode
Required: False

dialogueIntelligence

Enable Dolby Dialogue Intelligence to adjust loudness based on dialogue analysis.

Type: Eac3AtmosDialogueIntelligence
Required: False

speechThreshold

Specify the percentage of audio content, from 0% to 100%, that must be speech in order for the encoder to use the measured speech loudness as the overall program loudness. Default value: 15%

Type: integer
Required: False
Minimum: 0
Maximum: 100

Eac3AtmosStereoDownmix

Choose how the service does stereo downmixing. Default value: Not indicated Related setting: To have MediaConvert use this value, keep the default value, Custom for the setting Downmix control. Otherwise, MediaConvert ignores Stereo downmix.

```
NOT_INDICATED
STEREO
SURROUND
DPL2
```

Eac3AtmosSurroundExMode

Specify whether your input audio has an additional center rear surround channel matrix encoded into your left and right surround channels.

```
NOT_INDICATED
ENABLED
DISABLED
```

Eac3AttenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

```
ATTENUATE_3_DB
NONE
```

Eac3BitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

```
COMPLETE_MAIN
COMMENTARY
EMERGENCY
HEARING_IMPAIRED
VISUALLY_IMPAIRED
```

Eac3CodingMode

Dolby Digital Plus coding mode. Determines number of channels.

CODING_MODE_1_0
CODING_MODE_2_0
CODING_MODE_3_2

Eac3DcFilter

Activates a DC highpass filter for all input channels.

ENABLED
DISABLED

Eac3DynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3DynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and

profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

NONE
FILM_STANDARD
FILM_LIGHT
MUSIC_STANDARD
MUSIC_LIGHT
SPEECH

Eac3LfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

LFE
NO_LFE

Eac3LfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

ENABLED
DISABLED

Eac3MetadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

FOLLOW_INPUT
USE_CONFIGURED

Eac3PassthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and

non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

WHEN_POSSIBLE
NO_PASSTHROUGH

Eac3PhaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

SHIFT_90_DEGREES
NO_SHIFT

Eac3Settings

Required when you set Codec to the value EAC3.

metadataControl

When set to FOLLOW_INPUT, encoder metadata will be sourced from the DD, DD+, or DolbyE decoder that supplied this audio data. If audio was not supplied from one of these streams, then the static metadata settings will be used.

Type: Eac3MetadataControl
Required: False

surroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

Type: Eac3SurroundExMode
Required: False

loRoSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you

choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

phaseControl

Controls the amount of phase-shift applied to the surround channels. Only used for 3/2 coding mode.

Type: Eac3PhaseControl
Required: False

dialnorm

Sets the dialnorm for the output. If blank and input audio is Dolby Digital Plus, dialnorm will be passed through.

Type: integer
Required: False
Minimum: 1
Maximum: 31

ltRtSurroundMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total surround mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total surround.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: -1.5

bitrate

Specify the average bitrate in bits per second. The bitrate that you specify must be a multiple of 8000 within the allowed minimum and maximum values. Leave blank to use the default bitrate for the coding mode you select according ETSI TS 102 366. Valid bitrates for coding mode 1/0: Default: 96000. Minimum: 32000. Maximum: 3024000. Valid bitrates for coding mode 2/0: Default: 192000. Minimum: 96000. Maximum: 3024000. Valid bitrates for coding mode 3/2: Default: 384000. Minimum: 192000. Maximum: 3024000.

Type: integer
Required: False
Minimum: 32000
Maximum: 3024000

ltRtCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left total/Right total center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left total/Right total center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

passthroughControl

When set to WHEN_POSSIBLE, input DD+ audio will be passed through if it is present on the input. this detection is dynamic over the life of the transcode. Inputs that alternate between DD+ and non-DD+ content will have a consistent DD+ output as the system alternates between passthrough and encoding.

Type: Eac3PassthroughControl
Required: False

lfeControl

When encoding 3/2 audio, controls whether the LFE channel is enabled

Type: Eac3LfeControl
Required: False

loRoCenterMixLevel

Specify a value for the following Dolby Digital Plus setting: Left only/Right only center mix. MediaConvert uses this value for downmixing. How the service uses this value depends on the value that you choose for Stereo downmix. Valid values: 3.0, 1.5, 0.0, -1.5, -3.0, -4.5, -6.0, and -60. The value -60 mutes the channel. This setting applies only if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Left only/Right only center.

Type: number
Required: False
Format: float
Minimum: -60.0
Maximum: 3.0

attenuationControl

If set to ATTENUATE_3_DB, applies a 3 dB attenuation to the surround channels. Only used for 3/2 coding mode.

Type: Eac3AttenuationControl
Required: False

codingMode

Dolby Digital Plus coding mode. Determines number of channels.

Type: Eac3CodingMode
Required: False

surroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

Type: Eac3SurroundMode
Required: False

bitstreamMode

Specify the bitstream mode for the E-AC-3 stream that the encoder emits. For more information about the EAC3 bitstream mode, see ATSC A/52-2012 (Annex E).

Type: Eac3BitstreamMode
Required: False

lfeFilter

Applies a 120Hz lowpass filter to the LFE channel prior to encoding. Only valid with 3_2_LFE coding mode.

Type: Eac3LfeFilter
Required: False

stereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

Type: Eac3StereoDownmix
Required: False

dynamicRangeCompressionRf

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the RF operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionRf
Required: False

sampleRate

This value is always 48000. It represents the sample rate in Hz.

Type: integer
Required: False
Minimum: 48000
Maximum: 48000

dynamicRangeCompressionLine

Choose the Dolby Digital dynamic range control (DRC) profile that MediaConvert uses when encoding the metadata in the Dolby Digital stream for the line operating mode. Related setting: When you use this setting, MediaConvert ignores any value you provide for Dynamic range compression profile. For information about the Dolby Digital DRC operating modes and profiles, see the Dynamic Range Control chapter of the Dolby Metadata Guide at https://developer.dolby.com/globalassets/professional/documents/dolby-metadata-guide.pdf.

Type: Eac3DynamicRangeCompressionLine
Required: False

dcFilter

Activates a DC highpass filter for all input channels.

Type: Eac3DcFilter
Required: False

Eac3StereoDownmix

Choose how the service does stereo downmixing. This setting only applies if you keep the default value of 3/2 - L, R, C, Ls, Rs for the setting Coding mode. If you choose a different value for Coding mode, the service ignores Stereo downmix.

NOT_INDICATED
LO_RO
LT_RT
DPL2

Eac3SurroundExMode

When encoding 3/2 audio, sets whether an extra center back surround channel is matrix encoded into the left and right surround channels.

NOT_INDICATED
ENABLED
DISABLED

Eac3SurroundMode

When encoding 2/0 audio, sets whether Dolby Surround is matrix encoded into the two channels.

NOT_INDICATED
ENABLED
DISABLED

EmbeddedConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT
DISABLED

EmbeddedDestinationSettings

Settings related to CEA/EIA-608 and CEA/EIA-708 (also called embedded or ancillary) captions. Set up embedded captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/embedded-output-captions.html.

destination608ChannelNumber

Ignore this setting unless your input captions are SCC format and your output captions are embedded in the video stream. Specify a CC number for each captions channel in this output. If you have two channels, choose CC numbers that aren't in the same field. For example, choose 1 and 3. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 4

destination708ServiceNumber

Ignore this setting unless your input captions are SCC format and you want both 608 and 708 captions embedded in your output stream. Optionally, specify the 708 service number for each output captions channel. Choose a different number for each channel. To use this setting, also set Force 608 to 708 upconvert to Upconvert in your input captions selector settings. If you choose to upconvert but don't specify a 708 service number, MediaConvert uses the number that you specify for CC channel number for the 708 service number. For more information, see https://docs.aws.amazon.com/console/mediaconvert/dual-scc-to-embedded.

Type: integer
Required: False
Minimum: 1
Maximum: 6

EmbeddedSourceSettings

Settings for embedded captions Source

source608ChannelNumber

Specifies the 608/708 channel number within the video track from which to extract captions. Unused for passthrough.

Type: integer
Required: False
Minimum: 1
Maximum: 4

source608TrackNumber

Specifies the video track index used for extracting captions. The system only supports one input video track, so this should always be set to '1'.

Type: integer
Required: False
Minimum: 1
Maximum: 1

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: EmbeddedConvert608To708
Required: False

terminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

Type: EmbeddedTerminateCaptions
Required: False

EmbeddedTerminateCaptions

By default, the service terminates any unterminated captions at the end of each input. If you want the caption to continue onto your next input, disable this setting.

```
END_OF_INPUT
DISABLED
```

EmbeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

```
NONE
USE_MDPM
```

EncryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

spekeVideoPreset

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

Type: PresetSpeke20Video
Required: False

spekeAudioPreset

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

Type: PresetSpeke20Audio
Required: False

EsamManifestConfirmConditionNotification

ESAM ManifestConfirmConditionNotification defined by OC-SP-ESAM-API-I03-131025.

mccXml

Provide your ESAM ManifestConfirmConditionNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the Manifest Conditioning instructions in the message that you supply.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*ManifestConfirmConditionNotification(.|\n)*>\s*$`

EsamSettings

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

signalProcessingNotification

Specifies an ESAM SignalProcessingNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the signal processing instructions that you provide in the setting SCC XML.

Type: EsamSignalProcessingNotification

Required: False

manifestConfirmConditionNotification

Specifies an ESAM ManifestConfirmConditionNotification XML as per OC-SP-ESAM-API-I03-131025. The transcoder uses the manifest conditioning instructions that you provide in the setting MCC XML.

Type: EsamManifestConfirmConditionNotification
Required: False

responseSignalPreroll

Specifies the stream distance, in milliseconds, between the SCTE 35 messages that the transcoder places and the splice points that they refer to. If the time between the start of the asset and the SCTE-35 message is less than this value, then the transcoder places the SCTE-35 marker at the beginning of the stream.

Type: integer
Required: False
Minimum: 0
Maximum: 30000

EsamSignalProcessingNotification

ESAM SignalProcessingNotification data defined by OC-SP-ESAM-API-I03-131025.

sccXml

Provide your ESAM SignalProcessingNotification XML document inside your JSON job settings. Form the XML document as per OC-SP-ESAM-API-I03-131025. The transcoder will use the signal processing instructions in the message that you supply. For your MPEG2-TS file outputs, if you want the service to place SCTE-35 markers at the insertion points you specify in the XML document, you must also enable SCTE-35 ESAM. Note that you can either specify an ESAM XML document or enable SCTE-35 passthrough. You can't do both.

Type: string
Required: False
Pattern: `^\s*<(.|\n)*SignalProcessingNotification(.|\n)*>\s*$`

ExceptionBody

message

Type: string
Required: False

ExtendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

vchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: VchipAction
Required: False

copyProtectionAction

The action to take on copy and redistribution control XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

Type: CopyProtectionAction
Required: False

F4vMoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

F4vSettings

Settings for F4v container

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: F4vMoovPlacement
Required: False

FileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

FileSourceConvert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608

data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

UPCONVERT

DISABLED

FileSourceSettings

If your input captions are SCC, SMI, SRT, STL, TTML, WebVTT, or IMSC 1.1 in an xml file, specify the URI of the input caption source file. If your caption source is IMSC in an IMF package, use TrackSourceSettings instead of FileSoureSettings.

sourceFile

External caption file used for loading captions. Accepted file extensions are 'scc', 'ttml', 'dfxp', 'stl', 'srt', 'xml', 'smi', 'webvtt', and 'vtt'.

Type: string

Required: False

Pattern: `^((s3://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT))|(https?://(.*?)\.(scc|SCC|ttml|TTML|dfxp|DFXP|stl|STL|srt|SRT|xml|XML|smi|SMI|vtt|VTT|webvtt|WEBVTT)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

timeDelta

Optional. Use this setting when you need to adjust the sync between your sidecar captions and your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/time-delta-use-cases.html. Enter a positive or negative number to modify the times in the captions file. For example, type 15 to add 15 seconds to all the times in the captions file. Type -5 to subtract 5 seconds from the times in the captions file. You can optionally specify your time delta in milliseconds instead of seconds. When you do so, set the related setting, Time delta units to Milliseconds. Note that, when you specify a time delta for timecode-based caption sources, such as SCC and STL, and your time delta isn't a multiple of the input frame rate, MediaConvert snaps the captions to the nearest frame. For example, when your input video frame rate is 25 fps and you specify 1010ms for time delta, MediaConvert delays your captions by 1000 ms.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

timeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

Type: FileSourceTimeDeltaUnits
Required: False

convert608To708

Specify whether this set of input captions appears in your outputs in both 608 and 708 format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the 608 data through using the 608 compatibility bytes fields of the 708 wrapper, and it also translates the 608 data into 708.

Type: FileSourceConvert608To708
Required: False

framerate

Ignore this setting unless your input captions format is SCC. To have the service compensate for differing frame rates between your input captions and input video, specify the frame rate of the captions file. Specify this value as a fraction. For example, you might specify 24 / 1 for 24 fps, 25 / 1 for 25 fps, 24000 / 1001 for 23.976 fps, or 30000 / 1001 for 29.97 fps.

Type: CaptionSourceFramerate
Required: False

convertPaintToPop

Choose the presentation style of your input SCC captions. To use the same presentation style as your input: Keep the default value, Disabled. To convert paint-on captions to pop-on: Choose

Enabled. We also recommend that you choose Enabled if you notice additional repeated lines in your output captions.

Type: CaptionSourceConvertPaintOnToPopOn
Required: False

byteRateLimit

Choose whether to limit the byte rate at which your SCC input captions are inserted into your output. To not limit the caption rate: We recommend that you keep the default value, Disabled. MediaConvert inserts captions in your output according to the byte rates listed in the EIA-608 specification, typically 2 or 3 caption bytes per frame depending on your output frame rate. To limit your output caption rate: Choose Enabled. Choose this option if your downstream systems require a maximum of 2 caption bytes per frame. Note that this setting has no effect when your output frame rate is 30 or 60.

Type: CaptionSourceByteRateLimit
Required: False

upconvertSTLToTeletext

Specify whether this set of input captions appears in your outputs in both STL and Teletext format. If you choose Upconvert, MediaConvert includes the captions data in two ways: it passes the STL data through using the Teletext compatibility bytes fields of the Teletext wrapper, and it also translates the STL data into Teletext.

Type: CaptionSourceUpconvertSTLToTeletext
Required: False

FileSourceTimeDeltaUnits

When you use the setting Time delta to adjust the sync between your sidecar captions and your video, use this setting to specify the units for the delta that you specify. When you don't specify a value for Time delta units, MediaConvert uses seconds by default.

`SECONDS`
`MILLISECONDS`

FlacSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value FLAC.

bitDepth

Specify Bit depth (BitDepth), in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are between 1 and 8.

Type: integer
Required: False
Minimum: 1
Maximum: 8

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 192000

FontScript

Provide the font script, using an ISO 15924 script code, if the LanguageCode is not sufficient for determining the script type. Where LanguageCode or CustomLanguageCode is sufficient, use "AUTOMATIC" or leave unset.

AUTOMATIC
HANS
HANT

ForceIncludeRenditionSize

Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

FrameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

framerateNumerator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.NNNNNNN.jpg where N is the 0-based frame sequence number zero padded to 7 decimal places.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

Frame capture will encode the first frame of the output stream, then one frame every framerateDenominator/framerateNumerator seconds. For example, settings of framerateNumerator = 1 and framerateDenominator = 3 (a rate of 1/3 frame per second) will capture the first frame, then 1 frame every 3s. Files will be named as filename.n.jpg where n is the 0-based sequence number of each Capture.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

maxCaptures

Maximum number of captures (encoded jpg output files).

Type: integer
Required: False
Minimum: 1
Maximum: 10000000

quality

JPEG Quality - a higher value equals higher quality.

Type: integer
Required: False
Minimum: 1
Maximum: 100

GifFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

GifFramerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

```
DUPLICATE_DROP
INTERPOLATE
```

GifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want

to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction. If you are creating your transcoding job specification as a JSON file without the console, use FramerateControl to specify which value the service uses for the frame rate for this output. Choose INITIALIZE_FROM_SOURCE if you want the service to use the frame rate from the input. Choose SPECIFIED if you want the service to use the frame rate you specify in the settings FramerateNumerator and FramerateDenominator.

Type: GifFramerateControl
Required: False

framerateConversionAlgorithm

Optional. Specify how the transcoder performs framerate conversion. The default behavior is to use Drop duplicate (DUPLICATE_DROP) conversion. When you choose Interpolate (INTERPOLATE) instead, the conversion produces smoother motion.

Type: GifFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

H264AdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

`OFF`
`AUTO`
`LOW`
`MEDIUM`
`HIGH`
`HIGHER`
`MAX`

H264CodecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

`AUTO`
`LEVEL_1`
`LEVEL_1_1`

LEVEL_1_2
LEVEL_1_3
LEVEL_2
LEVEL_2_1
LEVEL_2_2
LEVEL_3
LEVEL_3_1
LEVEL_3_2
LEVEL_4
LEVEL_4_1
LEVEL_4_2
LEVEL_5
LEVEL_5_1
LEVEL_5_2

H264CodecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

BASELINE
HIGH
HIGH_10BIT
HIGH_422
HIGH_422_10BIT
MAIN

H264DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE
STATIC

H264EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE
SUPPRESS

H264EntropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

CABAC
CAVLC

H264FieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

PAFF
FORCE_FIELD
MBAFF

H264FlickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you

enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED
ENABLED

H264FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

H264FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER

```
MAINTAIN_FRAME_COUNT
```

H264GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H264GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H264InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

H264ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

H264QualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

SINGLE_PASS

SINGLE_PASS_HQ

MULTI_PASS_HQ

H264QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.264 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer

Required: False

Minimum: 1000

Maximum: 1152000000

H264RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR

CBR

QVBR

H264RepeatPps

Places a PPS header on each encoded picture, even if repeated.

DISABLED

ENABLED

H264SaliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

DISABLED

PREFERRED

H264ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

H264SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H264Settings

Required when you set Codec to the value H_264.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course

of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H264InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H264ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

syntax

Produces a bitstream compliant with SMPTE RP-2027.

Type: H264Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator.

When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. In the console, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0
Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH,

or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H264GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H264SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization

and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264SpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting

Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264FlickerAdaptiveQuantization is Disabled. Change this value to Enabled to reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. To manually enable or disable H264FlickerAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

Type: H264FlickerAdaptiveQuantization
Required: False

entropyEncoding

Entropy encoding mode. Use CABAC (must be in Main or High profile) or CAVLC.

Type: H264EntropyEncoding
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000

Maximum: 1152000000

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H264FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H264RateControlMode
Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H264QvbrSettings
Required: False

codecProfile

H.264 Profile. High 4:2:2 and 10-bit profiles are only available with the AVC-I License.

Type: H264CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: H264Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To

disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set H264AdaptiveQuantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: H264FlickerAdaptiveQuantization, H264SpatialAdaptiveQuantization, and H264TemporalAdaptiveQuantization.

Type: H264AdaptiveQuantization
Required: False

saliencyAwareEncoding

Specify whether to apply Saliency aware encoding to your output. Use to improve the perceptual video quality of your output by allocating more encoding bits to the prominent or noticeable parts of your content. To apply saliency aware encoding, when possible: We recommend that you choose Preferred. The effects of Saliency aware encoding are best seen in lower bitrate outputs. When you choose Preferred, note that Saliency aware encoding will only apply to outputs that are 720p or higher in resolution. To not apply saliency aware encoding, prioritizing encoding speed over perceptual video quality: Choose Disabled.

Type: H264SaliencyAwareEncoding
Required: False

codecLevel

Specify an H.264 level that is consistent with your output video settings. If you aren't sure what level to specify, choose Auto.

Type: H264CodecLevel
Required: False

fieldEncoding

The video encoding method for your MPEG-4 AVC output. Keep the default value, PAFF, to have MediaConvert use PAFF encoding for interlaced outputs. Choose Force field to disable PAFF encoding and create separate interlaced fields. Choose MBAFF to disable PAFF and have MediaConvert use MBAFF encoding for interlaced outputs.

Type: H264FieldEncoding
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H264SceneChangeDetect
Required: False

qualityTuningLevel

The Quality tuning level you choose represents a trade-off between the encoding speed of your job and the output video quality. For the fastest encoding speed at the cost of video quality: Choose Single pass. For a good balance between encoding speed and video quality: Leave blank or keep the default value Single pass HQ. For the best video quality, at the cost of encoding speed: Choose Multi pass HQ. MediaConvert performs an analysis pass on your input followed by an encoding pass. Outputs that use this feature incur pro-tier pricing.

Type: H264QualityTuningLevel

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H264FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H264UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H264GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H264ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

repeatPps

Places a PPS header on each encoded picture, even if repeated.

Type: H264RepeatPps
Required: False

writeMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but

not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

Type: H264WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H264DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H264EndOfStreamMarkers
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H264SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video

frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED

ENABLED

H264SpatialAdaptiveQuantization

Only use this setting when you change the default value, Auto, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264SpatialAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to set H264SpatialAdaptiveQuantization to Disabled. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher. To manually enable or disable H264SpatialAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264Syntax

Produces a bitstream compliant with SMPTE RP-2027.

DEFAULT

RP2027

H264Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

H264TemporalAdaptiveQuantization

Only use this setting when you change the default value, AUTO, for the setting H264AdaptiveQuantization. When you keep all defaults, excluding H264AdaptiveQuantization and all other adaptive quantization from your JSON job specification, MediaConvert automatically applies the best types of quantization for your video content. When you set H264AdaptiveQuantization to a value other than AUTO, the default value for H264TemporalAdaptiveQuantization is Enabled. Keep this default value to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to set H264TemporalAdaptiveQuantization to Disabled. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization. To manually enable or disable H264TemporalAdaptiveQuantization, you must set Adaptive quantization to a value other than AUTO.

DISABLED

ENABLED

H264UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

DISABLED

ENABLED

H264WriteMp4PackagingType

Specify how SPS and PPS NAL units are written in your output MP4 container, according to ISO/IEC 14496-15. If the location of these parameters doesn't matter in your workflow: Keep the default value, AVC1. MediaConvert writes SPS and PPS NAL units in the sample description ('stsd') box (but not into samples directly). To write SPS and PPS NAL units directly into samples (but not in the 'stsd' box): Choose AVC3. When you do, note that your output might not play properly with some downstream systems or players.

AVC1

AVC3

H265AdaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low, Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

OFF

LOW

MEDIUM

HIGH

HIGHER

MAX

AUTO

H265AlternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

DISABLED
ENABLED

H265CodecLevel

H.265 Level.

AUTO
LEVEL_1
LEVEL_2
LEVEL_2_1
LEVEL_3
LEVEL_3_1
LEVEL_4
LEVEL_4_1
LEVEL_5
LEVEL_5_1
LEVEL_5_2
LEVEL_6
LEVEL_6_1
LEVEL_6_2

H265CodecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

MAIN_MAIN
MAIN_HIGH
MAIN10_MAIN
MAIN10_HIGH

MAIN_422_8BIT_MAIN

MAIN_422_8BIT_HIGH

MAIN_422_10BIT_MAIN

MAIN_422_10BIT_HIGH

H265Deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

ENABLED

DISABLED

H265DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

ADAPTIVE

STATIC

H265EndOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

INCLUDE

SUPPRESS

H265FlickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

```
DISABLED
ENABLED
```

H265FramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

H265FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your

output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

H265GopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

```
DISABLED
ENABLED
```

H265GopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

```
FRAMES
SECONDS
AUTO
```

H265InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow,

default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

H265ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

H265QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

H265QvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

qvbrQualityLevel

Use this setting only when you set Rate control mode to QVBR. Specify the target quality level for this output. MediaConvert determines the right number of bits to use for each part of the video to maintain the video quality that you specify. When you keep the default value, AUTO, MediaConvert picks a quality level for you, based on characteristics of your input video. If you prefer to specify a quality level, specify a number from 1 through 10. Use higher numbers for greater quality. Level 10 results in nearly lossless compression. The quality level for most broadcast-quality transcodes is between 6 and 9. Optionally, to specify a value between whole numbers, also provide a value for the setting qvbrQualityLevelFineTune. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33.

Type: integer
Required: False
Minimum: 1
Maximum: 10

qvbrQualityLevelFineTune

Optional. Specify a value here to set the QVBR quality to a level that is between whole numbers. For example, if you want your QVBR quality level to be 7.33, set qvbrQualityLevel to 7 and set qvbrQualityLevelFineTune to .33. MediaConvert rounds your QVBR quality level to the nearest third of a whole number. For example, if you set qvbrQualityLevel to 7 and you set qvbrQualityLevelFineTune to .25, your actual QVBR quality level is 7.33.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 1.0

maxAverageBitrate

Use this setting only when Rate control mode is QVBR and Quality tuning level is Multi-pass HQ. For Max average bitrate values suited to the complexity of your input video, the service limits the average bitrate of the video part of this output to the value that you choose. That is, the total size of the video element is less than or equal to the value you set multiplied by the number of seconds of encoded output.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

H265RateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

VBR
CBR
QVBR

H265SampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

DEFAULT
ADAPTIVE
OFF

H265ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

```
INTERLACED_OPTIMIZE
```

H265SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

```
DISABLED
ENABLED
TRANSITION_DETECTION
```

H265Settings

Settings for H265 codec

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: H265InterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing,

MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: H265ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

numberReferenceFrames

Number of reference frames to use. The encoder may use more than requested if using B-frames and/or interlaced encoding.

Type: integer
Required: False
Minimum: 1
Maximum: 6

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, do this by keeping the default empty value. If you do explicitly specify a value, for segmented outputs, don't set this value to 0.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

alternateTransferFunctionSei

Enables Alternate Transfer Function SEI message for outputs using Hybrid Log Gamma (HLG) Electro-Optical Transfer Function (EOTF).

Type: H265AlternateTransferFunctionSei
Required: False

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Use this setting only when you set GOP mode control to Specified, frames or Specified, seconds. Specify the GOP length using a whole number of frames or a decimal value of seconds. MediaConvert will interpret this value as frames or seconds depending on the value you choose for GOP mode control. If you want to allow MediaConvert to automatically determine GOP size, leave GOP size blank and set GOP mode control to Auto. If your output group specifies HLS, DASH, or CMAF, leave GOP size blank and set GOP mode control to Auto in each output in your output group.

Type: number
Required: False
Format: float
Minimum: 0.0

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 1
Maximum: 32

gopBReference

Specify whether to allow B-frames to be referenced by other frame types. To use reference B-frames when your GOP structure has 1 or more B-frames: Leave blank or keep the default value Enabled. We recommend that you choose Enabled to help improve the video quality of your output relative to its bitrate. To not use reference B-frames: Choose Disabled.

Type: H265GopBReference
Required: False

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 1466400000

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. Required when Rate control mode is QVBR.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: H265SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: H265SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: H265TemporalAdaptiveQuantization
Required: False

flickerAdaptiveQuantization

Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set adaptiveQuantization to a value other than Off.

Type: H265FlickerAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1466400000

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: H265FramerateControl
Required: False

rateControlMode

Use this setting to specify whether this output has a variable bitrate (VBR), constant bitrate (CBR) or quality-defined variable bitrate (QVBR).

Type: H265RateControlMode

Required: False

qvbrSettings

Settings for quality-defined variable bitrate encoding with the H.265 codec. Use these settings only when you set QVBR for Rate control mode.

Type: H265QvbrSettings
Required: False

codecProfile

Represents the Profile and Tier, per the HEVC (H.265) specification. Selections are grouped as [Profile] / [Tier], so "Main/High" represents Main Profile with High Tier. 4:2:2 profiles are only available with the HEVC 4:2:2 License.

Type: H265CodecProfile
Required: False

tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

Type: H265Tiles
Required: False

telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

Type: H265Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To use an automatically determined interval: We recommend that you keep this value blank. This allows for MediaConvert to use an optimal setting according to the characteristics of your input video, and results in better video compression. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

When you set Adaptive Quantization to Auto, or leave blank, MediaConvert automatically applies quantization to improve the video quality of your output. Set Adaptive Quantization to Low,

Medium, High, Higher, or Max to manually control the strength of the quantization filter. When you do, you can specify a value for Spatial Adaptive Quantization, Temporal Adaptive Quantization, and Flicker Adaptive Quantization, to further control the quantization filter. Set Adaptive Quantization to Off to apply no quantization to your output.

Type: H265AdaptiveQuantization
Required: False

codecLevel

H.265 Level.

Type: H265CodecLevel
Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default. If this output uses QVBR, choose Transition detection for further video quality improvement. For more information about QVBR, see https://docs.aws.amazon.com/console/mediaconvert/cbr-vbr-qvbr.

Type: H265SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: H265QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid

stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: H265FramerateConversionAlgorithm
Required: False

unregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

Type: H265UnregisteredSeiTimecode
Required: False

gopSizeUnits

Specify how the transcoder determines GOP size for this output. We recommend that you have the transcoder automatically choose this value for you based on characteristics of your input video. To enable this automatic behavior, choose Auto and and leave GOP size blank. By default, if you don't specify GOP mode control, MediaConvert will use automatic behavior. If your output group specifies HLS, DASH, or CMAF, set GOP mode control to Auto and leave GOP size blank in each output in your output group. To explicitly specify the GOP length, choose Specified, frames or Specified, seconds and then provide the GOP length in the related setting GOP size.

Type: H265GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: H265ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames between reference frames in this output. For the best video quality: Leave blank. MediaConvert automatically determines the number of B-frames to use based on the characteristics of your input video. To manually specify the number of B-frames between reference frames: Enter an integer from 0 to 7.

Type: integer
Required: False
Minimum: 0
Maximum: 7

temporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

Type: H265TemporalIds
Required: False

sampleAdaptiveOffsetFilterMode

Specify Sample Adaptive Offset (SAO) filter strength. Adaptive mode dynamically selects best strength based on content

Type: H265SampleAdaptiveOffsetFilterMode
Required: False

writeMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

Type: H265WriteMp4PackagingType
Required: False

dynamicSubGop

Specify whether to allow the number of B-frames in your output GOP structure to vary or not depending on your input video content. To improve the subjective video quality of your output that has high-motion content: Leave blank or keep the default value Adaptive. MediaConvert will use fewer B-frames for high-motion video content than low-motion content. The maximum number of B- frames is limited by the value that you choose for B-frames between reference frames. To use the same number B-frames for all types of content: Choose Static.

Type: H265DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

endOfStreamMarkers

Optionally include or suppress markers at the end of your output that signal the end of the video stream. To include end of stream markers: Leave blank or keep the default value, Include. To not include end of stream markers: Choose Suppress. This is useful when your output will be inserted into another stream.

Type: H265EndOfStreamMarkers
Required: False

deblocking

Use Deblocking to improve the video quality of your output by smoothing the edges of macroblock artifacts created during video compression. To reduce blocking artifacts at block boundaries, and improve overall video quality: Keep the default value, Enabled. To not apply any deblocking: Choose Disabled. Visible block edge artifacts might appear in the output, especially at lower bitrates.

Type: H265Deblocking
Required: False

bandwidthReductionFilter

The Bandwidth reduction filter increases the video quality of your output relative to its bitrate. Use to lower the bitrate of your constant quality QVBR output, with little or no perceptual decrease in quality. Or, use to increase the video quality of outputs with other rate control modes relative to the bitrate that you specify. Bandwidth reduction increases further when your input is low quality or noisy. Outputs that use this feature incur pro-tier pricing. When you include Bandwidth reduction filter, you cannot include the Noise reducer preprocessor.

Type: BandwidthReductionFilter
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for

individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

H265SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

H265SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization

depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED

ENABLED

H265Telecine

This field applies only if the Streams > Advanced > Framerate field is set to 29.970. This field works with the Streams > Advanced > Preprocessors > Deinterlacer field and the Streams > Advanced > Interlaced Mode field to identify the scan type for the output: Progressive, Interlaced, Hard Telecine or Soft Telecine. - Hard: produces 29.97i output from 23.976 input. - Soft: produces 23.976; the player converts this output to 29.97i.

NONE

SOFT

HARD

H265TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

H265TemporalIds

Enables temporal layer identifiers in the encoded bitstream. Up to 3 layers are supported depending on GOP structure: I- and P-frames form one layer, reference B-frames can form a second layer and non-reference b-frames can form a third layer. Decoders can optionally decode only the lower temporal layers to generate a lower frame rate output. For example, given a bitstream with temporal IDs and with b-frames = 1 (i.e. IbPbPb display order), a decoder could decode all the frames for full frame rate output or only the I and P frames (lowest temporal layer) for a half frame rate output.

```
DISABLED
ENABLED
```

H265Tiles

Enable use of tiles, allowing horizontal as well as vertical subdivision of the encoded pictures.

```
DISABLED
ENABLED
```

H265UnregisteredSeiTimecode

Inserts timecode for each frame as 4 bytes of an unregistered SEI message.

```
DISABLED
ENABLED
```

H265WriteMp4PackagingType

If the location of parameter set NAL units doesn't matter in your workflow, ignore this setting. Use this setting only with CMAF or DASH outputs, or with standalone file outputs in an MPEG-4 container (MP4 outputs). Choose HVC1 to mark your output as HVC1. This makes your output compliant with the following specification: ISO IECJTC1 SC29 N13798 Text ISO/IEC FDIS 14496-15 3rd Edition. For these outputs, the service stores parameter set NAL units in the sample headers but not in the samples directly. For MP4 outputs, when you choose HVC1, your output video might not work properly with some downstream systems and video players. The service defaults to marking your output as HEV1. For these outputs, the service writes parameter set NAL units directly into the samples.

HVC1

HEV1

HDRToSDRToneMapper

Specify how MediaConvert maps brightness and colors from your HDR input to your SDR output. The mode that you select represents a creative choice, with different tradeoffs in the details and tones of your output. To maintain details in bright or saturated areas of your output: Choose Preserve details. For some sources, your SDR output may look less bright and less saturated when compared to your HDR source. MediaConvert automatically applies this mode for HLG sources, regardless of your choice. For a bright and saturated output: Choose Vibrant. We recommend that you choose this mode when any of your source content is HDR10, and for the best results when it is mastered for 1000 nits. You may notice loss of details in bright or saturated areas of your output. HDR to SDR tone mapping has no effect when your input is SDR.

PRESERVE_DETAILS

VIBRANT

Hdr10Metadata

Use these settings to specify static color calibration metadata, as defined by SMPTE ST 2086. These values don't affect the pixel values that are encoded in the video stream. They are intended to help the downstream video player display content in a way that reflects the intentions of the the content creator.

redPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer

Required: False

Minimum: 0

Maximum: 50000

redPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

greenPrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

bluePrimaryY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointX

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

whitePointY

HDR Master Display Information must be provided by a color grader, using color grading tools. Range is 0 to 50,000, each increment represents 0.00002 in CIE1931 color coordinate. Note that this setting is not for color correction.

Type: integer
Required: False
Minimum: 0
Maximum: 50000

maxFrameAverageLightLevel

Maximum average light level of any frame in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxContentLightLevel

Maximum light level among all samples in the coded video sequence, in units of candelas per square meter. This setting doesn't have a default value; you must specify a value that is suitable for the content.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

maxLuminance

Nominal maximum mastering display luminance in units of of 0.0001 candelas per square meter.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minLuminance

Nominal minimum mastering display luminance in units of of 0.0001 candelas per square meter

Type: integer
Required: False
Minimum: 0

Maximum: 2147483647

Hdr10Plus

Setting for HDR10+ metadata insertion

masteringMonitorNits

Specify the HDR10+ mastering display normalized peak luminance, in nits. This is the normalized actual peak luminance of the mastering display, as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

targetMonitorNits

Specify the HDR10+ target display nominal peak luminance, in nits. This is the nominal maximum luminance of the target display as defined by ST 2094-40.

Type: integer
Required: False
Minimum: 0
Maximum: 4000

HlsAdMarkers

Ad marker for Apple HLS manifest.

ELEMENTAL
ELEMENTAL_SCTE35

HlsAdditionalManifest

Specify the details for each additional HLS manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your HLS group is film-name.m3u8. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.m3u8. For HLS output groups, specify a manifestNameModifier that is different from the nameModifier of the output. The service uses the output name modifier to create unique names for the individual variant manifests.

Type: string
Required: False
MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

HlsAudioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create a raw audio-only file with no container. Regardless of the value that you specify here, if this output has video, the service will place outputs into an MPEG2-TS container.

`AUTOMATIC`
`M2TS`

HlsAudioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

INCLUDE
EXCLUDE

HlsAudioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

ALTERNATE_AUDIO_AUTO_SELECT_DEFAULT
ALTERNATE_AUDIO_AUTO_SELECT
ALTERNATE_AUDIO_NOT_AUTO_SELECT
AUDIO_ONLY_VARIANT_STREAM

HlsCaptionLanguageMapping

Caption Language Mapping

captionChannel

Caption channel.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

customLanguageCode

Specify the language for this captions channel, using the ISO 639-2 or ISO 639-3 three-letter language code

Type: string

Required: False

Pattern: `^[A-Za-z]{3}$`

MinLength: 3

MaxLength: 3

languageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

Type: LanguageCode

Required: False

languageDescription

Caption language description.

Type: string

Required: False

HlsCaptionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

`INSERT`

`OMIT`

`NONE`

HlsCaptionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

LARGE_SEGMENTS
MATCH_VIDEO

HlsClientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

DISABLED
ENABLED

HlsCodecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

RFC_6381
RFC_4281

HlsDescriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

DONT_FLAG
FLAG

HlsDirectoryStructure

Indicates whether segments should be placed in subdirectories.

SINGLE_DIRECTORY
SUBDIRECTORY_PER_STREAM

HlsEncryptionSettings

Settings for HLS encryption

encryptionMethod

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

Type: HlsEncryptionType
Required: False

constantInitializationVector

This is a 128-bit, 16-byte hex value represented by a 32-character text string. If this parameter is not set then the Initialization Vector will follow the segment number by default.

Type: string
Required: False
Pattern: ^[0-9a-fA-F]{32}$
MinLength: 32
MaxLength: 32

initializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

Type: HlsInitializationVectorInManifest
Required: False

offlineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

Type: HlsOfflineEncrypted
Required: False

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

staticKeyProvider

Use these settings to set up encryption with a static key provider.

Type: StaticKeyProvider
Required: False

type

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

Type: HlsKeyProviderType
Required: False

HlsEncryptionType

Encrypts the segments with the given encryption scheme. Leave blank to disable. Selecting 'Disabled' in the web interface also disables encryption.

AES128

SAMPLE_AES

HlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

targetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

Type: HlsTargetDurationCompatibilityMode
Required: False

manifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

Type: HlsManifestDurationFormat
Required: False

segmentLength

Specify the length, in whole seconds, of each segment. When you don't specify a value, MediaConvert defaults to 10. Related settings: Use Segment length control to specify whether the encoder enforces this value strictly. Use Segment control to specify whether MediaConvert creates separate segment files or one content file that has metadata to mark the segment boundaries.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

segmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

Type: HlsSegmentLengthControl
Required: False

timedMetadataId3Period

Specify the interval in seconds to write ID3 timestamps in your output. The first timestamp starts at the output timecode and date, and increases incrementally with each ID3 timestamp. To use the default interval of 10 seconds: Leave blank. To include this metadata in your output: Set ID3 timestamp frame type to PRIV or TDRL, and set ID3 metadata to Passthrough.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

captionLanguageSetting

Applies only to 608 Embedded output captions. Insert: Include CLOSED-CAPTIONS lines in the manifest. Specify at least one language in the CC1 Language Code field. One CLOSED-CAPTION line is added for each Language Code you specify. Make sure to specify the languages in the order in which they appear in the original source (if the source is embedded format) or the order of the caption selectors (if the source is other than embedded). Otherwise, languages in the manifest will

not match up properly with the output captions. None: Include CLOSED-CAPTIONS=NONE line in the manifest. Omit: Omit any CLOSED-CAPTIONS line from the manifest.

Type: HlsCaptionLanguageSetting
Required: False

captionLanguageMappings

Language to be used on Caption outputs

Type: Array of type HlsCaptionLanguageMapping
Required: False

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one top-level .m3u8 HLS manifest for each HLS output group in your job. This default manifest references every output in the output group. To create additional top-level manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type HlsAdditionalManifest

Required: False

encryption

DRM settings.

Type: HlsEncryptionSettings
Required: False

timedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

Type: HlsTimedMetadataId3Frame
Required: False

baseUrl

A partial URI prefix that will be prepended to each output in the media .m3u8 file. Can be used if base manifest is delivered from a different URL than the main .m3u8 file.

Type: string
Required: False

codecSpecification

Specification to use (RFC-6381 or the default RFC-4281) during m3u8 playlist generation.

Type: HlsCodecSpecification
Required: False

outputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

Type: HlsOutputSelection
Required: False

programDateTimePeriod

Period of insertion of EXT-X-PROGRAM-DATE-TIME entry, in seconds.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

segmentsPerSubdirectory

Specify the number of segments to write to a subdirectory before starting a new one. You must also set Directory structure to Subdirectory per stream for this setting to have an effect.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

minSegmentLength

When set, Minimum Segment Size is enforced by looking ahead and back within the specified range for a nearby avail and extending the segment size if needed.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

minFinalSegmentLength

Keep this setting at the default value of 0, unless you are troubleshooting a problem with how devices play back the end of your video asset. If you know that player devices are hanging on the final segment of your video because the length of your final segment is too short, use this setting to specify a minimum final segment length, in seconds. Choose a value that is greater than or equal to 1 and less than your segment length. When you specify a value for this setting, the encoder will combine any final segment that is shorter than the length that you specify with the previous segment. For example, your segment length is 3 seconds and your final segment is .5 seconds

without a minimum final segment length; when you set the minimum final segment length to 1, your final segment is 3.5 seconds.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

directoryStructure

Indicates whether segments should be placed in subdirectories.

Type: HlsDirectoryStructure
Required: False

programDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

Type: HlsProgramDateTime
Required: False

adMarkers

Choose one or more ad marker types to decorate your Apple HLS manifest. This setting does not determine whether SCTE-35 markers appear in the outputs themselves.

Type: Array of type HlsAdMarkers
Required: False

segmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

Type: HlsSegmentControl
Required: False

timestampDeltaMilliseconds

Provides an extra millisecond delta offset to fine tune the timestamps.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

manifestCompression

When set to GZIP, compresses HLS playlist.

Type: HlsManifestCompression
Required: False

clientCache

Disable this setting only when your workflow requires the #EXT-X-ALLOW-CACHE:no tag. Otherwise, keep the default value Enabled and control caching in your video distribution set up. For example, use the Cache-Control http header.

Type: HlsClientCache
Required: False

audioOnlyHeader

Ignore this setting unless you are using FairPlay DRM with Verimatrix and you encounter playback issues. Keep the default value, Include, to output audio-only headers. Choose Exclude to remove the audio-only headers from your audio segments.

Type: HlsAudioOnlyHeader
Required: False

streamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

Type: HlsStreamInfResolution
Required: False

imageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

Type: HlsImageBasedTrickPlay
Required: False

progressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

Type: HlsProgressiveWriteHlsManifest
Required: False

imageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

Type: HlsImageBasedTrickPlaySettings
Required: False

captionSegmentLengthControl

Set Caption segment length control to Match video to create caption segments that align with the video segments from the first video output in this output group. For example, if the video segments are 2 seconds long, your WebVTT segments will also be 2 seconds long. Keep the default setting, Large segments to create caption segments that are 300 seconds long.

Type: HlsCaptionSegmentLengthControl
Required: False

HlsIFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

```
INCLUDE
INCLUDE_AS_TS
EXCLUDE
```

HlsImageBasedTrickPlay

Specify whether MediaConvert generates images for trick play. Keep the default value, None, to not generate any images. Choose Thumbnail to generate tiled thumbnails. Choose Thumbnail and full frame to generate tiled thumbnails and full-resolution images of single frames. MediaConvert creates a child manifest for each set of images that you generate and adds corresponding entries to the parent manifest. A common application for these images is Roku trick mode. The thumbnails and full-frame images that MediaConvert creates with this feature are compatible with this Roku specification: https://developer.roku.com/docs/developer-program/media-playback/trick-mode/hls-and-dash.md

NONE
THUMBNAIL
THUMBNAIL_AND_FULLFRAME
ADVANCED

HlsImageBasedTrickPlaySettings

Tile and thumbnail settings applicable when imageBasedTrickPlay is ADVANCED

thumbnailHeight

Height of each thumbnail within each tile image, in pixels. Leave blank to maintain aspect ratio with thumbnail width. If following the aspect ratio would lead to a total tile height greater than 4096, then the job will be rejected. Must be divisible by 2.

Type: integer
Required: False
Minimum: 2
Maximum: 4096

thumbnailWidth

Width of each thumbnail within each tile image, in pixels. Default is 312. Must be divisible by 8.

Type: integer
Required: False
Minimum: 8
Maximum: 4096

tileHeight

Number of thumbnails in each column of a tile image. Set a value between 2 and 2048. Must be divisible by 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2048

tileWidth

Number of thumbnails in each row of a tile image. Set a value between 1 and 512.

Type: integer
Required: False
Minimum: 1
Maximum: 512

intervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

Type: HlsIntervalCadence
Required: False

thumbnailInterval

Enter the interval, in seconds, that MediaConvert uses to generate thumbnails. If the interval you enter doesn't align with the output frame rate, MediaConvert automatically rounds the interval to align with the output frame rate. For example, if the output frame rate is 29.97 frames per second and you enter 5, MediaConvert uses a 150 frame interval to generate thumbnails.

Type: number
Required: False
Format: float
Minimum: 0.0
Maximum: 2.147483647E9

HlsInitializationVectorInManifest

The Initialization Vector is a 128-bit number used in conjunction with the key for encrypting blocks. If set to INCLUDE, Initialization Vector is listed in the manifest. Otherwise Initialization Vector is not in the manifest.

INCLUDE

EXCLUDE

HlsIntervalCadence

The cadence MediaConvert follows for generating thumbnails. If set to FOLLOW_IFRAME, MediaConvert generates thumbnails for each IDR frame in the output (matching the GOP cadence). If set to FOLLOW_CUSTOM, MediaConvert generates thumbnails according to the interval you specify in thumbnailInterval.

FOLLOW_IFRAME

FOLLOW_CUSTOM

HlsKeyProviderType

Specify whether your DRM encryption key is static or from a key provider that follows the SPEKE standard. For more information about SPEKE, see https://docs.aws.amazon.com/speke/latest/documentation/what-is-speke.html.

SPEKE

STATIC_KEY

HlsManifestCompression

When set to GZIP, compresses HLS playlist.

GZIP

NONE

HlsManifestDurationFormat

Indicates whether the output manifest should use floating point values for segment duration.

FLOATING_POINT

INTEGER

HlsOfflineEncrypted

Enable this setting to insert the EXT-X-SESSION-KEY element into the master playlist. This allows for offline Apple HLS FairPlay content protection.

```
ENABLED
DISABLED
```

HlsOutputSelection

Indicates whether the .m3u8 manifest file should be generated for this HLS output group.

```
MANIFESTS_AND_SEGMENTS
SEGMENTS_ONLY
```

HlsProgramDateTime

Includes or excludes EXT-X-PROGRAM-DATE-TIME tag in .m3u8 manifest files. The value is calculated as follows: either the program date and time are initialized using the input timecode source, or the time is initialized using the input timecode source and the date is initialized using the timestamp_offset.

```
INCLUDE
EXCLUDE
```

HlsProgressiveWriteHlsManifest

Specify whether MediaConvert generates HLS manifests while your job is running or when your job is complete. To generate HLS manifests while your job is running: Choose Enabled. Use if you want to play back your content as soon as it's available. MediaConvert writes the parent and child manifests after the first three media segments are written to your destination S3 bucket. It then writes new updated manifests after each additional segment is written. The parent manifest includes the latest BANDWIDTH and AVERAGE-BANDWIDTH attributes, and child manifests include the latest available media segment. When your job completes, the final child playlists include an EXT-X-ENDLIST tag. To generate HLS manifests only when your job completes: Choose Disabled.

```
ENABLED
```

DISABLED

HlsRenditionGroupSettings

Settings specific to audio sources in an HLS alternate rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique audio track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the properties provided, the job fails. If no properties in hlsRenditionGroupSettings are specified, the default audio track within the video segment is chosen. If there is no audio within video segment, the alternative audio with DEFAULT=YES is chosen instead.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

HlsSegmentControl

When set to SINGLE_FILE, emits program as a single media resource (.ts) file, uses #EXT-X-BYTERANGE tags to index segment for playback.

SINGLE_FILE

SEGMENTED_FILES

HlsSegmentLengthControl

Specify how you want MediaConvert to determine segment lengths in this output group. To use the exact value that you specify under Segment length: Choose Exact. Note that this might result in additional I-frames in the output GOP. To create segment lengths that are a multiple of the GOP: Choose Multiple of GOP. MediaConvert will round up the segment lengths to match the next GOP boundary. To have MediaConvert automatically determine a segment duration that is a multiple of both the audio packets and the frame rates: Choose Match. When you do, also specify a target segment duration under Segment length. This is useful for some ad-insertion or segment replacement workflows. Note that Match has the following requirements: - Output containers: Include at least one video output and at least one audio output. Audio-only outputs are not supported. - Output frame rate: Follow source is not supported. - Multiple output frame rates: When you specify multiple outputs, we recommend they share a similar frame rate (as in X/3, X/2, X, or 2X). For example: 5, 15, 30 and 60. Or: 25 and 50. (Outputs must share an integer multiple.) - Output audio codec: Specify Advanced Audio Coding (AAC). - Output sample rate: Choose 48kHz.

EXACT

GOP_MULTIPLE

MATCH

HlsSettings

Settings for HLS output groups

audioGroupId

Specifies the group to which the audio rendition belongs.

Type: string

Required: False

audioRenditionSets

List all the audio groups that are used with the video output stream. Input all the audio GROUP-IDs that are associated to the video, separate by ','.

Type: string
Required: False

audioTrackType

Four types of audio-only tracks are supported: Audio-Only Variant Stream The client can play back this audio-only stream instead of video in low-bandwidth scenarios. Represented as an EXT-X-STREAM-INF in the HLS manifest. Alternate Audio, Auto Select, Default Alternate rendition that the client should try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=YES, AUTOSELECT=YES Alternate Audio, Auto Select, Not Default Alternate rendition that the client may try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=YES Alternate Audio, not Auto Select Alternate rendition that the client will not try to play back by default. Represented as an EXT-X-MEDIA in the HLS manifest with DEFAULT=NO, AUTOSELECT=NO

Type: HlsAudioTrackType
Required: False

descriptiveVideoServiceFlag

Specify whether to flag this audio track as descriptive video service (DVS) in your HLS parent manifest. When you choose Flag, MediaConvert includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. When you keep the default choice, Don't flag, MediaConvert leaves this parameter out. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.

Type: HlsDescriptiveVideoServiceFlag
Required: False

iFrameOnlyManifest

Generate a variant manifest that lists only the I-frames for this rendition. You might use this manifest as part of a workflow that creates preview functions for your video. MediaConvert adds both the I-frame only variant manifest and the regular variant manifest to the multivariant manifest. To have MediaConvert write a variant manifest that references I-frames from your output content using EXT-X-BYTERANGE tags: Choose Include. To have MediaConvert output I-frames as

single frame TS files and a corresponding variant manifest that references them: Choose Include as TS. When you don't need the I-frame only variant manifest: Keep the default value, Exclude.

Type: HlsIFrameOnlyManifest
Required: False

segmentModifier

Use this setting to add an identifying string to the filename of each segment. The service adds this string between the name modifier and segment index number. You can use format identifiers in the string. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/using-variables-in-your-job-settings.html

Type: string
Required: False

audioOnlyContainer

Use this setting only in audio-only outputs. Choose MPEG-2 Transport Stream (M2TS) to create a file in an MPEG2-TS container. Keep the default value Automatic to create an audio-only file in a raw container. Regardless of the value that you specify here, if this output has video, the service will place the output into an MPEG2-TS container.

Type: HlsAudioOnlyContainer
Required: False

HlsStreamInfResolution

Include or exclude RESOLUTION attribute for video in EXT-X-STREAM-INF tag of variant manifest.

INCLUDE
EXCLUDE

HlsTargetDurationCompatibilityMode

When set to LEGACY, the segment target duration is always rounded up to the nearest integer value above its current value in seconds. When set to SPEC_COMPLIANT, the segment target

duration is rounded up to the nearest integer value if fraction seconds are greater than or equal to 0.5 (>= 0.5) and rounded down if less than 0.5 (< 0.5). You may need to use LEGACY if your client needs to ensure that the target duration is always longer than the actual duration of the segment. Some older players may experience interrupted playback when the actual duration of a track in a segment is longer than the target duration.

LEGACY
SPEC_COMPLIANT

HlsTimedMetadataId3Frame

Specify the type of the ID3 frame to use for ID3 timestamps in your output. To include ID3 timestamps: Specify PRIV or TDRL and set ID3 metadata to Passthrough. To exclude ID3 timestamps: Set ID3 timestamp frame type to None.

NONE
PRIV
TDRL

HopDestination

Optional. Configuration for a destination queue to which the job can hop once a customer-defined minimum wait time has passed.

waitMinutes

Required for setting up a job to use queue hopping. Minimum wait time in minutes until the job can hop to the destination queue. Valid range is 1 to 4320 minutes, inclusive.

Type: integer
Required: False

queue

Optional unless the job is submitted on the default queue. When you set up a job to use queue hopping, you can specify a destination queue. This queue cannot be the original queue to which the job is submitted. If the original queue isn't the default queue and you don't specify the destination queue, the job will move to the default queue.

Type: string
Required: False

priority

Optional. When you set up a job to use queue hopping, you can specify a different relative priority for the job in the destination queue. If you don't specify, the relative priority will remain the same as in the previous queue.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

Id3Insertion

To insert ID3 tags in your output, specify two values. Use ID3 tag to specify the base 64 encoded string and use Timecode to specify the time when the tag should be inserted. To insert multiple ID3 tags in your output, create multiple instances of ID3 insertion.

timecode

Provide a Timecode in HH:MM:SS:FF or HH:MM:SS;FF format.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

id3

Use ID3 tag to provide a fully formed ID3 tag in base64-encode format.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

ImageInserter

Use the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input or output individually. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/graphic-overlay.html. This setting is disabled by default.

insertableImages

Specify the images that you want to overlay on your video. The images must be PNG or TGA files.

Type: Array of type InsertableImage
Required: False

sdrReferenceWhiteLevel

Specify the reference white level, in nits, for all of your image inserter images. Use to correct brightness levels within HDR10 outputs. For 1,000 nit peak brightness displays, we recommend that you set SDR reference white level to 203 (according to ITU-R BT.2408). Leave blank to use the default value of 100, or specify an integer from 100 to 1000.

Type: integer
Required: False
Minimum: 100
Maximum: 1000

ImscAccessibilitySubs

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the

following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

DISABLED
ENABLED

ImscDestinationSettings

Settings related to IMSC captions. IMSC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

Type: ImscStylePassthrough
Required: False

accessibility

If the IMSC captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: ImscAccessibilitySubs
Required: False

ImscStylePassthrough

Keep this setting enabled to have MediaConvert use the font style and position information from the captions source in the output. This option is available only when your input captions are IMSC, SMPTE-TT, or TTML. Disable this setting for simplified output captions.

ENABLED
DISABLED

Input

Use inputs to define the source files used in your transcoding job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/specify-input-settings.html. You can use multiple video inputs to do input stitching. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html

inputClippings

Contains sets of start and end times that together specify a portion of the input to be used in the outputs. If you provide only a start time, the clip will be the entire input from that point to the end. If you provide only an end time, it will be the entire input up to that point. When you specify more than one input clip, the transcoding service creates the job outputs by stringing the clips together in the order you specify them.

Type: Array of type InputClipping
Required: False

audioSelectors

Use Audio selectors to specify a track or set of tracks from the input that you will use in your outputs. You can use multiple Audio selectors per input.

Type: object
Required: False

dynamicAudioSelectors

Use Dynamic audio selectors when you do not know the track layout of your source when you submit your job, but want to select multiple audio tracks. When you include an audio track in

your output and specify this Dynamic audio selector as the Audio source, MediaConvert creates an output audio track for each dynamically selected track. Note that when you include a Dynamic audio selector for two or more inputs, each input must have the same number of audio tracks and audio channels.

Type: object
Required: False

audioSelectorGroups

Use audio selector groups to combine multiple sidecar audio inputs so that you can assign them to a single output audio tab. Note that, if you're working with embedded audio, it's simpler to assign multiple input tracks into a single audio selector rather than use an audio selector group.

Type: object
Required: False

programNumber

Use Program to select a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported. Default is the first program within the transport stream. If the program you specify doesn't exist, the transcoding service will use this default.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

videoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

Type: VideoSelector
Required: False

filterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

Type: InputFilterEnable
Required: False

psiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

Type: InputPsiControl
Required: False

filterStrength

Specify the strength of the input filter. To apply an automatic amount of filtering based the compression artifacts measured in your input: We recommend that you leave Filter strength blank and set Filter enable to Auto. To manually apply filtering: Enter a value from 1 to 5, where 1 is the least amount of filtering and 5 is the most. The value that you enter applies to the strength of the Deblock or Denoise filters, or to the strength of the Advanced input filter.

Type: integer
Required: False
Minimum: 0
Maximum: 5

deblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

Type: InputDeblockFilter
Required: False

denoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

Type: InputDenoiseFilter
Required: False

inputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

Type: InputScanType
Required: False

timecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the timecode that you want the service to use for this input's initial frame. To use this setting, you must set the Timecode source setting, located under the input settings, to Specified

start. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

captionSelectors

Use captions selectors to specify the captions data from your input that you use in your outputs. You can use up to 100 captions selectors per input.

Type: object
Required: False

imageInserter

Enable the image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each input individually. This setting is disabled by default.

Type: ImageInserter
Required: False

dolbyVisionMetadataXml

Use this setting only when your video source has Dolby Vision studio mastering metadata that is carried in a separate XML file. Specify the Amazon S3 location for the metadata XML file. MediaConvert uses this file to provide global and frame-level metadata for Dolby Vision preprocessing. When you specify a file here and your input also has interleaved global and frame level metadata, MediaConvert ignores the interleaved metadata and uses only the the metadata from this external XML file. Note that your IAM service role must grant MediaConvert read permissions to this file. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html.

Type: string
Required: False

Pattern: `^((s3://(.*?)\.(xml|XML))|(https?://(.*?)\.(xml|XML)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

crop

Use Cropping selection to specify the video area that the service will include in the output video frame. If you specify a value here, it will override any value that you specify in the output setting Cropping selection.

Type: Rectangle
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black. If you specify a value here, it will override any value that you specify in the output setting Selection placement. If you specify a value here, this will override any AFD values in your input, even if you set Respond to AFD to Respond. If you specify a value here, this will ignore anything that you specify for the setting Scaling Behavior.

Type: Rectangle
Required: False

advancedInputFilter

Use to remove noise, blocking, blurriness, or ringing from your input as a pre-filter step before encoding. The Advanced input filter removes more types of compression artifacts and is an improvement when compared to basic Deblock and Denoise filters. To remove video compression artifacts from your input and improve the video quality: Choose Enabled. Additionally, this filter can help increase the video quality of your output relative to its bitrate, since noisy inputs are more complex and require more bits to encode. To help restore loss of detail after applying the filter, you can optionally add texture or sharpening as an additional step. Jobs that use this feature incur pro-tier pricing. To not apply advanced input filtering: Choose Disabled. Note that you can still apply basic filtering with Deblock and Denoise.

Type: AdvancedInputFilter
Required: False

advancedInputFilterSettings

Optional settings for Advanced input filter when you set Advanced input filter to Enabled.

Type: AdvancedInputFilterSettings
Required: False

videoOverlays

Contains an array of video overlays.

Type: Array of type VideoOverlay
Required: False

fileInput

Specify the source file for your transcoding job. You can use multiple inputs in a single job. The service concatenates these inputs, in the order that you specify them in the job, to create the outputs. For standard inputs, provide the path to your S3, HTTP, or HTTPS source file. For example, s3://amzn-s3-demo-bucket/input.mp4 for an Amazon S3 input or https://example.com/input.mp4 for an HTTPS input. For TAMS inputs, specify the HTTPS endpoint of your TAMS server. For example, https://tams-server.example.com . When you do, also specify Source ID, Timerange, GAP handling, and the Authorization connection ARN under TAMS settings. (Don't include these parameters in the Input file URL.) For IMF inputs, specify your input by providing the path to your CPL. For example, s3://amzn-s3-demo-bucket/vf/cpl.xml . If the CPL is in an incomplete IMP, make sure to use Supplemental IMPsto specify any supplemental IMPs that contain assets referenced by the CPL.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`
MaxLength: 2048

videoGenerator

When you include Video generator, MediaConvert creates a video input with black frames. Use this setting if you do not have a video input or if you want to add black video frames before, or after, other inputs. You can specify Video generator, or you can specify an Input file, but you cannot

specify both. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-generator.html

Type: InputVideoGenerator
Required: False

decryptionSettings

Settings for decrypting any input files that you encrypt before you upload them to Amazon S3. MediaConvert can decrypt files only when you use AWS Key Management Service (KMS) to encrypt the data key that you use to encrypt your content.

Type: InputDecryptionSettings
Required: False

supplementalImps

Provide a list of any necessary supplemental IMPs. You need supplemental IMPs if the CPL that you're using for your input is in an incomplete IMP. Specify either the supplemental IMP directories with a trailing slash or the ASSETMAP.xml files. For example ["s3://bucket/ov/", "s3://bucket/vf2/ASSETMAP.xml"]. You don't need to specify the IMP that contains your input CPL, because the service automatically detects it.

Type: Array of type string
Required: False
Pattern: `^s3:\/\/.*\/(ASSETMAP.xml)?$`

tamsSettings

Specify a Time Addressable Media Store (TAMS) server as an input source. TAMS is an open-source API specification that provides access to time-segmented media content. Use TAMS to retrieve specific time ranges from live or archived media streams. When you specify TAMS settings, MediaConvert connects to your TAMS server, retrieves the media segments for your specified time range, and processes them as a single input. This enables workflows like extracting clips from live streams or processing specific portions of archived content. To use TAMS, you must: 1. Have access to a TAMS-compliant server 2. Specify the server URL in the Input file URL field 3. Provide the required SourceId and Timerange parameters 4. Configure authentication, if your TAMS server requires it

Type: InputTamsSettings
Required: False

InputClipping

To transcode only portions of your input, include one input clip for each part of your input that you want in your output. All input clips that you specify will be included in every output of the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/assembling-multiple-inputs-and-input-clips.html.

endTimecode

Set End timecode to the end of the portion of the input you are clipping. The frame corresponding to the End timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for timecode source under input settings. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to end six minutes into the video, use 01:06:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

startTimecode

Set Start timecode to the beginning of the portion of the input you are clipping. The frame corresponding to the Start timecode value is included in the clip. Start timecode or End timecode may be left blank, but not both. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When choosing this value, take into account your setting for Input timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your clip to begin five minutes into the video, use 01:05:00:00.

Type: string
Required: False

Format: timecode

Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$`

InputDeblockFilter

Enable Deblock to produce smoother motion in the output. Default is disabled. Only manually controllable for MPEG2 and uncompressed video inputs.

`ENABLED`

`DISABLED`

InputDecryptionSettings

Settings for decrypting any input files that you encrypt before you upload them to Amazon S3. MediaConvert can decrypt files only when you use AWS Key Management Service (KMS) to encrypt the data key that you use to encrypt your content.

decryptionMode

Specify the encryption mode that you used to encrypt your input files.

Type: DecryptionMode

Required: False

encryptedDecryptionKey

Warning! Don't provide your encryption key in plaintext. Your job settings could be intercepted, making your encrypted content vulnerable. Specify the encrypted version of the data key that you used to encrypt your content. The data key must be encrypted by AWS Key Management Service (KMS). The key can be 128, 192, or 256 bits.

Type: string

Required: False

Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

MinLength: 24

MaxLength: 512

initializationVector

Specify the initialization vector that you used when you encrypted your content before uploading it to Amazon S3. You can use a 16-byte initialization vector with any encryption mode. Or, you can use a 12-byte initialization vector with GCM or CTR. MediaConvert accepts only initialization vectors that are base64-encoded.

Type: string
Required: False
Pattern: `^[A-Za-z0-9+\/]{22}==$|^[A-Za-z0-9+\/]{16}$`
MinLength: 16
MaxLength: 24

kmsKeyRegion

Specify the AWS Region for AWS Key Management Service (KMS) that you used to encrypt your data key, if that Region is different from the one you are using for AWS Elemental MediaConvert.

Type: string
Required: False
Pattern: `^[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}$`
MinLength: 9
MaxLength: 19

InputDenoiseFilter

Enable Denoise to filter noise from the input. Default is disabled. Only applicable to MPEG2, H.264, H.265, and uncompressed video inputs.

`ENABLED`
`DISABLED`

InputFilterEnable

Specify whether to apply input filtering to improve the video quality of your input. To apply filtering depending on your input type and quality: Choose Auto. To apply no filtering: Choose

Disable. To apply filtering regardless of your input type and quality: Choose Force. When you do, you must also specify a value for Filter strength.

```
AUTO
DISABLE
FORCE
```

InputPsiControl

Set PSI control for transport stream inputs to specify which data the demux process to scans. * Ignore PSI - Scan all PIDs for audio and video. * Use PSI - Scan only PSI data.

```
IGNORE_PSI
USE_PSI
```

InputRotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

```
DEGREE_0
DEGREES_90
DEGREES_180
DEGREES_270
AUTO
```

InputSampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample

range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

FOLLOW
FULL_RANGE
LIMITED_RANGE

InputScanType

When you have a progressive segmented frame (PsF) input, use this setting to flag the input as PsF. MediaConvert doesn't automatically detect PsF. Therefore, flagging your input as PsF results in better preservation of video quality when you do deinterlacing and frame rate conversion. If you don't specify, the default value is Auto. Auto is the correct setting for all inputs that are not PsF. Don't set this value to PsF when your input is interlaced. Doing so creates horizontal interlacing artifacts.

AUTO
PSF

InputTamsSettings

Specify a Time Addressable Media Store (TAMS) server as an input source. TAMS is an open-source API specification that provides access to time-segmented media content. Use TAMS to retrieve specific time ranges from live or archived media streams. When you specify TAMS settings, MediaConvert connects to your TAMS server, retrieves the media segments for your specified time range, and processes them as a single input. This enables workflows like extracting clips from live streams or processing specific portions of archived content. To use TAMS, you must: 1. Have access to a TAMS-compliant server 2. Specify the server URL in the Input file URL field 3. Provide the required SourceId and Timerange parameters 4. Configure authentication, if your TAMS server requires it

sourceId

Specify the unique identifier for the media source in your TAMS server. MediaConvert uses this source ID to locate the appropriate flows containing the media segments you want to process.

The source ID corresponds to a specific media source registered in your TAMS server. This source must be of type urn:x-nmos:format:multi, and can can reference multiple flows for audio, video, or combined audio/video content. MediaConvert automatically selects the highest quality flows available for your job. This setting is required when you include TAMS settings in your job.

Type: string
Required: False

timerange

Specify the time range of media segments to retrieve from your TAMS server. MediaConvert fetches only the segments that fall within this range. Use the format specified by your TAMS server implementation. This must be two timestamp values with the format {sign?}{seconds}:{nanoseconds}, separated by an underscore, surrounded by either parentheses or square brackets. Example: [15:0_35:0) This setting is required when you include TAMS settings in your job.

Type: string
Required: False
Pattern: `^(\[|\()(-?(0|[1-9][0-9]*):(0|[1-9][0-9]{0,8}))_(-?(0|[1-9][0-9]*):(0|[1-9][0-9]{0,8}))(\]|\))$`

gapHandling

Specify how MediaConvert handles gaps between media segments in your TAMS source. Gaps can occur in live streams due to network issues or other interruptions. Choose from the following options: * Skip gaps - Default. Skip over gaps and join segments together. This creates a continuous output with no blank frames, but may cause timeline discontinuities. * Fill with black - Insert black frames to fill gaps between segments. This maintains timeline continuity but adds black frames where content is missing. * Hold last frame - Repeat the last frame before a gap until the next segment begins. This maintains visual continuity during gaps.

Type: TamsGapHandling
Required: False

authConnectionArn

Specify the ARN (Amazon Resource Name) of an EventBridge Connection to authenticate with your TAMS server. The EventBridge Connection stores your authentication credentials

securely. MediaConvert assumes your job's IAM role to access this connection, so ensure the role has the events:RetrieveConnectionCredentials, secretsmanager:DescribeSecret, and secretsmanager:GetSecretValue permissions. Format: arn:aws:events:region:account-id:connection/connection-name/unique-id This setting is required when you include TAMS settings in your job.

Type: string

Required: False

Pattern: `^arn:aws[a-z0-9-]*:events:[a-z0-9-]+:[0-9]{12}:connection/[a-zA-Z0-9-]+/[a-f0-9-]{36}$`

InputTimecodeSource

Use this Timecode source setting, located under the input settings, to specify how the service counts input video frames. This input frame count affects only the behavior of features that apply to a single input at a time, such as input clipping and synchronizing some captions formats. Choose Embedded to use the timecodes in your input video. Choose Start at zero to start the first frame at zero. Choose Specified start to start the first frame at the timecode that you specify in the setting Start timecode. If you don't specify a value for Timecode source, the service will use Embedded by default. For more information about timecodes, see https://docs.aws.amazon.com/console/mediaconvert/timecode.

`EMBEDDED`

`ZEROBASED`

`SPECIFIEDSTART`

InputVideoGenerator

When you include Video generator, MediaConvert creates a video input with black frames. Use this setting if you do not have a video input or if you want to add black video frames before, or after, other inputs. You can specify Video generator, or you can specify an Input file, but you cannot specify both. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-generator.html

duration

Specify the duration, in milliseconds, for your video generator input. Enter an integer from 50 to 86400000.

Type: integer
Required: False
Minimum: 50
Maximum: 86400000

framerateNumerator

Specify the numerator of the fraction that represents the frame rate for your video generator input. When you do, you must also specify a value for Frame rate denominator. MediaConvert uses a default frame rate of 29.97 when you leave Frame rate numerator and Frame rate denominator blank.

Type: integer
Required: False
Minimum: 1
Maximum: 60000

framerateDenominator

Specify the denominator of the fraction that represents the frame rate for your video generator input. When you do, you must also specify a value for Frame rate numerator. MediaConvert uses a default frame rate of 29.97 when you leave Frame rate numerator and Frame rate denominator blank.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

sampleRate

Specify the audio sample rate, in Hz, for the silent audio in your video generator input. Enter an integer from 32000 to 48000.

Type: integer
Required: False
Minimum: 32000

Maximum: 48000

channels

Specify the number of audio channels to include in your video generator input. MediaConvert creates these audio channels as silent audio within a single audio track. Enter an integer from 1 to 32.

Type: integer
Required: False
Minimum: 1
Maximum: 32

InsertableImage

These settings apply to a specific graphic overlay. You can include multiple overlays in your job.

width

Specify the width of the inserted image in pixels. If you specify a value that's larger than the video resolution width, the service will crop your overlaid image to fit. To use the native width of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the inserted image in pixels. If you specify a value that's larger than the video resolution height, the service will crop your overlaid image to fit. To use the native height of the image, keep this setting blank.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageX

Specify the distance, in pixels, between the inserted image and the left edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Specify the distance, in pixels, between the overlaid image and the top edge of the video frame. Required for any image overlay that you specify.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

duration

Specify the time, in milliseconds, for the image to remain on the output video. This duration includes fade-in time but not fade-out time.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

fadeIn

Specify the length of time, in milliseconds, between the Start time that you specify for the image insertion and the time that the image appears at full opacity. Full opacity is the level that you specify for the opacity setting. If you don't specify a value for Fade-in, the image will appear abruptly at the overlay start time.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

layer

Specify how overlapping inserted images appear. Images with higher values for Layer appear on top of images with lower values for Layer.

Type: integer
Required: False
Minimum: 0
Maximum: 99

imageInserterInput

Specify the HTTP, HTTPS, or Amazon S3 location of the image that you want to overlay on the video. Use a PNG or TGA file.

Type: string
Required: False
Pattern: `^((s3://(.*?)\.(bmp|BMP|png|PNG|tga|TGA))|(https?://(.*?)\.(bmp|BMP|png|PNG|tga|TGA)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`
MinLength: 14

startTime

Specify the timecode of the frame that you want the overlay to first appear on. This must be in timecode (HH:MM:SS:FF or HH:MM:SS;FF) format. Remember to take into account your timecode source settings.

Type: string
Required: False
Pattern: `^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`

fadeOut

Specify the length of time, in milliseconds, between the end of the time that you have specified for the image overlay Duration and when the overlaid image has faded to total transparency. If

you don't specify a value for Fade-out, the image will disappear abruptly at the end of the inserted image duration.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

opacity

Use Opacity to specify how much of the underlying video shows through the inserted image. 0 is transparent and 100 is fully opaque. Default is 50.

Type: integer
Required: False
Minimum: 0
Maximum: 100

Job

Each job converts an input file into an output file or files. For more information, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

arn

An identifier for this resource that is unique within all of AWS.

Type: string
Required: False

id

A portion of the job's ARN, unique within your AWS Elemental MediaConvert resources

Type: string
Required: False

createdAt

The time, in Unix epoch format in seconds, when the job got created.

Type: string
Required: False
Format: date-time

jobTemplate

The job template that the job is created from, if it is created from a job template.

Type: string
Required: False

jobEngineVersionRequested

The Job engine version that you requested for your job. Valid versions are in a YYYY-MM-DD format.

Type: string
Required: False

jobEngineVersionUsed

The Job engine version that your job used. Job engine versions are in a YYYY-MM-DD format. When you request an expired version, the response for this property will be empty. Requests to create jobs with an expired version result in a regular job, as if no specific Job engine version was requested. When you request an invalid version, the response for this property will be empty. Requests to create jobs with an invalid version result in a 400 error message, and no job is created.

Type: string
Required: False

queue

When you create a job, you can specify a queue to send it to. If you don't specify, the job will go to the default queue. For more about queues, see the User Guide topic at https://docs.aws.amazon.com/mediaconvert/latest/ug/what-is.html

Type: string
Required: False

userMetadata

User-defined metadata that you want to associate with an MediaConvert job. You specify metadata in key/value pairs.

Type: object
Required: False

role

The IAM role you use for creating this job. For details about permissions, see the User Guide topic at the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: True

settings

JobSettings contains all the transcode settings for a job.

Type: JobSettings
Required: True

status

A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

Type: JobStatus
Required: False

errorCode

Error code for the job

Type: integer

Required: False
Format: int32

errorMessage

Error message of Job

Type: string
Required: False

timing

Information about when jobs are submitted, started, and finished is specified in Unix epoch format in seconds.

Type: Timing
Required: False

outputGroupDetails

List of output group details

Type: Array of type OutputGroupDetail
Required: False

billingTagsSource

The tag type that AWS Billing and Cost Management will use to sort your AWS Elemental MediaConvert costs on any billing report that you set up.

Type: BillingTagsSource
Required: False

accelerationSettings

Accelerated transcoding can significantly speed up jobs with long, visually complex content.

Type: AccelerationSettings

Required: False

statusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

Type: StatusUpdateInterval
Required: False

jobPercentComplete

An estimate of how far your job has progressed. This estimate is shown as a percentage of the total time from when your job leaves its queue to when your output files appear in your output Amazon S3 bucket. AWS Elemental MediaConvert provides jobPercentComplete in CloudWatch STATUS_UPDATE events and in the response to GetJob and ListJobs requests. The jobPercentComplete estimate is reliable for the following input containers: Quicktime, Transport Stream, MP4, and MXF. For some jobs, the service can't provide information about job progress. In those cases, jobPercentComplete returns a null value.

Type: integer
Required: False

currentPhase

A job's phase can be PROBING, TRANSCODING OR UPLOADING

Type: JobPhase
Required: False

retryCount

The number of times that the service automatically attempted to process your job after encountering an error.

Type: integer

Required: False

priority

Relative priority on the job.

Type: integer
Required: False
Format: int32
Minimum: -50
Maximum: 50

simulateReservedQueue

Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

Type: SimulateReservedQueue
Required: False

accelerationStatus

Describes whether the current job is running with accelerated transcoding. For jobs that have Acceleration (AccelerationMode) set to DISABLED, AccelerationStatus is always NOT_APPLICABLE. For jobs that have Acceleration (AccelerationMode) set to ENABLED or PREFERRED, AccelerationStatus is one of the other states. AccelerationStatus is IN_PROGRESS initially, while the service determines whether the input files and job settings are compatible with accelerated transcoding. If they are, AcclerationStatus is ACCELERATED. If your input files and job settings aren't compatible with accelerated transcoding, the service either fails your job or runs it without accelerated transcoding, depending on how you set Acceleration (AccelerationMode). When the service runs your job without accelerated transcoding, AccelerationStatus is NOT_ACCELERATED.

Type: AccelerationStatus
Required: False

messages

Provides messages from the service about jobs that you have already successfully submitted.

Type: JobMessages
Required: False

hopDestinations

Optional list of hop destinations.

Type: Array of type HopDestination
Required: False

queueTransitions

The job's queue hopping history.

Type: Array of type QueueTransition
Required: False

clientRequestToken

Prevent duplicate jobs from being created and ensure idempotency for your requests. A client request token can be any string that includes up to 64 ASCII characters. If you reuse a client request token within one minute of a successful request, the API returns the job details of the original request instead. For more information see https://docs.aws.amazon.com/mediaconvert/latest/apireference/idempotency.html.

Type: string
Required: False

warnings

Contains any warning messages for the job. Use to help identify potential issues with your input, output, or job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/warning_codes.html

Type: Array of type WarningGroup

Required: False

shareStatus

A job's share status can be NOT_SHARED, INITIATED, or SHARED

Type: string
Required: False
Values: `NOT_SHARED | INITIATED | SHARED`

lastShareDetails

Contains information about the most recent share attempt for the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/creating-resource-share.html

Type: string
Required: False

JobMessages

Provides messages from the service about jobs that you have already successfully submitted.

info

List of messages that are informational only and don't indicate a problem with your job.

Type: Array of type string
Required: False

warning

List of messages that warn about conditions that might cause your job not to run or to fail.

Type: Array of type string
Required: False

JobPhase

A job's phase can be PROBING, TRANSCODING OR UPLOADING

PROBING

TRANSCODING

UPLOADING

JobSettings

JobSettings contains all the transcode settings for a job.

timecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

Type: TimecodeConfig
Required: False

outputGroups

Contains one group of settings for each set of outputs that share a common package type. All unpackaged files (MPEG-4, MPEG-2 TS, Quicktime, MXF, and no container) are grouped in a single output group as well. Required in is a group of settings that apply to the whole group. This required object depends on the value you set for Type. Type, settings object pairs are as follows. * FILE_GROUP_SETTINGS, FileGroupSettings * HLS_GROUP_SETTINGS, HlsGroupSettings * DASH_ISO_GROUP_SETTINGS, DashIsoGroupSettings * MS_SMOOTH_GROUP_SETTINGS, MsSmoothGroupSettings * CMAF_GROUP_SETTINGS, CmafGroupSettings

Type: Array of type OutputGroup
Required: False

adAvailOffset

When specified, this offset (in milliseconds) is added to the input Ad Avail PTS time.

Type: integer
Required: False
Minimum: -1000
Maximum: 1000

availBlanking

Settings for ad avail blanking. Video can be blanked or overlaid with an image, and audio muted during SCTE-35 triggered ad avails.

Type: AvailBlanking
Required: False

followSource

Specify the input that MediaConvert references for your default output settings. MediaConvert uses this input's Resolution, Frame rate, and Pixel aspect ratio for all outputs that you don't manually specify different output settings for. Enabling this setting will disable "Follow source" for all other inputs. If MediaConvert cannot follow your source, for example if you specify an audio-only input, MediaConvert uses the first followable input instead. In your JSON job specification, enter an integer from 1 to 150 corresponding to the order of your inputs.

Type: integer
Required: False
Minimum: 1
Maximum: 150

timedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

Type: TimedMetadataInsertion
Required: False

nielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

Type: NielsenConfiguration
Required: False

motionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

Type: MotionImageInserter
Required: False

esam

Settings for Event Signaling And Messaging (ESAM). If you don't do ad insertion, you can ignore these settings.

Type: EsamSettings
Required: False

nielsenNonLinearWatermark

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

Type: NielsenNonLinearWatermarkSettings
Required: False

kantarWatermark

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

Type: KantarWatermarkSettings

Required: False

extendedDataServices

If your source content has EIA-608 Line 21 Data Services, enable this feature to specify what MediaConvert does with the Extended Data Services (XDS) packets. You can choose to pass through XDS packets, or remove them from the output. For more information about XDS, see EIA-608 Line Data Services, section 9.5.1.5 05h Content Advisory.

Type: ExtendedDataServices
Required: False

colorConversion3DLUTSettings

Use 3D LUTs to specify custom color mapping behavior when you convert from one color space into another. You can include up to 8 different 3D LUTs. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/3d-luts.html

Type: Array of type ColorConversion3DLUTSetting
Required: False

inputs

Use Inputs to define source file used in the transcode job. There can be multiple inputs add in a job. These inputs will be concantenated together to create the output.

Type: Array of type Input
Required: False

JobStatus

A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

```
SUBMITTED
PROGRESSING
COMPLETE
CANCELED
ERROR
```

KantarWatermarkSettings

Use these settings only when you use Kantar watermarking. Specify the values that MediaConvert uses to generate and place Kantar watermarks in your output audio. These settings apply to every output in your job. In addition to specifying these values, you also need to store your Kantar credentials in AWS Secrets Manager. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/kantar-watermarking.html.

credentialsSecretName

Provide the name of the AWS Secrets Manager secret where your Kantar credentials are stored. Note that your MediaConvert service role must provide access to this secret. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/granting-permissions-for-mediaconvert-to-access-secrets-manager-secret.html. For instructions on creating a secret, see https://docs.aws.amazon.com/secretsmanager/latest/userguide/tutorials_basic.html, in the AWS Secrets Manager User Guide.

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

channelName

Provide an audio channel name from your Kantar audio license.

Type: string
Required: False
MinLength: 1
MaxLength: 20

contentReference

Specify a unique identifier for Kantar to use for this piece of content.

Type: string
Required: False

Pattern: ^[a-zA-Z0-9_\/_+=.@-]*$
MinLength: 1
MaxLength: 50

kantarServerUrl

Provide the HTTPS endpoint to the Kantar server. You should get this endpoint from Kantar.

Type: string
Required: False
Format: uri
Pattern: ^https:\/\/.*.kantarmedia.*$

kantarLicenseId

Provide your Kantar license ID number. You should get this number from Kantar.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

logDestination

Optional. Specify the Amazon S3 bucket where you want MediaConvert to store your Kantar watermark XML logs. When you don't specify a bucket, MediaConvert doesn't save these logs. Note that your MediaConvert service role must provide access to this location. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/iam-role.html

Type: string
Required: False
Format: uri
Pattern: ^s3:\/\/

fileOffset

Optional. Specify an offset, in whole seconds, from the start of your output and the beginning of the watermarking. When you don't specify an offset, Kantar defaults to zero.

Type: number
Required: False
Format: float
Minimum: 0.0

metadata3

You can optionally use this field to specify the first timestamp that Kantar embeds during watermarking. Kantar suggests that you be very cautious when using this Kantar feature, and that you use it only on channels that are managed specifically for use with this feature by your Audience Measurement Operator. For more information about this feature, contact Kantar technical support.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata4

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata5

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata6

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata7

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

metadata8

Additional metadata that MediaConvert sends to Kantar. Maximum length is 50 characters.

Type: string
Required: False
MinLength: 1
MaxLength: 50

LanguageCode

Specify the language, using the ISO 639-2 three-letter code listed at https://www.loc.gov/standards/iso639-2/php/code_list.php.

ENG
SPA
FRA
DEU
GER
ZHO
ARA
HIN
JPN

RUS
POR
ITA
URD
VIE
KOR
PAN
ABK
AAR
AFR
AKA
SQI
AMH
ARG
HYE
ASM
AVA
AVE
AYM
AZE
BAM
BAK
EUS
BEL
BEN
BIH
BIS
BOS
BRE
BUL
MYA
CAT
KHM
CHA

CHE
NYA
CHU
CHV
COR
COS
CRE
HRV
CES
DAN
DIV
NLD
DZO
ENM
EPO
EST
EWE
FAO
FIJ
FIN
FRM
FUL
GLA
GLG
LUG
KAT
ELL
GRN
GUJ
HAT
HAU
HEB
HER
HMO

HUN
ISL
IDO
IBO
IND
INA
ILE
IKU
IPK
GLE
JAV
KAL
KAN
KAU
KAS
KAZ
KIK
KIN
KIR
KOM
KON
KUA
KUR
LAO
LAT
LAV
LIM
LIN
LIT
LUB
LTZ
MKD
MLG
MSA

MAL
MLT
GLV
MRI
MAR
MAH
MON
NAU
NAV
NDE
NBL
NDO
NEP
SME
NOR
NOB
NNO
OCI
OJI
ORI
ORM
OSS
PLI
FAS
POL
PUS
QUE
QAA
RON
ROH
RUN
SMO
SAG
SAN

SRD
SRB
SNA
III
SND
SIN
SLK
SLV
SOM
SOT
SUN
SWA
SSW
SWE
TGL
TAH
TGK
TAM
TAT
TEL
THA
BOD
TIR
TON
TSO
TSN
TUR
TUK
TWI
UIG
UKR
UZB
VEN
VOL

WLN
CYM
FRY
WOL
XHO
YID
YOR
ZHA
ZUL
ORJ
QPC
TNG
SRP

M2tsAudioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

DVB
ATSC

M2tsAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION

M2tsBufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

MULTIPLEX
NONE

M2tsDataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

AUTO
ALIGN_TO_VIDEO

M2tsEbpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_FIXED_INTERVALS
VIDEO_INTERVAL

M2tsEbpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

VIDEO_AND_AUDIO_PIDS
VIDEO_PID

M2tsEsRateInPes

Controls whether to include the ES Rate field in the PES header.

INCLUDE
EXCLUDE

M2tsForceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

FORCE
DEFAULT

M2tsKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

PASSTHROUGH
NONE

M2tsNielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

INSERT
NONE

M2tsPcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD

M2tsPreventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

DISABLED
ENABLED

M2tsRateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

VBR
CBR

M2tsScte35Esam

Settings for SCTE-35 signals from ESAM. Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

scte35EsamPid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream generated by ESAM.

Type: integer
Required: False
Minimum: 32

Maximum: 8182

M2tsScte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

PASSTHROUGH
NONE

M2tsSegmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

NONE
RAI_SEGSTART
RAI_ADAPT
PSI_SEGSTART
EBP
EBP_LEGACY

M2tsSegmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a

segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

```
MAINTAIN_CADENCE
RESET_CADENCE
```

M2tsSettings

MPEG-2 TS container settings. These apply to outputs in a File output group when the output's container is MPEG-2 Transport Stream (M2TS). In these assets, data is organized by the program map table (PMT). Each transport stream program contains subsets of data, including audio, video, and metadata. Each of these subsets of data has a numerical label called a packet identifier (PID). Each transport stream program corresponds to one MediaConvert output. The PMT lists the types of data in a program along with their PID. Downstream systems and players use the program map table to look up the PID for each type of data it accesses and then uses the PIDs to locate specific data within the asset.

audioBufferModel

Selects between the DVB and ATSC buffer models for Dolby Digital audio.

Type: M2tsAudioBufferModel
Required: False

minEbpInterval

When set, enforces that Encoder Boundary Points do not come within the specified time interval of each other by looking ahead at input video. If another EBP is going to come in within the specified time interval, the current EBP is not emitted, and the segment is "stretched" to the next marker. The lookahead value does not add latency to the system. The Live Event must be configured elsewhere to create sufficient latency to make the lookahead accurate.

Type: integer
Required: False
Minimum: 0
Maximum: 10000

esRateInPes

Controls whether to include the ES Rate field in the PES header.

Type: M2tsEsRateInPes
Required: False

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

dvbNitSettings

Use these settings to insert a DVB Network Information Table (NIT) in the transport stream of this output.

Type: DvbNitSettings
Required: False

dvbSdtSettings

Use these settings to insert a DVB Service Description Table (SDT) in the transport stream of this output.

Type: DvbSdtSettings
Required: False

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None. Also provide the ESAM XML as a string in the setting Signal processing notification XML. Also enable ESAM SCTE-35 (include the property scte35Esam).

Type: M2tsScte35Source
Required: False

scte35Pid

Specify the packet identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

scte35Esam

Include this in your job settings to put SCTE-35 markers in your HLS and transport stream outputs at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: M2tsScte35Esam
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and passes it through to the output transport stream. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: M2tsKlvMetadata
Required: False

videoPid

Specify the packet identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32

Maximum: 8182

dvbTdtSettings

Use these settings to insert a DVB Time and Date Table (TDT) in the transport stream of this output.

Type: DvbTdtSettings
Required: False

pmtInterval

Specify the number of milliseconds between instances of the program map table (PMT) in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

segmentationStyle

The segmentation style parameter controls how segmentation markers are inserted into the transport stream. With avails, it is possible that segments may be truncated, which can influence where future segmentation markers are inserted. When a segmentation style of "reset_cadence" is selected and a segment is truncated due to an avail, we will reset the segmentation cadence. This means the subsequent segment will have a duration of of $segmentation_time seconds. When a segmentation style of "maintain_cadence" is selected and a segment is truncated due to an avail, we will not reset the segmentation cadence. This means the subsequent segment will likely be truncated as well. However, all segments after that will have a duration of $segmentation_time seconds. Note that EBP lookahead is a slight exception to this rule.

Type: M2tsSegmentationStyle
Required: False

segmentationTime

Specify the length, in seconds, of each segment. Required unless markers is set to _none_.

Type: number
Required: False
Format: float
Minimum: 0.0

pmtPid

Specify the packet identifier (PID) for the program map table (PMT) itself. Default is 480.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bitrate

Specify the output bitrate of the transport stream in bits per second. Setting to 0 lets the muxer automatically determine the appropriate bitrate. Other common values are 3750000, 7500000, and 15000000.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

audioPids

Specify the packet identifiers (PIDs) for any elementary audio streams you include in this output. Specify multiple PIDs as a JSON array. Default is the range 482-492.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Specify the packet identifier (PID) of the private metadata stream. Default is 503.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M2tsNielsenId3
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 500

transportStreamId

Specify the ID for the transport stream itself in the program map table for this output. Transport stream IDs and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

dvbSubPids

Specify the packet identifiers (PIDs) for DVB subtitle data included in this output. Specify multiple PIDs as a JSON array. Default is the range 460-479.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

rateMode

When set to CBR, inserts null packets into transport stream to fill specified bitrate. When set to VBR, the bitrate setting acts as the maximum bitrate, but the output will not be padded up to that bitrate.

Type: M2tsRateMode
Required: False

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET, a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M2tsPcrControl

Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value to allow all PTS values.

Type: M2tsDataPtsControl

Required: False

segmentationMarkers

Inserts segmentation markers at each segmentation_time period. rai_segstart sets the Random Access Indicator bit in the adaptation field. rai_adapt sets the RAI bit and adds the current timecode in the private data bytes. psi_segstart inserts PAT and PMT tables at the start of segments. ebp adds Encoder Boundary Point information to the adaptation field as per OpenCable specification OC-SP-EBP-I01-130118. ebp_legacy adds Encoder Boundary Point information to the adaptation field using a legacy proprietary format.

Type: M2tsSegmentationMarkers

Required: False

ebpAudioInterval

When set to VIDEO_AND_FIXED_INTERVALS, audio EBP markers will be added to partitions 3 and 4. The interval between these additional markers will be fixed, and will be slightly shorter than the video EBP marker interval. When set to VIDEO_INTERVAL, these additional markers will not be inserted. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpAudioInterval

Required: False

forceTsVideoEbpOrder

Keep the default value unless you know that your audio EBP markers are incorrectly appearing before your video EBP markers. To correct this problem, set this value to Force.

Type: M2tsForceTsVideoEbpOrder
Required: False

programNumber

Use Program number to specify the program number used in the program map table (PMT) for this output. Default is 1. Program numbers and program map tables are parts of MPEG-2 transport stream containers, used for organizing data.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

pcrPid

Specify the packet identifier (PID) for the program clock reference (PCR) in this output. If you do not specify a value, the service will use the value for Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

bufferModel

Controls what buffer model to use for accurate interleaving. If set to MULTIPLEX, use multiplex buffer model. If set to NONE, this can lead to lower latency, but low-memory devices may not be able to play back the stream without interruptions.

Type: M2tsBufferModel
Required: False

dvbTeletextPid

Specify the packet identifier (PID) for DVB teletext data you include in this output. Default is 499.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

fragmentTime

The length, in seconds, of each fragment. Only used with EBP markers.

Type: number
Required: False
Format: float
Minimum: 0.0

ebpPlacement

Selects which PIDs to place EBP markers on. They can either be placed only on the video PID, or on both the video PID and all audio PIDs. Only applicable when EBP segmentation markers are is selected (segmentationMarkers is EBP or EBP_LEGACY).

Type: M2tsEbpPlacement
Required: False

nullPacketBitrate

Value in bits per second of extra null packets to insert into the transport stream. This can be used if a downstream encryption system requires periodic null packets.

Type: number
Required: False
Format: float
Minimum: 0.0

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M2tsAudioDuration
Required: False

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer
Required: False
Minimum: -10000
Maximum: 10000

preventBufferUnderflow

Specify whether MediaConvert automatically attempts to prevent decoder buffer underflows in your transport stream output. Use if you are seeing decoder buffer underflows in your output and are unable to increase your transport stream's bitrate. For most workflows: We recommend that you keep the default value, Disabled. To prevent decoder buffer underflows in your output, when possible: Choose Enabled. Note that if MediaConvert prevents a decoder buffer underflow in your output, output video quality is reduced and your job will take longer to complete.

Type: M2tsPreventBufferUnderflow
Required: False

M3u8AudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

```
DEFAULT_CODEC_DURATION
MATCH_VIDEO_DURATION
```

M3u8DataPtsControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

```
AUTO
ALIGN_TO_VIDEO
```

M3u8NielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

```
INSERT
NONE
```

M3u8PcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

```
PCR_EVERY_PES_PACKET
CONFIGURED_PCR_PERIOD
```

M3u8Scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

```
PASSTHROUGH
NONE
```

M3u8Settings

These settings relate to the MPEG-2 transport stream (MPEG2-TS) container for the MPEG2-TS segments in your HLS outputs.

audioFramesPerPes

The number of audio frames to insert for each PES packet.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

pcrControl

When set to PCR_EVERY_PES_PACKET a Program Clock Reference value is inserted for every Packetized Elementary Stream (PES) header. This parameter is effective only when the PCR PID is the same as the video or audio elementary stream.

Type: M3u8PcrControl
Required: False

dataPTSControl

If you select ALIGN_TO_VIDEO, MediaConvert writes captions and data packets with Presentation Timestamp (PTS) values greater than or equal to the first video packet PTS (MediaConvert drops captions and data packets with lesser PTS values). Keep the default value AUTO to allow all PTS values.

Type: M3u8DataPtsControl
Required: False

maxPcrInterval

Specify the maximum time, in milliseconds, between Program Clock References (PCRs) inserted into the transport stream.

Type: integer

Required: False
Minimum: 0
Maximum: 500

pcrPid

Packet Identifier (PID) of the Program Clock Reference (PCR) in the transport stream. When no value is given, the encoder will assign the same value as the Video PID.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

pmtPid

Packet Identifier (PID) for the Program Map Table (PMT) in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

privateMetadataPid

Packet Identifier (PID) of the private metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

programNumber

The value of the program number field in the Program Map Table.

Type: integer
Required: False

Minimum: 0
Maximum: 65535

patInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

pmtInterval

The number of milliseconds between instances of this table in the output transport stream.

Type: integer
Required: False
Minimum: 0
Maximum: 1000

scte35Source

For SCTE-35 markers from your input-- Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want SCTE-35 markers in this output. For SCTE-35 markers from an ESAM XML document-- Choose None if you don't want manifest conditioning. Choose Passthrough and choose Ad markers if you do want manifest conditioning. In both cases, also provide the ESAM XML as a string in the setting Signal processing notification XML.

Type: M3u8Scte35Source
Required: False

scte35Pid

Packet Identifier (PID) of the SCTE-35 stream in the transport stream.

Type: integer

Required: False
Minimum: 32
Maximum: 8182

nielsenId3

If INSERT, Nielsen inaudible tones for media tracking will be detected in the input audio and an equivalent ID3 tag will be inserted in the output.

Type: M3u8NielsenId3
Required: False

timedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

Type: TimedMetadata
Required: False

timedMetadataPid

Packet Identifier (PID) of the ID3 metadata stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

transportStreamId

The value of the transport stream ID field in the Program Map Table.

Type: integer
Required: False
Minimum: 0
Maximum: 65535

videoPid

Packet Identifier (PID) of the elementary video stream in the transport stream.

Type: integer
Required: False
Minimum: 32
Maximum: 8182

ptsOffsetMode

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

Type: TsPtsOffset
Required: False

ptsOffset

Manually specify the initial PTS offset, in seconds, when you set PTS offset to Seconds. Enter an integer from 0 to 3600. Leave blank to keep the default value 2.

Type: integer
Required: False
Minimum: 0
Maximum: 3600

audioPtsOffsetDelta

Manually specify the difference in PTS offset that will be applied to the audio track, in seconds or milliseconds, when you set PTS offset to Seconds or Milliseconds. Enter an integer from -10000 to 10000. Leave blank to keep the default value 0.

Type: integer

Required: False
Minimum: -10000
Maximum: 10000

audioPids

Packet Identifier (PID) of the elementary audio stream(s) in the transport stream. Multiple values are accepted, and can be entered in ranges and/or by comma separation.

Type: Array of type integer
Required: False
Minimum: 32
Maximum: 8182

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: M3u8AudioDuration
Required: False

MinBottomRenditionSize

Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

MinTopRenditionSize

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution.

width

Use Width to define the video resolution width, in pixels, for this rule.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

height

Use Height to define the video resolution height, in pixels, for this rule.

Type: integer

Required: False

Minimum: 32

Maximum: 8192

MotionImageInserter

Overlay motion graphics on top of your video. The motion graphics that you specify here appear on all outputs in all output groups. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/motion-graphic-overlay.html.

insertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

Type: MotionImageInsertionMode

Required: False

input

Specify the .mov file or series of .png files that you want to overlay on your video. For .png files, provide the file name of the first file in the series. Make sure that the names of the .png files end with sequential numbers that specify the order that they are played in. For example, overlay_000.png, overlay_001.png, overlay_002.png, and so on. The sequence must start at zero, and each image file name must have the same number of digits. Pad your initial file names with enough zeros to complete the sequence. For example, if the first image is overlay_0.png, there can be only 10 images in the sequence, with the last image being overlay_9.png. But if the first image is overlay_00.png, there can be 100 images in the sequence.

Type: string

Required: False

Pattern: `^((s3://(.*)(\.mov|[0-9]+\.png))|(https?://(.*)(\.mov|[0-9]+\.png)(\?([^&=]+=[^&]+&)*[^&=]+=[^&]+)?))$`

MinLength: 14

offset

Use Offset to specify the placement of your motion graphic overlay on the video frame. Specify in pixels, from the upper-left corner of the frame. If you don't specify an offset, the service scales your overlay to the full size of the frame. Otherwise, the service inserts the overlay at its native resolution and scales the size up or down with any video scaling.

Type: MotionImageInsertionOffset
Required: False

startTime

Specify when the motion overlay begins. Use timecode format (HH:MM:SS:FF or HH:MM:SS;FF). Make sure that the timecode you provide here takes into account how you have set up your timecode configuration under both job settings and input settings. The simplest way to do that is to set both to start at 0. If you need to set up your job to follow timecodes embedded in your source that don't start at zero, make sure that you specify a start time that is after the first embedded timecode. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/setting-up-timecode.html

Type: string
Required: False
Pattern: `^(([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$`
MinLength: 11
MaxLength: 11

playback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

Type: MotionImagePlayback
Required: False

framerate

If your motion graphic asset is a .mov file, keep this setting unspecified. If your motion graphic asset is a series of .png files, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. Make sure that the number of images in your series

matches the frame rate and your intended overlay duration. For example, if you want a 30-second overlay at 30 fps, you should have 900 .png images. This overlay frame rate doesn't need to match the frame rate of the underlying video.

Type: MotionImageInsertionFramerate
Required: False

MotionImageInsertionFramerate

For motion overlays that don't have a built-in frame rate, specify the frame rate of the overlay in frames per second, as a fraction. For example, specify 24 fps as 24/1. The overlay frame rate doesn't need to match the frame rate of the underlying video.

framerateNumerator

The top of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 24.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483640

framerateDenominator

The bottom of the fraction that expresses your overlay frame rate. For example, if your frame rate is 24 fps, set this value to 1.

Type: integer
Required: False
Minimum: 1
Maximum: 17895697

MotionImageInsertionMode

Choose the type of motion graphic asset that you are providing for your overlay. You can choose either a .mov file or a series of .png files.

MOV
PNG

MotionImageInsertionOffset

Specify the offset between the upper-left corner of the video frame and the top left corner of the overlay.

imageX

Set the distance, in pixels, between the overlay and the left edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

imageY

Set the distance, in pixels, between the overlay and the top edge of the video frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

MotionImagePlayback

Specify whether your motion graphic overlay repeats on a loop or plays only once.

ONCE
REPEAT

MovClapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

INCLUDE

EXCLUDE

MovCslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

MovMpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

XDCAM
MPEG

MovPaddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

OMNEON
NONE

MovReference

Always keep the default value (SELF_CONTAINED) for this setting.

SELF_CONTAINED
EXTERNAL

MovSettings

These settings relate to your QuickTime MOV output container.

clapAtom

When enabled, include 'clap' atom if appropriate for the video output settings.

Type: MovClapAtom
Required: False

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: MovCslgAtom
Required: False

paddingControl

Unless you need Omneon compatibility: Keep the default value, None. To make this output compatible with Omneon: Choose Omneon. When you do, MediaConvert increases the length of the 'elst' edit list atom. Note that this might cause file rejections when a recipient of the output file doesn't expect this extra padding.

Type: MovPaddingControl
Required: False

reference

Always keep the default value (SELF_CONTAINED) for this setting.

Type: MovReference
Required: False

mpeg2FourCCControl

When set to XDCAM, writes MPEG2 video streams into the QuickTime file using XDCAM fourcc codes. This increases compatibility with Apple editors and players, but may decrease compatibility with other players. Only applicable when the video codec is MPEG2.

Type: MovMpeg2FourCCControl
Required: False

Mp2AudioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

```
BROADCASTER_MIXED_AD
NONE
```

Mp2Settings

Required when you set Codec to the value MP2.

audioDescriptionMix

Choose BROADCASTER_MIXED_AD when the input contains pre-mixed main audio + audio description (AD) as a stereo pair. The value for AudioType will be set to 3, which signals to downstream systems that this stream contains "broadcaster mixed AD". Note that the input received by the encoder must contain pre-mixed audio; the encoder does not perform the mixing. When you choose BROADCASTER_MIXED_AD, the encoder ignores any values you provide in AudioType and FollowInputAudioType. Choose NONE when the input does not contain pre-mixed audio + audio description (AD). In this case, the encoder will use any values you provide for AudioType and FollowInputAudioType.

Type: Mp2AudioDescriptionMix

Required: False

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 32000
Maximum: 384000

channels

Set Channels to specify the number of channels in this output audio track. Choosing Mono in will give you 1 output channel; choosing Stereo will give you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 32000
Maximum: 48000

Mp3RateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

CBR
VBR

Mp3Settings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value MP3.

bitrate

Specify the average bitrate in bits per second.

Type: integer
Required: False
Minimum: 16000
Maximum: 320000

channels

Specify the number of channels in this output audio track. Choosing Mono gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

rateControlMode

Specify whether the service encodes this MP3 audio output with a constant bitrate (CBR) or a variable bitrate (VBR).

Type: Mp3RateControlMode
Required: False

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Required when you set Bitrate control mode to VBR. Specify the audio quality of this MP3 output from 0 (highest quality) to 9 (lowest quality).

Type: integer
Required: False
Minimum: 0
Maximum: 9

Mp4C2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

INCLUDE
EXCLUDE

Mp4CslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

INCLUDE
EXCLUDE

Mp4FreeSpaceBox

Inserts a free-space box immediately after the moov box.

INCLUDE
EXCLUDE

Mp4MoovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

PROGRESSIVE_DOWNLOAD
NORMAL

Mp4Settings

These settings relate to your MP4 output container. You can create audio only outputs with this container. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/supported-codecs-containers-audio-only.html#output-codecs-and-containers-supported-for-audio-only.

cslgAtom

When enabled, file composition times will start at zero, composition times in the 'ctts' (composition time to sample) box for B-frames will be negative, and a 'cslg' (composition shift least greatest) box will be included per 14496-1 amendment 1. This improves compatibility with Apple players and tools.

Type: Mp4CslgAtom
Required: False

cttsVersion

Ignore this setting unless compliance to the CTTS box version specification matters in your workflow. Specify a value of 1 to set your CTTS box version to 1 and make your output compliant with the specification. When you specify a value of 1, you must also set CSLG atom to the value INCLUDE. Keep the default value 0 to set your CTTS box version to 0. This can provide backward compatibility for some players and packagers.

Type: integer
Required: False
Minimum: 0
Maximum: 1

freeSpaceBox

Inserts a free-space box immediately after the moov box.

Type: Mp4FreeSpaceBox
Required: False

mp4MajorBrand

Overrides the "Major Brand" field in the output file. Usually not necessary to specify.

Type: string
Required: False

moovPlacement

To place the MOOV atom at the beginning of your output, which is useful for progressive downloading: Leave blank or choose Progressive download. To place the MOOV at the end of your output: Choose Normal.

Type: Mp4MoovPlacement
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: CmfcAudioDuration
Required: False

c2paManifest

When enabled, a C2PA compliant manifest will be generated, signed and embeded in the output. For more information on C2PA, see https://c2pa.org/specifications/specifications/2.1/index.html

Type: Mp4C2paManifest
Required: False

certificateSecret

Specify the name or ARN of the AWS Secrets Manager secret that contains your C2PA public certificate chain in PEM format. Provide a valid secret name or ARN. Note that your MediaConvert service role must allow access to this secret. The public certificate chain is added to the COSE header (x5chain) for signature validation. Include the signer's certificate and all intermediate certificates. Do not include the root certificate. For details on COSE, see: https://opensource.contentauthenticity.org/docs/manifest/signing-manifests

Type: string
Required: False
Pattern: `^(arn:[a-z-]+:secretsmanager:[\w-]+:\d{12}:secret:)?[a-zA-Z0-9_\/_+=.@-]*$`
MinLength: 1
MaxLength: 2048

signingKmsKey

Specify the ID or ARN of the AWS KMS key used to sign the C2PA manifest in your MP4 output. Provide a valid KMS key ARN. Note that your MediaConvert service role must allow access to this key.

Type: string
Required: False
Pattern: `^(arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/)?[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32}$`
MinLength: 1

MpdAccessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

INCLUDE

EXCLUDE

MpdAudioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

DEFAULT_CODEC_DURATION

MATCH_VIDEO_DURATION

MpdCaptionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

RAW

FRAGMENTED_MP4

MpdKlvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

NONE
PASSTHROUGH

MpdManifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

ENABLED
DISABLED

MpdScte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

INSERT
NONE

MpdScte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

PASSTHROUGH

NONE

MpdSettings

These settings relate to the fragmented MP4 container for the segments in your DASH outputs.

accessibilityCaptionHints

Optional. Choose Include to have MediaConvert mark up your DASH manifest with <Accessibility> elements for embedded 608 captions. This markup isn't generally required, but some video players require it to discover and play embedded 608 captions. Keep the default value, Exclude, to leave these elements out. When you enable this setting, this is the markup that MediaConvert includes in your manifest: <Accessibility schemeIdUri="urn:scte:dash:cc:cea-608:2015" value="CC1=eng"/>

Type: MpdAccessibilityCaptionHints

Required: False

captionContainerType

Use this setting only in DASH output groups that include sidecar TTML or IMSC captions. You specify sidecar captions in a separate output from your audio and video. Choose Raw for captions in a single XML file in a raw container. Choose Fragmented MPEG-4 for captions in XML format contained within fragmented MP4 files. This set of fragmented MP4 files is separate from your video and audio fragmented MP4 files.

Type: MpdCaptionContainerType

Required: False

scte35Source

Ignore this setting unless you have SCTE-35 markers in your input video file. Choose Passthrough if you want SCTE-35 markers that appear in your input to also appear in this output. Choose None if you don't want those SCTE-35 markers in this output.

Type: MpdScte35Source

Required: False

scte35Esam

Use this setting only when you specify SCTE-35 markers from ESAM. Choose INSERT to put SCTE-35 markers in this output at the insertion points that you specify in an ESAM XML document. Provide the document in the setting SCC XML.

Type: MpdScte35Esam
Required: False

audioDuration

Specify this setting only when your output will be consumed by a downstream repackaging workflow that is sensitive to very small duration differences between video and audio. For this situation, choose Match video duration. In all other cases, keep the default value, Default codec duration. When you choose Match video duration, MediaConvert pads the output audio streams with silence or trims them to ensure that the total duration of each audio stream is at least as long as the total duration of the video stream. After padding or trimming, the audio stream duration is no more than one frame longer than the video stream. MediaConvert applies audio padding or trimming only to the end of the last segment of the output. For unsegmented outputs, MediaConvert adds padding only to the end of the file. When you keep the default value, any minor discrepancies between audio and video duration will depend on your output audio codec.

Type: MpdAudioDuration
Required: False

timedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

Type: MpdTimedMetadata
Required: False

timedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

Type: MpdTimedMetadataBoxVersion
Required: False

timedMetadataSchemeIdUri

Specify the event message box (eMSG) scheme ID URI for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. Leave blank to use the default value: https://aomedia.org/emsg/ID3 When you specify a value for ID3 metadata scheme ID URI, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

timedMetadataValue

Specify the event message box (eMSG) value for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.4 Semantics. When you specify a value for ID3 Metadata Value, you must also set ID3 metadata to Passthrough.

Type: string
Required: False
MaxLength: 1000

manifestMetadataSignaling

To add an InbandEventStream element in your output MPD manifest for each type of event message, set Manifest metadata signaling to Enabled. For ID3 event messages, the InbandEventStream element schemeIdUri will be same value that you specify for ID3 metadata scheme ID URI. For SCTE35 event messages, the InbandEventStream element schemeIdUri will be "urn:scte:scte35:2013:bin". To leave these elements out of your output MPD manifest, set Manifest

metadata signaling to Disabled. To enable Manifest metadata signaling, you must also set SCTE-35 source to Passthrough, ESAM SCTE-35 to insert, or ID3 metadata to Passthrough.

Type: MpdManifestMetadataSignaling
Required: False

klvMetadata

To include key-length-value metadata in this output: Set KLV metadata insertion to Passthrough. MediaConvert reads KLV metadata present in your input and writes each instance to a separate event message box in the output, according to MISB ST1910.1. To exclude this KLV metadata: Set KLV metadata insertion to None or leave blank.

Type: MpdKlvMetadata
Required: False

MpdTimedMetadata

To include ID3 metadata in this output: Set ID3 metadata to Passthrough. Specify this ID3 metadata in Custom ID3 metadata inserter. MediaConvert writes each instance of ID3 metadata in a separate Event Message (eMSG) box. To exclude this ID3 metadata: Set ID3 metadata to None or leave blank.

PASSTHROUGH
NONE

MpdTimedMetadataBoxVersion

Specify the event message box (eMSG) version for ID3 timed metadata in your output. For more information, see ISO/IEC 23009-1:2022 section 5.10.3.3.3 Syntax. Leave blank to use the default value Version 0. When you specify Version 1, you must also set ID3 metadata to Passthrough.

VERSION_0
VERSION_1

Mpeg2AdaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
LOW
MEDIUM
HIGH
```

Mpeg2CodecLevel

Use Level to set the MPEG-2 level for the video output.

```
AUTO
LOW
MAIN
HIGH1440
HIGH
```

Mpeg2CodecProfile

Use Profile to set the MPEG-2 profile for the video output.

```
MAIN
PROFILE_422
```

Mpeg2DynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

```
ADAPTIVE
STATIC
```

Mpeg2FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Mpeg2FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Mpeg2GopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

```
FRAMES
```

SECONDS

Mpeg2InterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE
TOP_FIELD
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD

Mpeg2IntraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

AUTO
INTRA_DC_PRECISION_8
INTRA_DC_PRECISION_9
INTRA_DC_PRECISION_10
INTRA_DC_PRECISION_11

Mpeg2ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify

a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Mpeg2QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
MULTI_PASS

Mpeg2RateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

VBR
CBR

Mpeg2ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED
INTERLACED_OPTIMIZE

Mpeg2SceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

DISABLED

ENABLED

Mpeg2Settings

Required when you set Codec to the value MPEG2.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: Mpeg2InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized

interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Mpeg2ScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

Type: Mpeg2Syntax
Required: False

softness

Ignore this setting unless you need to comply with a specification that requires a specific value. If you don't have a specification requirement, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, to use the AWS Elemental default matrices. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

gopClosedCadence

Specify the relative frequency of open to closed GOPs in this output. For example, if you want to allow four open GOPs and then require a closed GOP, set this value to 5. When you create a streaming output, we recommend that you keep the default value, 1, so that players starting mid-stream receive an IDR frame as quickly as possible. Don't set this value to 0; that would break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hrdBufferInitialFillPercentage

Percentage of the buffer that should initially be filled (HRD buffer model).

Type: integer
Required: False
Minimum: 0

Maximum: 100

gopSize

Specify the interval between keyframes, in seconds or frames, for this output. Default: 12 Related settings: When you specify the GOP size in seconds, set GOP mode control to Specified, seconds. The default value for GOP mode control is Frames.

Type: number
Required: False
Format: float
Minimum: 0.0

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

maxBitrate

Maximum bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 300000000

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: Mpeg2SlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

spatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: Mpeg2SpatialAdaptiveQuantization
Required: False

temporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on

areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: Mpeg2TemporalAdaptiveQuantization
Required: False

bitrate

Specify the average bitrate in bits per second. Required for VBR and CBR. For MS Smooth outputs, bitrates must be unique when rounded down to the nearest multiple of 1000.

Type: integer
Required: False
Minimum: 1000
Maximum: 288000000

intraDcPrecision

Use Intra DC precision to set quantization precision for intra-block DC coefficients. If you choose the value auto, the service will automatically select the precision based on the per-frame compression ratio.

Type: Mpeg2IntraDcPrecision
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Mpeg2FramerateControl
Required: False

rateControlMode

Use Rate control mode to specify whether the bitrate is variable (vbr) or constant (cbr).

Type: Mpeg2RateControlMode
Required: False

codecProfile

Use Profile to set the MPEG-2 profile for the video output.

Type: Mpeg2CodecProfile
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Mpeg2Telecine
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer

Required: False
Minimum: 24
Maximum: 60000

minIInterval

Specify the minimum number of frames allowed between two IDR-frames in your output. This includes frames created at the start of a GOP or a scene change. Use Min I-Interval to improve video compression by varying GOP size when two IDR-frames would be created near each other. For example, if a regular cadence-driven IDR-frame would fall within 5 frames of a scene-change IDR-frame, and you set Min I-interval to 5, then the encoder would only write an IDR-frame for the scene-change. In this way, one GOP is shortened or extended. If a cadence-driven IDR-frame would be further than 5 frames from a scene-change IDR-frame, then the encoder leaves all IDR-frames in place. To manually specify an interval: Enter a value from 1 to 30. Use when your downstream systems have specific GOP size requirements. To disable GOP size variance: Enter 0. MediaConvert will only create IDR-frames at the start of your output's cadence-driven GOP. Use when your downstream systems require a regular GOP size.

Type: integer
Required: False
Minimum: 0
Maximum: 30

adaptiveQuantization

Specify the strength of any adaptive quantization filters that you enable. The value that you choose here applies to the following settings: Spatial adaptive quantization, and Temporal adaptive quantization.

Type: Mpeg2AdaptiveQuantization
Required: False

codecLevel

Use Level to set the MPEG-2 level for the video output.

Type: Mpeg2CodecLevel

Required: False

sceneChangeDetect

Enable this setting to insert I-frames at scene changes that the service automatically detects. This improves video quality and is enabled by default.

Type: Mpeg2SceneChangeDetect
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Mpeg2QualityTuningLevel
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Mpeg2FramerateConversionAlgorithm
Required: False

gopSizeUnits

Specify the units for GOP size. If you don't specify a value here, by default the encoder measures GOP size in frames.

Type: Mpeg2GopSizeUnits
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Mpeg2ParControl
Required: False

numberBFramesBetweenReferenceFrames

Specify the number of B-frames that MediaConvert puts between reference frames in this output. Valid values are whole numbers from 0 through 7. When you don't specify a value, MediaConvert defaults to 2.

Type: integer
Required: False
Minimum: 0
Maximum: 7

dynamicSubGop

Choose Adaptive to improve subjective video quality for high-motion content. This will cause the service to use fewer B-frames (which infer information based on other frames) for high-motion portions of the video and more B-frames for low-motion portions. The maximum number of B-frames is limited by the value you provide for the setting B frames between reference frames.

Type: Mpeg2DynamicSubGop
Required: False

hrdBufferFinalFillPercentage

If your downstream systems have strict buffer requirements: Specify the minimum percentage of the HRD buffer that's available at the end of each encoded video segment. For the best video quality: Set to 0 or leave blank to automatically determine the final buffer fill percentage.

Type: integer
Required: False
Minimum: 0
Maximum: 100

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

Mpeg2SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

Mpeg2SpatialAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

```
DISABLED
ENABLED
```

Mpeg2Syntax

Specify whether this output's video uses the D10 syntax. Keep the default value to not use the syntax. Related settings: When you choose D10 for your MXF profile, you must also set this value to D10.

```
DEFAULT
D_10
```

Mpeg2Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard or soft telecine to create a smoother picture. Hard telecine produces a 29.97i output. Soft telecine produces an output with a 23.976 output that signals to the video player device to do the conversion during play back. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE

SOFT

HARD

Mpeg2TemporalAdaptiveQuantization

Keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal quantization, adjust the strength of the filter with the setting Adaptive quantization.

DISABLED

ENABLED

MsSmoothAdditionalManifest

Specify the details for each additional Microsoft Smooth Streaming manifest that you want the service to generate for this output group. Each manifest can reference a different subset of outputs in the group.

manifestNameModifier

Specify a name modifier that the service adds to the name of this manifest to make it different from the file names of the other main manifests in the output group. For example, say that the default main manifest for your Microsoft Smooth group is film-name.ismv. If you enter "-no-premium" for this setting, then the file name the service generates for this top-level manifest is film-name-no-premium.ismv.

Type: string

Required: False

MinLength: 1

selectedOutputs

Specify the outputs that you want this additional top-level manifest to reference.

Type: Array of type string
Required: False
MinLength: 1

MsSmoothAudioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

`COMBINE_DUPLICATE_STREAMS`
`NONE`

MsSmoothEncryptionSettings

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

spekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

Type: SpekeKeyProvider
Required: False

MsSmoothFragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

`EXACT`
`GOP_MULTIPLE`

MsSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

destination

Use Destination to specify the S3 output location and the output filename base. Destination accepts format identifiers. If you do not specify the base filename in the URI, the service will use the filename of the input file. If your job has multiple inputs, the service uses the filename of the first input file.

Type: string
Required: False
Pattern: `^s3:\/\/`

destinationSettings

Settings associated with the destination. Will vary based on the type of destination

Type: DestinationSettings
Required: False

additionalManifests

By default, the service creates one .ism Microsoft Smooth Streaming manifest for each Microsoft Smooth Streaming output group in your job. This default manifest references every output in the output group. To create additional manifests that reference a subset of the outputs in the output group, specify a list of them here.

Type: Array of type MsSmoothAdditionalManifest
Required: False

fragmentLength

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

fragmentLengthControl

Specify how you want MediaConvert to determine the fragment length. Choose Exact to have the encoder use the exact length that you specify with the setting Fragment length. This might result in extra I-frames. Choose Multiple of GOP to have the encoder round up the segment lengths to match the next GOP boundary.

Type: MsSmoothFragmentLengthControl
Required: False

encryption

If you are using DRM, set DRM System to specify the value SpekeKeyProvider.

Type: MsSmoothEncryptionSettings
Required: False

manifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

Type: MsSmoothManifestEncoding
Required: False

audioDeduplication

COMBINE_DUPLICATE_STREAMS combines identical audio encoding settings across a Microsoft Smooth output group into a single audio stream.

Type: MsSmoothAudioDeduplication
Required: False

MsSmoothManifestEncoding

Use Manifest encoding to specify the encoding format for the server and client manifest. Valid options are utf8 and utf16.

```
UTF8
UTF16
```

MxfAfdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

```
NO_COPY
COPY_FROM_VIDEO
```

MxfProfile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

```
D_10
XDCAM
OP1A
XAVC
XDCAM_RDD9
```

MxfSettings

These settings relate to your MXF output container.

afdSignaling

Optional. When you have AFD signaling set up in your output video stream, use this setting to choose whether to also include it in the MXF wrapper. Choose Don't copy to exclude AFD signaling from the MXF wrapper. Choose Copy from video stream to copy the AFD values from the video stream for this output to the MXF wrapper. Regardless of which option you choose, the AFD values remain in the video stream. Related settings: To set up your output to include or exclude AFD values, see AfdSignaling, under VideoDescription. On the console, find AFD signaling under the output's video encoding settings.

Type: MxfAfdSignaling
Required: False

profile

Specify the MXF profile, also called shim, for this output. To automatically select a profile according to your output video codec and resolution, leave blank. For a list of codecs supported with each MXF profile, see https://docs.aws.amazon.com/mediaconvert/latest/ug/codecs-supported-with-each-mxf-profile.html. For more information about the automatic selection behavior, see https://docs.aws.amazon.com/mediaconvert/latest/ug/default-automatic-selection-of-mxf-profiles.html.

Type: MxfProfile
Required: False

xavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

Type: MxfXavcProfileSettings
Required: False

MxfXavcDurationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

ALLOW_ANY_DURATION

DROP_FRAMES_FOR_COMPLIANCE

MxfXavcProfileSettings

Specify the XAVC profile settings for MXF outputs when you set your MXF profile to XAVC.

durationMode

To create an output that complies with the XAVC file format guidelines for interoperability, keep the default value, Drop frames for compliance. To include all frames from your input in this output, keep the default setting, Allow any duration. The number of frames that MediaConvert excludes when you set this to Drop frames for compliance depends on the output frame rate and duration.

Type: MxfXavcDurationMode

Required: False

maxAncDataSize

Specify a value for this setting only for outputs that you set up with one of these two XAVC profiles: XAVC HD Intra CBG or XAVC 4K Intra CBG. Specify the amount of space in each frame that the service reserves for ancillary data, such as teletext captions. The default value for this setting is 1492 bytes per frame. This should be sufficient to prevent overflow unless you have multiple pages of teletext captions data. If you have a large amount of teletext data, specify a larger number.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

NexGuardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

license

Use the base64 license string that Nagra provides you. Enter it directly in your JSON job specification or in the console. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 100000

preset

Enter one of the watermarking preset strings that Nagra provides you. Required when you include Nagra NexGuard File Marker watermarking in your job.

Type: string
Required: False
MinLength: 1
MaxLength: 256

payload

Specify the payload ID that you want associated with this output. Valid values vary depending on your Nagra NexGuard forensic watermarking workflow. Required when you include Nagra NexGuard File Marker watermarking in your job. For PreRelease Content (NGPR/G2), specify an integer from 1 through 4,194,303. You must generate a unique ID for each asset you watermark, and keep a record of which ID you have assigned to each asset. Neither Nagra nor MediaConvert keep track of the relationship between output files and your IDs. For OTT Streaming, create two adaptive bitrate (ABR) stacks for each asset. Do this by setting up two output groups. For one output group, set the value of Payload ID to 0 in every output. For the other output group, set Payload ID to 1 in every output.

Type: integer
Required: False
Minimum: 0
Maximum: 4194303

strength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

Type: WatermarkingStrength
Required: False

NielsenActiveWatermarkProcessType

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

NAES2_AND_NW
CBET
NAES2_AND_NW_AND_CBET

NielsenConfiguration

Settings for your Nielsen configuration. If you don't do Nielsen measurement and analytics, ignore these settings. When you enable Nielsen configuration, MediaConvert enables PCM to ID3 tagging for all outputs in the job.

breakoutCode

Nielsen has discontinued the use of breakout code functionality. If you must include this property, set the value to zero.

Type: integer
Required: False
Minimum: 0
Maximum: 0

distributorId

Use Distributor ID to specify the distributor ID that is assigned to your organization by Nielsen.

Type: string
Required: False

NielsenNonLinearWatermarkSettings

Ignore these settings unless you are using Nielsen non-linear watermarking. Specify the values that MediaConvert uses to generate and place Nielsen watermarks in your output audio. In addition to specifying these values, you also need to set up your cloud TIC server. These settings apply to every output in your job. The MediaConvert implementation is currently with the following Nielsen versions: Nielsen Watermark SDK Version 6.0.13 Nielsen NLM Watermark Engine Version 1.3.3 Nielsen Watermark Authenticator [SID_TIC] Version [7.0.0]

sourceId

Use the SID that Nielsen provides to you. This source ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking. This ID should be unique to your Nielsen account but common to all of your output assets. Required for all Nielsen non-linear watermarking.

Type: integer
Required: False
Minimum: 0
Maximum: 65534

cbetSourceId

Use the CSID that Nielsen provides to you. This CBET source ID should be unique to your Nielsen account but common to all of your output assets that have CBET watermarking. Required when you choose a value for the setting Watermark types that includes CBET.

Type: string
Required: False
Pattern: `(^0x[A-Fa-f0-9]{0,8}$|^[1-9][0-9]{0,8}$)`

activeWatermarkProcess

Choose the type of Nielsen watermarks that you want in your outputs. When you choose NAES 2 and NW, you must provide a value for the setting SID. When you choose CBET, you must provide a

value for the setting CSID. When you choose NAES 2, NW, and CBET, you must provide values for both of these settings.

Type: NielsenActiveWatermarkProcessType
Required: False

assetId

Use the asset ID that you provide to Nielsen to uniquely identify this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 20

assetName

Use the asset name that you provide to Nielsen for this asset. Required for all Nielsen non-linear watermarking.

Type: string
Required: False
MinLength: 1
MaxLength: 50

episodeId

Optional. If this asset uses an episode ID with Nielsen, provide it here.

Type: string
Required: False
MinLength: 1
MaxLength: 20

ticServerUrl

Specify the endpoint for the TIC server that you have deployed and configured in the AWS Cloud. Required for all Nielsen non-linear watermarking. MediaConvert can't connect directly to a TIC server. Instead, you must use API Gateway to provide a RESTful interface between MediaConvert and a TIC server that you deploy in your AWS account. For more information on deploying a TIC server in your AWS account and the required API Gateway, contact Nielsen support.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/`

metadataDestination

Specify the Amazon S3 location where you want MediaConvert to save your Nielsen non-linear metadata .zip file. This Amazon S3 bucket must be in the same Region as the one where you do your MediaConvert transcoding. If you want to include an ADI file in this .zip file, use the setting ADI file to specify it. MediaConvert delivers the Nielsen metadata .zip files only to your metadata destination Amazon S3 bucket. It doesn't deliver the .zip files to Nielsen. You are responsible for delivering the metadata .zip files to Nielsen.

Type: string
Required: False
Pattern: `^s3:\/\/`

uniqueTicPerAudioTrack

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

Type: NielsenUniqueTicPerAudioTrackType
Required: False

adiFilename

Optional. Use this setting when you want the service to include an ADI file in the Nielsen metadata .zip file. To provide an ADI file, store it in Amazon S3 and provide a URL to it here. The

URL should be in the following format: S3://bucket/path/ADI-file. For more information about the metadata .zip file, see the setting Metadata destination.

Type: string

Required: False

Pattern: `^s3:\/\/`

sourceWatermarkStatus

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

Type: NielsenSourceWatermarkStatusType

Required: False

NielsenSourceWatermarkStatusType

Required. Specify whether your source content already contains Nielsen non-linear watermarks. When you set this value to Watermarked, the service fails the job. Nielsen requires that you add non-linear watermarking to only clean content that doesn't already have non-linear Nielsen watermarks.

`CLEAN`

`WATERMARKED`

NielsenUniqueTicPerAudioTrackType

To create assets that have the same TIC values in each audio track, keep the default value Share TICs. To create assets that have unique TIC values for each audio track, choose Use unique TICs.

`RESERVE_UNIQUE_TICS_PER_TRACK`

`SAME_TICS_PER_TRACK`

NoiseFilterPostTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

```
DISABLED
ENABLED
AUTO
```

NoiseFilterPostTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

```
LOW
MEDIUM
HIGH
```

NoiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

filter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

Type: NoiseReducerFilter
Required: False

filterSettings

Settings for a noise reducer filter

Type: NoiseReducerFilterSettings
Required: False

spatialFilterSettings

Noise reducer filter settings for spatial filter.

Type: NoiseReducerSpatialFilterSettings
Required: False

temporalFilterSettings

Noise reducer filter settings for temporal filter.

Type: NoiseReducerTemporalFilterSettings
Required: False

NoiseReducerFilter

Use Noise reducer filter to select one of the following spatial image filtering functions. To use this setting, you must also enable Noise reducer. * Bilateral preserves edges while reducing noise. * Mean (softest), Gaussian, Lanczos, and Sharpen (sharpest) do convolution filtering. * Conserve does min/max noise reduction. * Spatial does frequency-domain filtering based on JND principles. * Temporal optimizes video quality for complex motion.

```
BILATERAL
MEAN
GAUSSIAN
LANCZOS
SHARPEN
```

CONSERVE
SPATIAL
TEMPORAL

NoiseReducerFilterSettings

Settings for a noise reducer filter

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerSpatialFilterSettings

Noise reducer filter settings for spatial filter.

strength

Relative strength of noise reducing filter. Higher values produce stronger filtering.

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter, from -2 (lower speed) to 3 (higher speed), with 0 being the nominal value.

Type: integer
Required: False
Minimum: -2

Maximum: 3

postFilterSharpenStrength

Specify strength of post noise reduction sharpening filter, with 0 disabling the filter and 3 enabling it at maximum strength.

Type: integer
Required: False
Minimum: 0
Maximum: 3

NoiseReducerTemporalFilterSettings

Noise reducer filter settings for temporal filter.

strength

Specify the strength of the noise reducing filter on this output. Higher values produce stronger filtering. We recommend the following value ranges, depending on the result that you want: * 0-2 for complexity reduction with minimal sharpness loss * 2-8 for complexity reduction with image preservation * 8-16 for a high level of complexity reduction

Type: integer
Required: False
Minimum: 0
Maximum: 16

speed

The speed of the filter (higher number is faster). Low setting reduces bit rate at the cost of transcode time, high setting improves transcode time at the cost of bit rate.

Type: integer
Required: False
Minimum: -1
Maximum: 3

aggressiveMode

Use Aggressive mode for content that has complex motion. Higher values produce stronger temporal filtering. This filters highly complex scenes more aggressively and creates better VQ for low bitrate outputs.

Type: integer
Required: False
Minimum: 0
Maximum: 4

postTemporalSharpening

When you set Noise reducer to Temporal, the bandwidth and sharpness of your output is reduced. You can optionally use Post temporal sharpening to apply sharpening to the edges of your output. Note that Post temporal sharpening will also make the bandwidth reduction from the Noise reducer smaller. The default behavior, Auto, allows the transcoder to determine whether to apply sharpening, depending on your input type and quality. When you set Post temporal sharpening to Enabled, specify how much sharpening is applied using Post temporal sharpening strength. Set Post temporal sharpening to Disabled to not apply sharpening.

Type: NoiseFilterPostTemporalSharpening
Required: False

postTemporalSharpeningStrength

Use Post temporal sharpening strength to define the amount of sharpening the transcoder applies to your output. Set Post temporal sharpening strength to Low, Medium, or High to indicate the amount of sharpening.

Type: NoiseFilterPostTemporalSharpeningStrength
Required: False

OpusSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value OPUS.

bitrate

Optional. Specify the average bitrate in bits per second. Valid values are multiples of 8000, from 32000 through 192000. The default value is 96000, which we recommend for quality and bandwidth.

Type: integer
Required: False
Minimum: 32000
Maximum: 192000

channels

Specify the number of channels in this output audio track. Choosing Mono on gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Sample rate in Hz. Valid values are 16000, 24000, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 16000
Maximum: 48000

Order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

ASCENDING
DESCENDING

Output

Each output in your job is a collection of settings that describes how you want MediaConvert to encode a single output file or stream. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/create-outputs.html.

containerSettings

Container specific settings.

Type: ContainerSettings
Required: False

preset

Use Preset to specify a preset for your transcoding settings. Provide the system or custom preset name. You can specify either Preset or Container settings, but not both.

Type: string
Required: False
MinLength: 0

videoDescription

VideoDescription contains a group of video encoding settings. The specific video settings depend on the video codec that you choose for the property codec. Include one instance of VideoDescription per output.

Type: VideoDescription
Required: False

audioDescriptions

Contains groups of audio encoding settings organized by audio codec. Include one instance of per output. Can contain multiple groups of encoding settings.

Type: Array of type AudioDescription
Required: False

outputSettings

Specific settings for this type of output.

Type: OutputSettings
Required: False

extension

Use Extension to specify the file extension for outputs in File output groups. If you do not specify a value, the service will use default extensions by container type as follows * MPEG-2 transport stream, m2ts * Quicktime, mov * MXF container, mxf * MPEG-4 container, mp4 * WebM container, webm * Animated GIF container, gif * No Container, the service will use codec extensions (e.g. AAC, H265, H265, AC3)

Type: string
Required: False
MaxLength: 256

nameModifier

Use Name modifier to have the service add a string to the end of each output filename. You specify the base filename as part of your destination URI. When you create multiple outputs in the same output group, Name modifier is required. Name modifier also accepts format identifiers. For DASH ISO outputs, if you use the format identifiers $Number$ or $Time$ in one output, you must use them in the same way in all outputs of the output group.

Type: string
Required: False
MinLength: 1
MaxLength: 256

captionDescriptions

Contains groups of captions settings. For each output that has captions, include one instance of CaptionDescriptions. Can contain multiple groups of captions settings.

Type: Array of type CaptionDescription
Required: False

OutputChannelMapping

OutputChannel mapping settings.

inputChannels

Use this setting to specify your remix values when they are integers, such as -10, 0, or 4.

Type: Array of type integer
Required: False
Minimum: -60
Maximum: 6

inputChannelsFineTune

Use this setting to specify your remix values when they have a decimal component, such as -10.312, 0.08, or 4.9. MediaConvert rounds your remixing values to the nearest thousandth.

Type: Array of type number
Required: False
Format: float
Minimum: -60.0
Maximum: 6.0

OutputDetail

Details regarding output

durationInMs

Duration in milliseconds

Type: integer
Required: False

videoDetails

Contains details about the output's video stream

Type: VideoDetail
Required: False

OutputGroup

Group of outputs

customName

Use Custom Group Name to specify a name for the output group. This value is displayed on the console and can make your job settings JSON more human-readable. It does not affect your outputs. Use up to twelve characters that are either letters, numbers, spaces, or underscores.

Type: string
Required: False

name

Name of the output group

Type: string
Required: False
MaxLength: 2048

outputs

This object holds groups of encoding settings, one group of settings per output.

Type: Array of type Output
Required: False

outputGroupSettings

Output Group settings, including type

Type: OutputGroupSettings
Required: False

automatedEncodingSettings

Use automated encoding to have MediaConvert choose your encoding settings for you, based on characteristics of your input video.

Type: AutomatedEncodingSettings
Required: False

OutputGroupDetail

Contains details about the output groups specified in the job settings.

outputDetails

Details about the output

Type: Array of type OutputDetail
Required: False

OutputGroupSettings

Output Group settings, including type

type

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

Type: OutputGroupType
Required: False

hlsGroupSettings

Settings related to your HLS output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: HlsGroupSettings
Required: False

dashIsoGroupSettings

Settings related to your DASH output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: DashIsoGroupSettings
Required: False

fileGroupSettings

Settings related to your File output group. MediaConvert uses this group of settings to generate a single standalone file, rather than a streaming package.

Type: FileGroupSettings
Required: False

msSmoothGroupSettings

Settings related to your Microsoft Smooth Streaming output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: MsSmoothGroupSettings
Required: False

cmafGroupSettings

Settings related to your CMAF output package. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/outputs-file-ABR.html.

Type: CmafGroupSettings
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file

to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType

Required: False

OutputGroupType

Type of output group (File group, Apple HLS, DASH ISO, Microsoft Smooth Streaming, CMAF)

```
HLS_GROUP_SETTINGS
DASH_ISO_GROUP_SETTINGS
FILE_GROUP_SETTINGS
MS_SMOOTH_GROUP_SETTINGS
CMAF_GROUP_SETTINGS
```

OutputSdt

Selects method of inserting SDT information into output stream. "Follow input SDT" copies SDT information from input stream to output stream. "Follow input SDT if present" copies SDT information from input stream to output stream if SDT information is present in the input, otherwise it will fall back on the user-defined values. Enter "SDT Manually" means user will enter the SDT information. "No SDT" means output stream will not contain SDT information.

```
SDT_FOLLOW
SDT_FOLLOW_IF_PRESENT
SDT_MANUAL
SDT_NONE
```

OutputSettings

Specific settings for this type of output.

hlsSettings

Settings for HLS output groups

Type: HlsSettings
Required: False

PadVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

DISABLED
BLACK

PartnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

nexguardFileMarkerSettings

For forensic video watermarking, MediaConvert supports Nagra NexGuard File Marker watermarking. MediaConvert supports both PreRelease Content (NGPR/G2) and OTT Streaming workflows.

Type: NexGuardFileMarkerSettings
Required: False

PresetSpeke20Audio

Specify which SPEKE version 2.0 audio preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your audio outputs, choose from the following: Audio preset 1, Audio preset 2, or Audio preset 3. To encrypt your audio outputs, using the same content key for both your audio and video outputs: Choose Shared. When you do, you must also set SPEKE v2.0 video preset to Shared. To not encrypt your audio outputs: Choose Unencrypted. When you do, to encrypt your video outputs, you must also specify a SPEKE v2.0 video preset (other than Shared or Unencrypted).

```
PRESET_AUDIO_1
PRESET_AUDIO_2
PRESET_AUDIO_3
SHARED
UNENCRYPTED
```

PresetSpeke20Video

Specify which SPEKE version 2.0 video preset MediaConvert uses to request content keys from your SPEKE server. For more information, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/drm-content-speke-v2-presets.html To encrypt to your video outputs, choose from the following: Video preset 1, Video preset 2, Video preset 3, Video preset 4, Video preset 5, Video preset 6, Video preset 7, or Video preset 8. To encrypt your video outputs, using the same content key for both your video and audio outputs: Choose Shared. When you do, you must also set SPEKE v2.0 audio preset to Shared. To not encrypt your video outputs: Choose Unencrypted. When you do, to encrypt your audio outputs, you must also specify a SPEKE v2.0 audio preset (other than Shared or Unencrypted).

```
PRESET_VIDEO_1
PRESET_VIDEO_2
PRESET_VIDEO_3
PRESET_VIDEO_4
PRESET_VIDEO_5
PRESET_VIDEO_6
PRESET_VIDEO_7
PRESET_VIDEO_8
```

SHARED
UNENCRYPTED

ProresChromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve 4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

PRESERVE_444_SAMPLING
SUBSAMPLE_TO_422

ProresCodecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

APPLE_PRORES_422
APPLE_PRORES_422_HQ
APPLE_PRORES_422_LT
APPLE_PRORES_422_PROXY
APPLE_PRORES_4444
APPLE_PRORES_4444_XQ

ProresFramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

```
SPECIFIED
```

ProresFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

ProresInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

```
PROGRESSIVE
TOP_FIELD
```

```
BOTTOM_FIELD
FOLLOW_TOP_FIELD
FOLLOW_BOTTOM_FIELD
```

ProresParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

ProresScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

ProresSettings

Required when you set Codec to the value PRORES.

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field

first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: ProresInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: ProresScanTypeConversionMode
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1

Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

codecProfile

Use Profile to specify the type of Apple ProRes codec to use for this output.

Type: ProresCodecProfile
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

Type: ProresSlowPal
Required: False

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is

different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: ProresFramerateControl
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: ProresTelecine
Required: False

chromaSampling

This setting applies only to ProRes 4444 and ProRes 4444 XQ outputs that you create from inputs that use 4:4:4 chroma sampling. Set Preserve 4:4:4 sampling to allow outputs to also use 4:4:4 chroma sampling. You must specify a value for this setting when your output codec profile supports 4:4:4 chroma sampling. Related Settings: For Apple ProRes outputs with 4:4:4 chroma sampling: Choose Preserve 4:4:4 sampling. Use when your input has 4:4:4 chroma sampling and your output codec Profile is Apple ProRes 4444 or 4444 XQ. Note that when you choose Preserve

4:4:4 sampling, you cannot include any of the following Preprocessors: Dolby Vision, HDR10+, or Noise reducer.

Type: ProresChromaSampling
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: ProresFramerateConversionAlgorithm
Required: False

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: ProresParControl
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

ProresSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output. When you enable slow PAL, MediaConvert relabels the video frames to 25 fps and resamples your audio to keep it synchronized with the video. Note that enabling this setting will slightly reduce the duration of your video. Required settings: You must also set Framerate to 25.

DISABLED
ENABLED

ProresTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

QueueTransition

Description of the source and destination queues between which the job has moved, along with the timestamp of the move

timestamp

The time, in Unix epoch format, that the job moved from the source queue to the destination queue.

Type: string
Required: False
Format: date-time

sourceQueue

The queue that the job was on before the transition.

Type: string
Required: False

destinationQueue

The queue that the job was on after the transition.

Type: string

Required: False

Rectangle

Use Rectangle to identify a specific area of the video frame.

height

Height of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

width

Width of rectangle in pixels. Specify only even numbers.

Type: integer
Required: False
Minimum: 2
Maximum: 2147483647

x

The distance, in pixels, between the rectangle and the left edge of the video frame. Specify only even numbers.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

The distance, in pixels, between the rectangle and the top edge of the video frame. Specify only even numbers.

Type: integer

Required: False

Minimum: 0

Maximum: 2147483647

RemixSettings

Use Manual audio remixing to adjust audio levels for each audio channel in each output of your job. With audio remixing, you can output more or fewer audio channels than your input audio source provides.

channelMapping

Channel mapping contains the group of fields that hold the remixing value for each channel, in dB. Specify remix values to indicate how much of the content from your input audio channel you want in your output audio channels. Each instance of the InputChannels or InputChannelsFineTune array specifies these values for one output channel. Use one instance of this array for each output channel. In the console, each array corresponds to a column in the graphical depiction of the mapping matrix. The rows of the graphical matrix correspond to input channels. Valid values are within the range from -60 (mute) through 6. A setting of 0 passes the input channel unchanged to the output channel (no attenuation or amplification). Use InputChannels or InputChannelsFineTune to specify your remix values. Don't use both.

Type: ChannelMapping

Required: False

channelsIn

Specify the number of audio channels from your input that you want to use in your output. With remixing, you might combine or split the data in these channels, so the number of channels in your final output might be different. If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer

Required: False

Minimum: 1

Maximum: 64

channelsOut

Specify the number of channels in this output after remixing. Valid values: 1, 2, 4, 6, 8... 64. (1 and even numbers to 64.) If you are doing both input channel mapping and output channel mapping, the number of output channels in your input mapping must be the same as the number of input channels in your output mapping.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionAudioChannel

Optionally specify the channel in your input that contains your audio description audio signal. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description audio channel, you must also specify an audio description data channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False
Minimum: 1
Maximum: 64

audioDescriptionDataChannel

Optionally specify the channel in your input that contains your audio description data stream. MediaConvert mixes your audio signal across all output channels, while reducing their volume according to your data stream. When you specify an audio description data channel, you must also specify an audio description audio channel. For more information about audio description signals, see the BBC WHP 198 and 051 white papers.

Type: integer
Required: False

Minimum: 1
Maximum: 64

RemoveRubyReserveAttributes

Optionally remove any tts:rubyReserve attributes present in your input, that do not have a tts:ruby attribute in the same element, from your output. Use if your vertical Japanese output captions have alignment issues. To remove ruby reserve attributes when present: Choose Enabled. To not remove any ruby reserve attributes: Keep the default value, Disabled.

DISABLED
ENABLED

RequiredFlag

Set to ENABLED to force a rendition to be included.

ENABLED
DISABLED

RespondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

NONE
RESPOND
PASSTHROUGH

RuleType

Use Min top rendition size to specify a minimum size for the highest resolution in your ABR stack. * The highest resolution in your ABR stack will be equal to or greater than the value that you enter.

For example: If you specify 1280x720 the highest resolution in your ABR stack will be equal to or greater than 1280x720. * If you specify a value for Max resolution, the value that you specify for Min top rendition size must be less than, or equal to, Max resolution. Use Min bottom rendition size to specify a minimum size for the lowest resolution in your ABR stack. * The lowest resolution in your ABR stack will be equal to or greater than the value that you enter. For example: If you specify 640x360 the lowest resolution in your ABR stack will be equal to or greater than to 640x360. * If you specify a Min top rendition size rule, the value that you specify for Min bottom rendition size must be less than, or equal to, Min top rendition size. Use Force include renditions to specify one or more resolutions to include your ABR stack. * (Recommended) To optimize automated ABR, specify as few resolutions as possible. * (Required) The number of resolutions that you specify must be equal to, or less than, the Max renditions setting. * If you specify a Min top rendition size rule, specify at least one resolution that is equal to, or greater than, Min top rendition size. * If you specify a Min bottom rendition size rule, only specify resolutions that are equal to, or greater than, Min bottom rendition size. * If you specify a Force include renditions rule, do not specify a separate rule for Allowed renditions. * Note: The ABR stack may include other resolutions that you do not specify here, depending on the Max renditions setting. Use Allowed renditions to specify a list of possible resolutions in your ABR stack. * (Required) The number of resolutions that you specify must be equal to, or greater than, the Max renditions setting. * MediaConvert will create an ABR stack exclusively from the list of resolutions that you specify. * Some resolutions in the Allowed renditions list may not be included, however you can force a resolution to be included by setting Required to ENABLED. * You must specify at least one resolution that is greater than or equal to any resolutions that you specify in Min top rendition size or Min bottom rendition size. * If you specify Allowed renditions, you must not specify a separate rule for Force include renditions.

```
MIN_TOP_RENDITION_SIZE
MIN_BOTTOM_RENDITION_SIZE
FORCE_INCLUDE_RENDITIONS
ALLOWED_RENDITIONS
```

S3DestinationAccessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

cannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

Type: S3ObjectCannedAcl
Required: False

S3DestinationSettings

Settings associated with S3 destination

encryption

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

Type: S3EncryptionSettings
Required: False

accessControl

Optional. Have MediaConvert automatically apply Amazon S3 access control for the outputs in this output group. When you don't use this setting, S3 automatically applies the default access control list PRIVATE.

Type: S3DestinationAccessControl
Required: False

storageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

Type: S3StorageClass
Required: False

S3EncryptionSettings

Settings for how your job outputs are encrypted as they are uploaded to Amazon S3.

encryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the

encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

Type: S3ServerSideEncryptionType

Required: False

kmsKeyArn

Optionally, specify the customer master key (CMK) that you want to use to encrypt the data key that AWS uses to encrypt your output content. Enter the Amazon Resource Name (ARN) of the CMK. To use this setting, you must also set Server-side encryption to AWS KMS. If you set Server-side encryption to AWS KMS but don't specify a CMK here, AWS uses the AWS managed CMK associated with Amazon S3.

Type: string

Required: False

Pattern: `^arn:aws(-us-gov|-cn)?:kms:[a-z-]{2,6}-(east|west|central|((north|south)(east|west)?))-[1-9]{1,2}:\d{12}:key/([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}|mrk-[a-fA-F0-9]{32})$`

kmsEncryptionContext

Optionally, specify the encryption context that you want to use alongside your KMS key. AWS KMS uses this encryption context as additional authenticated data (AAD) to support authenticated encryption. This value must be a base64-encoded UTF-8 string holding JSON which represents a string-string map. To use this setting, you must also set Server-side encryption to AWS KMS. For more information about encryption context, see: https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#encrypt_context.

Type: string

Required: False

Pattern: `^[A-Za-z0-9+\/]+={0,2}$`

S3ObjectCannedAcl

Choose an Amazon S3 canned ACL for MediaConvert to apply to this output.

PUBLIC_READ
AUTHENTICATED_READ
BUCKET_OWNER_READ
BUCKET_OWNER_FULL_CONTROL

S3ServerSideEncryptionType

Specify how you want your data keys managed. AWS uses data keys to encrypt your content. AWS also encrypts the data keys themselves, using a customer master key (CMK), and then stores the encrypted data keys alongside your encrypted content. Use this setting to specify which AWS service manages the CMK. For simplest set up, choose Amazon S3. If you want your master key to be managed by AWS Key Management Service (KMS), choose AWS KMS. By default, when you choose AWS KMS, KMS uses the AWS managed customer master key (CMK) associated with Amazon S3 to encrypt your data keys. You can optionally choose to specify a different, customer managed CMK. Do so by specifying the Amazon Resource Name (ARN) of the key for the setting KMS ARN.

SERVER_SIDE_ENCRYPTION_S3
SERVER_SIDE_ENCRYPTION_KMS

S3StorageClass

Specify the S3 storage class to use for this output. To use your destination's default storage class: Keep the default value, Not set. For more information about S3 storage classes, see https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage-class-intro.html

STANDARD
REDUCED_REDUNDANCY
STANDARD_IA
ONEZONE_IA
INTELLIGENT_TIERING
GLACIER
DEEP_ARCHIVE

SampleRangeConversion

Specify how MediaConvert limits the color sample range for this output. To create a limited range output from a full range input: Choose Limited range squeeze. For full range inputs, MediaConvert performs a linear offset to color samples equally across all pixels and frames. Color samples in 10-bit outputs are limited to 64 through 940, and 8-bit outputs are limited to 16 through 235. Note: For limited range inputs, values for color samples are passed through to your output unchanged. MediaConvert does not limit the sample range. To correct pixels in your input that are out of range or out of gamut: Choose Limited range clip. Use for broadcast applications. MediaConvert conforms any pixels outside of the values that you specify under Minimum YUV and Maximum YUV to limited range bounds. MediaConvert also corrects any YUV values that, when converted to RGB, would be outside the bounds you specify under Minimum RGB tolerance and Maximum RGB tolerance. With either limited range conversion, MediaConvert writes the sample range metadata in the output.

```
LIMITED_RANGE_SQUEEZE
NONE
LIMITED_RANGE_CLIP
```

ScalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

```
DEFAULT
STRETCH_TO_OUTPUT
FIT
FIT_NO_UPSCALE
FILL
```

SccDestinationFramerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

```
FRAMERATE_23_97
```

FRAMERATE_24
FRAMERATE_25
FRAMERATE_29_97_DROPFRAME
FRAMERATE_29_97_NON_DROPFRAME

SccDestinationSettings

Settings related to SCC captions. SCC is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/scc-srt-output-captions.html.

framerate

Set Framerate to make sure that the captions and the video are synchronized in the output. Specify a frame rate that matches the frame rate of the associated video. If the video frame rate is 29.97, choose 29.97 dropframe only if the video has video_insertion=true and drop_frame_timecode=true; otherwise, choose 29.97 non-dropframe.

Type: SccDestinationFramerate
Required: False

SearchJobsRequest

Retrieve a JSON array that includes job details for up to twenty of your most recent jobs. Optionally filter results further according to input file, queue, or status. To retrieve the twenty next most recent jobs, use the nextToken string returned with the array.

queue

Optional. Provide a queue name, or a queue ARN, to return only jobs from that queue.

Type: string
Required: False

status

Optional. A job's status can be SUBMITTED, PROGRESSING, COMPLETE, CANCELED, or ERROR.

Type: JobStatus
Required: False

inputFile

Optional. Provide your input file URL or your partial input file name. The maximum length for an input file is 300 characters.

Type: string
Required: False

order

Optional. When you request lists of resources, you can specify whether they are sorted in ASCENDING or DESCENDING order. Default varies by resource.

Type: Order
Required: False

nextToken

Optional. Use this string, provided with the response to a previous request, to request the next batch of jobs.

Type: string
Required: False

maxResults

Optional. Number of jobs, up to twenty, that will be returned at one time.

Type: integer
Required: False
Format: int32
Minimum: 1
Maximum: 20

SearchJobsResponse

Successful search jobs requests return a JSON array of jobs. If you don't specify how they are ordered, you will receive the most recently created first.

jobs

List of jobs.

Type: Array of type Job
Required: False

nextToken

Use this string to request the next batch of jobs.

Type: string
Required: False

SimulateReservedQueue

Enable this setting when you run a test job to estimate how many reserved transcoding slots (RTS) you need. When this is enabled, MediaConvert runs your job from an on-demand queue with similar performance to what you will see with one RTS in a reserved queue. This setting is disabled by default.

```
DISABLED
ENABLED
```

SpekeKeyProvider

If your output group type is HLS, DASH, or Microsoft Smooth, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is CMAF, use the SpekeKeyProviderCmaf settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string

Required: False

systemIds

Relates to SPEKE implementation. DRM system identifiers. DASH output groups support a max of two system ids. HLS output groups support a max of 3 system ids. Other group types support one system id. See https://dashif.org/identifiers/content_protection/ for more details.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string
Required: False
Format: uri
Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string
Required: False
Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/

speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration
Required: False

SpekeKeyProviderCmaf

If your output group type is CMAF, use these settings when doing DRM encryption with a SPEKE-compliant key provider. If your output group type is HLS, DASH, or Microsoft Smooth, use the SpekeKeyProvider settings instead.

resourceId

Specify the resource ID that your SPEKE-compliant key provider uses to identify this content.

Type: string
Required: False
Pattern: `^[\w-]+$`

hlsSignaledSystemIds

Specify up to 3 DRM system IDs that you want signaled in the HLS manifest that MediaConvert creates as part of this CMAF package. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string
Required: False
Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`
MinLength: 36
MaxLength: 36

dashSignaledSystemIds

Specify the DRM system IDs that you want signaled in the DASH manifest that MediaConvert creates as part of this CMAF package. The DASH manifest can currently signal up to three system IDs. For more information, see https://dashif.org/identifiers/content_protection/.

Type: Array of type string

Required: False

Pattern: `^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$`

MinLength: 36

MaxLength: 36

url

Specify the URL to the key server that your SPEKE-compliant DRM key provider uses to provide keys for encrypting your content.

Type: string

Required: False

Format: uri

Pattern: `^https:\/\/[^:@\/]*(:\d*)?(\/.*)?$`

certificateArn

If you want your key provider to encrypt the content keys that it provides to MediaConvert, set up a certificate with a master key using AWS Certificate Manager. Specify the certificate's Amazon Resource Name (ARN) here.

Type: string

Required: False

Pattern: `^arn:aws(-us-gov)?:acm:`

encryptionContractConfiguration

Specify the SPEKE version, either v1.0 or v2.0, that MediaConvert uses when encrypting your output. For more information, see: https://docs.aws.amazon.com/speke/latest/documentation/speke-api-specification.html To use SPEKE v1.0: Leave blank. To use SPEKE v2.0: Specify a SPEKE v2.0 video preset and a SPEKE v2.0 audio preset.

Type: EncryptionContractConfiguration

Required: False

SrtDestinationSettings

Settings related to SRT captions. SRT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video.

stylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

Type: SrtStylePassthrough
Required: False

SrtStylePassthrough

Set Style passthrough to ENABLED to use the available style, color, and position information from your input captions. MediaConvert uses default settings for any missing style and position information in your input captions. Set Style passthrough to DISABLED, or leave blank, to ignore the style and position information from your input captions and use simplified output captions.

`ENABLED`
`DISABLED`

StaticKeyProvider

Use these settings to set up encryption with a static key provider.

staticKeyValue

Relates to DRM implementation. Use a 32-character hexidecimal string to specify Key Value.

Type: string
Required: False
Pattern: `^[A-Za-z0-9]{32}$`

keyFormat

Relates to DRM implementation. Sets the value of the KEYFORMAT attribute. Must be 'identity' or a reverse DNS string. May be omitted to indicate an implicit value of 'identity'.

Type: string
Required: False
Pattern: `^(identity|[A-Za-z]{2,6}(\.[A-Za-z0-9-]{1,63})+)$`

keyFormatVersions

Relates to DRM implementation. Either a single positive integer version value or a slash delimited list of version values (1/2/3).

Type: string
Required: False
Pattern: `^(\d+(\/\d+)*)$`

url

Relates to DRM implementation. The location of the license server used for protecting content.

Type: string
Required: False
Format: uri

StatusUpdateInterval

Specify how often MediaConvert sends STATUS_UPDATE events to Amazon CloudWatch Events. Set the interval, in seconds, between status updates. MediaConvert sends an update at this interval from the time the service begins processing your job to the time it completes the transcode or encounters an error.

`SECONDS_10`
`SECONDS_12`
`SECONDS_15`
`SECONDS_20`
`SECONDS_30`

SECONDS_60
SECONDS_120
SECONDS_180
SECONDS_240
SECONDS_300
SECONDS_360
SECONDS_420
SECONDS_480
SECONDS_540
SECONDS_600

TamsGapHandling

Specify how MediaConvert handles gaps between media segments in your TAMS source. Gaps can occur in live streams due to network issues or other interruptions. Choose from the following options: * Skip gaps - Default. Skip over gaps and join segments together. This creates a continuous output with no blank frames, but may cause timeline discontinuities. * Fill with black - Insert black frames to fill gaps between segments. This maintains timeline continuity but adds black frames where content is missing. * Hold last frame - Repeat the last frame before a gap until the next segment begins. This maintains visual continuity during gaps.

SKIP_GAPS
FILL_WITH_BLACK
HOLD_LAST_FRAME

TeletextDestinationSettings

Settings related to teletext captions. Set up teletext captions in the same output as your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/teletext-output-captions.html.

pageNumber

Set pageNumber to the Teletext page number for the destination captions for this output. This value must be a three-digit hexadecimal string; strings ending in -FF are invalid. If you are passing through the entire set of Teletext data, do not use this field.

Type: string

Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`
MinLength: 3
MaxLength: 3

pageTypes

Specify the page types for this Teletext page. If you don't specify a value here, the service sets the page type to the default value Subtitle. If you pass through the entire set of Teletext data, don't use this field. When you pass through a set of Teletext pages, your output has the same page types as your input.

Type: Array of type TeletextPageType
Required: False

TeletextPageType

A page type as defined in the standard ETSI EN 300 468, Table 94

`PAGE_TYPE_INITIAL`
`PAGE_TYPE_SUBTITLE`
`PAGE_TYPE_ADDL_INFO`
`PAGE_TYPE_PROGRAM_SCHEDULE`
`PAGE_TYPE_HEARING_IMPAIRED_SUBTITLE`

TeletextSourceSettings

Settings specific to Teletext caption sources, including Page number.

pageNumber

Use Page Number to specify the three-digit hexadecimal page number that will be used for Teletext captions. Do not use this setting if you are passing through teletext from the input source to output.

Type: string
Required: False
Pattern: `^[1-8][0-9a-fA-F][0-9a-eA-E]$`

MinLength: 3
MaxLength: 3

TimecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

fontSize

Use Font size to set the font size of any burned-in timecode. Valid values are 10, 16, 32, 48.

Type: integer
Required: False
Minimum: 10
Maximum: 48

position

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

Type: TimecodeBurninPosition
Required: False

prefix

Use Prefix to place ASCII characters before any burned-in timecode. For example, a prefix of "EZ-" will result in the timecode "EZ-00:00:00:00". Provide either the characters themselves or the ASCII code equivalents. The supported range of characters is 0x20 through 0x7e. This includes letters, numbers, and all special characters represented on a standard English keyboard.

Type: string
Required: False
Pattern: `^[ -~]+$`

TimecodeBurninPosition

Use Position under Timecode burn-in to specify the location the burned-in timecode on output video.

TOP_CENTER

TOP_LEFT

TOP_RIGHT

MIDDLE_LEFT

MIDDLE_CENTER

MIDDLE_RIGHT

BOTTOM_LEFT

BOTTOM_CENTER

BOTTOM_RIGHT

TimecodeConfig

These settings control how the service handles timecodes throughout the job. These settings don't affect input clipping.

anchor

If you use an editing platform that relies on an anchor timecode, use Anchor Timecode to specify a timecode that will match the input video frame to the output video frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF). This setting ignores frame rate conversion. System behavior for Anchor Timecode varies depending on your setting for Source. * If Source is set to Specified Start, the first input frame is the specified value in Start Timecode. Anchor Timecode and Start Timecode are used calculate output timecode. * If Source is set to Start at 0 the first frame is 00:00:00:00. * If Source is set to Embedded, the first frame is the timecode value on the first input frame of the input.

Type: string

Required: False

Format: timecode

Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

source

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-

hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0 - Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

Type: TimecodeSource
Required: False

start

Only use when you set Source to Specified start. Use Start timecode to specify the timecode for the initial frame. Use 24-hour format with frame number, (HH:MM:SS:FF) or (HH:MM:SS;FF).

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

timestampOffset

Only applies to outputs that support program-date-time stamp. Use Timestamp offset to overwrite the timecode date without affecting the time and frame number. Provide the new date as a string in the format "yyyy-mm-dd". To use Timestamp offset, you must also enable Insert program-date-time in the output settings. For example, if the date part of your timecodes is 2002-1-25 and you want to change it to one year later, set Timestamp offset to 2003-1-25.

Type: string
Required: False
Pattern: `^([0-9]{4})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])$`

TimecodeSource

Use Source to set how timecodes are handled within this job. To make sure that your video, audio, captions, and markers are synchronized and that time-based features, such as image inserter, work correctly, choose the Timecode source option that matches your assets. All timecodes are in a 24-hour format with frame number (HH:MM:SS:FF). * Embedded - Use the timecode that is in the input video. If no embedded timecode is in the source, the service will use Start at 0 instead. * Start at 0

- Set the timecode of the initial frame to 00:00:00:00. * Specified Start - Set the timecode of the initial frame to a value other than zero. You use Start timecode to provide this value.

EMBEDDED

ZEROBASED

SPECIFIEDSTART

TimecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

DISABLED

ENABLED

TimedMetadata

Set ID3 metadata to Passthrough to include ID3 metadata in this output. This includes ID3 metadata from the following features: ID3 timestamp period, and Custom ID3 metadata inserter. To exclude this ID3 metadata in this output: set ID3 metadata to None or leave blank.

PASSTHROUGH

NONE

TimedMetadataInsertion

Insert user-defined custom ID3 metadata at timecodes that you specify. In each output that you want to include this metadata, you must set ID3 metadata to Passthrough.

id3Insertions

Id3Insertions contains the array of Id3Insertion instances.

Type: Array of type Id3Insertion

Required: False

Timing

Information about when jobs are submitted, started, and finished is specified in Unix epoch format in seconds.

submitTime

The time, in Unix epoch format, that you submitted the job.

Type: string
Required: False
Format: date-time

startTime

The time, in Unix epoch format, that transcoding for the job began.

Type: string
Required: False
Format: date-time

finishTime

The time, in Unix epoch format, that the transcoding job finished

Type: string
Required: False
Format: date-time

TrackSourceSettings

Settings specific to caption sources that are specified by track number. Currently, this is only IMSC captions in an IMF package. If your caption source is IMSC 1.1 in a separate xml file, use FileSourceSettings instead of TrackSourceSettings.

trackNumber

Use this setting to select a single captions track from a source. Track numbers correspond to the order in the captions source file. For IMF sources, track numbering is based on the order that the

captions appear in the CPL. For example, use 1 to select the captions asset that is listed first in the CPL. To include more than one captions track in your job outputs, create multiple input captions selectors. Specify one track per selector.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

TsPtsOffset

Specify the initial presentation timestamp (PTS) offset for your transport stream output. To let MediaConvert automatically determine the initial PTS offset: Keep the default value, Auto. We recommend that you choose Auto for the widest player compatibility. The initial PTS will be at least two seconds and vary depending on your output's bitrate, HRD buffer size and HRD buffer initial fill percentage. To manually specify an initial PTS offset: Choose Seconds or Milliseconds. Then specify the number of seconds or milliseconds with PTS offset.

`AUTO`
`SECONDS`
`MILLISECONDS`

TtmlDestinationSettings

Settings related to TTML captions. TTML is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

Type: TtmlStylePassthrough
Required: False

TtmlStylePassthrough

Pass through style and position information from a TTML-like input source (TTML, IMSC, SMPTE-TT) to the TTML output.

ENABLED
DISABLED

UncompressedFourcc

The four character code for the uncompressed video.

I420
I422
I444

UncompressedFramerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE
SPECIFIED

UncompressedFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose

FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

UncompressedInterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

INTERLACED

PROGRESSIVE

UncompressedScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

INTERLACED

INTERLACED_OPTIMIZE

UncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

framerateControl

Use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: UncompressedFramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: UncompressedFramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the

numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: UncompressedInterlaceMode
Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you

choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: UncompressedScanTypeConversionMode
Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: UncompressedTelecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: UncompressedSlowPal
Required: False

fourcc

The four character code for the uncompressed video.

Type: UncompressedFourcc
Required: False

UncompressedSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

```
DISABLED
ENABLED
```

UncompressedTelecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

```
NONE
HARD
```

Vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

```
CLASS_145_8BIT
CLASS_220_8BIT
CLASS_220_10BIT
```

Vc3FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want

to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

INITIALIZE_FROM_SOURCE

SPECIFIED

Vc3FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

Vc3InterlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

INTERLACED

PROGRESSIVE

Vc3ScanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

```
INTERLACED
INTERLACED_OPTIMIZE
```

Vc3Settings

Required when you set Codec to the value VC3

vc3Class

Specify the VC3 class to choose the quality characteristics for this output. VC3 class, together with the settings Framerate (framerateNumerator and framerateDenominator) and Resolution (height and width), determine your output bitrate. For example, say that your video resolution is 1920x1080 and your framerate is 29.97. Then Class 145 gives you an output with a bitrate of approximately 145 Mbps and Class 220 gives you and output with a bitrate of approximately 220 Mbps. VC3 class also specifies the color bit depth of your output.

Type: Vc3Class
Required: False

interlaceMode

Optional. Choose the scan line type for this output. If you don't specify a value, MediaConvert will create a progressive output.

Type: Vc3InterlaceMode

Required: False

scanTypeConversionMode

Use this setting for interlaced outputs, when your output frame rate is half of your input frame rate. In this situation, choose Optimized interlacing to create a better quality interlaced output. In this case, each progressive frame from the input corresponds to an interlaced field in the output. Keep the default value, Basic interlacing, for all other output frame rates. With basic interlacing, MediaConvert performs any frame rate conversion first and then interlaces the frames. When you choose Optimized interlacing and you set your output frame rate to a value that isn't suitable for optimized interlacing, MediaConvert automatically falls back to basic interlacing. Required settings: To use optimized interlacing, you must set Telecine to None or Soft. You can't use optimized interlacing for hard telecine outputs. You must also set Interlace mode to a value other than Progressive.

Type: Vc3ScanTypeConversionMode

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vc3FramerateConversionAlgorithm

Required: False

telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

Type: Vc3Telecine
Required: False

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

Type: Vc3SlowPal
Required: False

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vc3FramerateControl
Required: False

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

Vc3SlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Framerate to 25.

DISABLED
ENABLED

Vc3Telecine

When you do frame rate conversion from 23.976 frames per second (fps) to 29.97 fps, and your output scan type is interlaced, you can optionally enable hard telecine to create a smoother picture. When you keep the default value, None, MediaConvert does a standard frame rate conversion to 29.97 without doing anything with the field polarity to create a smoother picture.

NONE
HARD

VchipAction

The action to take on content advisory XDS packets. If you select PASSTHROUGH, packets will not be changed. If you select STRIP, any packets will be removed in output captions.

PASSTHROUGH
STRIP

VideoCodec

Type of video codec

AV1
AVC_INTRA
FRAME_CAPTURE
GIF
H_264
H_265
MPEG2
PASSTHROUGH
PRORES
UNCOMPRESSED
VC3
VP8
VP9
XAVC

VideoCodecSettings

Video codec settings contains the group of settings related to video encoding. The settings in this group vary depending on the value that you choose for Video codec. For each codec enum that you choose, define the corresponding settings object. The following lists the codec enum, settings object pairs. * AV1, Av1Settings * AVC_INTRA, AvcIntraSettings * FRAME_CAPTURE, FrameCaptureSettings * GIF, GifSettings * H_264, H264Settings * H_265, H265Settings * MPEG2, Mpeg2Settings * PRORES, ProresSettings * UNCOMPRESSED, UncompressedSettings * VC3, Vc3Settings * VP8, Vp8Settings * VP9, Vp9Settings * XAVC, XavcSettings

codec

Specifies the video codec. This must be equal to one of the enum values defined by the object VideoCodec. To passthrough the video stream of your input without any video encoding: Choose Passthrough. More information about passthrough codec support and job settings requirements, see: https://docs.aws.amazon.com/mediaconvert/latest/ug/video-passthrough-feature-restrictions.html

Type: VideoCodec
Required: False

av1Settings

Required when you set Codec, under VideoDescription>CodecSettings to the value AV1.

Type: Av1Settings
Required: False

avcIntraSettings

Required when you choose AVC-Intra for your output video codec. For more information about the AVC-Intra settings, see the relevant specification. For detailed information about SD and HD in AVC-Intra, see https://ieeexplore.ieee.org/document/7290936. For information about 4K/2K in AVC-Intra, see https://pro-av.panasonic.net/en/avc-ultra/AVC-ULTRAoverview.pdf.

Type: AvcIntraSettings
Required: False

frameCaptureSettings

Required when you set Codec to the value FRAME_CAPTURE.

Type: FrameCaptureSettings
Required: False

gifSettings

Required when you set (Codec) under (VideoDescription)>(CodecSettings) to the value GIF

Type: GifSettings
Required: False

h264Settings

Required when you set Codec to the value H_264.

Type: H264Settings
Required: False

h265Settings

Settings for H265 codec

Type: H265Settings
Required: False

mpeg2Settings

Required when you set Codec to the value MPEG2.

Type: Mpeg2Settings
Required: False

proresSettings

Required when you set Codec to the value PRORES.

Type: ProresSettings
Required: False

uncompressedSettings

Required when you set Codec, under VideoDescription>CodecSettings to the value UNCOMPRESSED.

Type: UncompressedSettings
Required: False

vc3Settings

Required when you set Codec to the value VC3

Type: Vc3Settings
Required: False

vp8Settings

Required when you set Codec to the value VP8.

Type: Vp8Settings
Required: False

vp9Settings

Required when you set Codec to the value VP9.

Type: Vp9Settings
Required: False

xavcSettings

Required when you set Codec to the value XAVC.

Type: XavcSettings
Required: False

VideoDescription

Settings related to video encoding of your output. The specific video settings depend on the video codec that you choose.

fixedAfd

Applies only if you set AFD Signaling to Fixed. Use Fixed to specify a four-bit AFD value which the service will write on all frames of this video output.

Type: integer

Required: False
Minimum: 0
Maximum: 15

width

Use Width to define the video resolution width, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Width blank and enter a value for Height. For example, if your input is 1920x1080 and you set Height to 720, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

scalingBehavior

Specify the video Scaling behavior when your output has a different resolution than your input. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-scaling.html

Type: ScalingBehavior
Required: False

crop

Use Cropping selection to specify the video area that the service will include in the output video frame.

Type: Rectangle
Required: False

height

Use Height to define the video resolution height, in pixels, for this output. To use the same resolution as your input: Leave both Width and Height blank. To evenly scale from your input resolution: Leave Height blank and enter a value for Width. For example, if your input is 1920x1080 and you set Width to 1280, your output will be 1280x720.

Type: integer
Required: False
Minimum: 32
Maximum: 8192

videoPreprocessors

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

Type: VideoPreprocessor
Required: False

timecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

Type: VideoTimecodeInsertion
Required: False

timecodeTrack

To include a timecode track in your MP4 output: Choose Enabled. MediaConvert writes the timecode track in the Null Media Header box (NMHD), without any timecode text formatting information. You can also specify dropframe or non-dropframe timecode under the Drop Frame Timecode setting. To not include a timecode track: Keep the default value, Disabled.

Type: TimecodeTrack
Required: False

antiAlias

The anti-alias filter is automatically applied to all outputs. The service no longer accepts the value DISABLED for AntiAlias. If you specify that in your job, the service will ignore the setting.

Type: AntiAlias
Required: False

position

Use Selection placement to define the video area in your output frame. The area outside of the rectangle that you specify here is black.

Type: Rectangle
Required: False

sharpness

Use Sharpness setting to specify the strength of anti-aliasing. This setting changes the width of the anti-alias filter kernel used for scaling. Sharpness only applies if your output resolution is different from your input resolution. 0 is the softest setting, 100 the sharpest, and 50 recommended for most content.

Type: integer
Required: False
Minimum: 0
Maximum: 100

codecSettings

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Type: VideoCodecSettings

Required: False

afdSignaling

This setting only applies to H.264, H.265, and MPEG2 outputs. Use Insert AFD signaling to specify whether the service includes AFD values in the output video data and what those values are. * Choose None to remove all AFD values from this output. * Choose Fixed to ignore input AFD values and instead encode the value specified in the job. * Choose Auto to calculate output AFD values based on the input AFD scaler data.

Type: AfdSignaling
Required: False

dropFrameTimecode

Applies only to 29.97 fps outputs. When this feature is enabled, the service will use drop-frame timecode on outputs. If it is not possible to use drop-frame timecode, the system will fall back to non-drop-frame. This setting is enabled by default when Timecode insertion or Timecode track is enabled.

Type: DropFrameTimecode
Required: False

respondToAfd

Use Respond to AFD to specify how the service changes the video itself in response to AFD values in the input. * Choose Respond to clip the input video frame according to the AFD value, input display aspect ratio, and output display aspect ratio. * Choose Passthrough to include the input AFD values. Do not choose this when AfdSignaling is set to NONE. A preferred implementation of this workflow is to set RespondToAfd to and set AfdSignaling to AUTO. * Choose None to remove all input AFD values from this output.

Type: RespondToAfd
Required: False

chromaPositionMode

Specify the chroma sample positioning metadata for your H.264 or H.265 output. To have MediaConvert automatically determine chroma positioning: We recommend that you keep the default value, Auto. To specify center positioning: Choose Force center. To specify top left positioning: Choose Force top left.

Type: ChromaPositionMode
Required: False

colorMetadata

Choose Insert for this setting to include color metadata in this output. Choose Ignore to exclude color metadata from this output. If you don't specify a value, the service sets this to Insert by default.

Type: ColorMetadata
Required: False

VideoDetail

Contains details about the output's video stream

widthInPx

Width in pixels for the output

Type: integer
Required: False

heightInPx

Height in pixels for the output

Type: integer
Required: False

VideoOverlay

Overlay one or more videos on top of your input video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/video-overlays.html

input

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

Type: VideoOverlayInput
Required: False

endTimecode

Enter the end timecode in the base input video for this overlay. Your overlay will be active through this frame. To display your video overlay for the duration of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS isthe second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to end ten minutes into the video, enter 01:10:00:00.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Enter the start timecode in the base input video for this overlay. Your overlay will be active starting with this frame. To display your video overlay starting at the beginning of the base input video: Leave blank. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for the base input video's timecode source. For example, if you have embedded timecodes that start at 01:00:00:00 and you want your overlay to begin five minutes into the video, enter 01:05:00:00.

Type: string
Required: False

Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

crop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

Type: VideoOverlayCrop
Required: False

initialPosition

Specify the Initial position of your video overlay. To specify the Initial position of your video overlay, including distance from the left or top edge of the base input video's frame, or size: Enter a value for X position, Y position, Width, or Height. To use the full frame of the base input video: Leave blank.

Type: VideoOverlayPosition
Required: False

playback

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

Type: VideoOverlayPlayBackMode
Required: False

transitions

Specify one or more transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

Type: Array of type VideoOverlayTransition
Required: False

VideoOverlayCrop

Specify a rectangle of content to crop and use from your video overlay's input video. When you do, MediaConvert uses the cropped dimensions that you specify under X offset, Y offset, Width, and Height.

x

Specify the distance between the cropping rectangle and the left edge of your overlay video's frame. To position the cropping rectangle along the left edge: Keep blank, or enter 0. To position the cropping rectangle to the right, relative to the left edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the left edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 192 pixels from the left edge of the overlay video's frame.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

y

Specify the distance between the cropping rectangle and the top edge of your overlay video's frame. To position the cropping rectangle along the top edge: Keep blank, or enter 0. To position the cropping rectangle down, relative to the top edge of your overlay video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, the cropping rectangle will be positioned 10 pixels from the top edge of the overlay video's frame. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be positioned 108 pixels from the top edge of the overlay video's frame.

Type: integer
Required: False

Minimum: 0
Maximum: 2147483647

width

Specify the width of the video overlay cropping rectangle. To use the same width as your overlay input video: Keep blank, or enter 0. To specify a different width for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels wide. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 192 pixels wide.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

height

Specify the height of the video overlay cropping rectangle. To use the same height as your overlay input video: Keep blank, or enter 0. To specify a different height for the cropping rectangle: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 100 and choose Pixels, the cropping rectangle will be 100 pixels high. When you enter 10, choose Percentage, and your overlay input video is 1920x1080, the cropping rectangle will be 108 pixels high.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit
Required: False

VideoOverlayInput

Input settings for Video overlay. You can include one or more video overlays in sequence at different times that you specify.

fileInput

Specify the input file S3, HTTP, or HTTPS URL for your video overlay. To specify one or more Transitions for your base input video instead: Leave blank.

Type: string
Required: False
Pattern: `^s3://([^\/]+\/+)+(([^\/]*))|^https?://[^\/].*[^&]$`

inputClippings

Specify one or more clips to use from your video overlay. When you include an input clip, you must also specify its start timecode, end timecode, or both start and end timecode.

Type: Array of type VideoOverlayInputClipping
Required: False

timecodeSource

Specify the timecode source for your video overlay input clips. To use the timecode present in your video overlay: Choose Embedded. To use a zerobased timecode: Choose Start at 0. To choose a timecode: Choose Specified start. When you do, enter the starting timecode in Start timecode. If you don't specify a value for Timecode source, MediaConvert uses Embedded by default.

Type: InputTimecodeSource
Required: False

timecodeStart

Specify the starting timecode for this video overlay. To use this setting, you must set Timecode source to Specified start.

Type: string
Required: False

Pattern: ^((([0-1]\d)|(2[0-3]))(:[0-5]\d){2}([:;][0-5]\d))$
MinLength: 11
MaxLength: 11

VideoOverlayInputClipping

To transcode only portions of your video overlay, include one input clip for each part of your video overlay that you want in your output.

endTimecode

Specify the timecode of the last frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: ^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$

startTimecode

Specify the timecode of the first frame to include in your video overlay's clip. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: ^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}(@[0-9]+(\.[0-9]+)?(:[0-9]+)?)?$

VideoOverlayPlayBackMode

Specify whether your video overlay repeats or plays only once. To repeat your video overlay on a loop: Keep the default value, Repeat. Your overlay will repeat for the duration of the base input

video. To playback your video overlay only once: Choose Once. With either option, you can end playback at a time that you specify by entering a value for End timecode.

ONCE
REPEAT

VideoOverlayPosition

position of video overlay

xPosition

To position the left edge of your video overlay along the left edge of the base input video's frame: Keep blank, or enter 0. To position the left edge of your video overlay to the right, relative to the left edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the left edge of the base input video's frame. When you enter 10, choose Percentage, and your base input video is 1920x1080, your video overlay will be positioned 192 pixels from the left edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

yPosition

To position the top edge of your video overlay along the top edge of the base input video's frame: Keep blank, or enter 0. To position the top edge of your video overlay down, relative to the top edge of the base input video's frame: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 10 and choose Pixels, your video overlay will be positioned 10 pixels from the top edge of the base input video's frame. When you enter 10, choose Percentage, and your underlying video is 1920x1080, your video overlay will be positioned 108 pixels from the top edge of the base input video's frame.

Type: integer
Required: False
Minimum: -2147483648

Maximum: 2147483647

width

To scale your video overlay to the same width as the base input video: Leave blank. To scale the width of your video overlay to a different width: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 640 and choose Pixels, your video overlay will scale to a height of 640 pixels. When you enter 50, choose Percentage, and your overlay's source has a width of 1920, your video overlay will scale to a width of 960. To scale your overlay to a specific width while automatically maintaining its original aspect ratio, enter a value for Width and leave Height blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

height

To scale your video overlay to the same height as the base input video: Leave blank. To scale the height of your video overlay to a different height: Enter an integer representing the Unit type that you choose, either Pixels or Percentage. For example, when you enter 360 and choose Pixels, your video overlay will be rendered with a height of 360. When you enter 50, choose Percentage, and your overlay's source has a height of 1080, your video overlay will be rendered with a height of 540. To scale your overlay to a specific height while automatically maintaining its original aspect ratio, enter a value for Height and leave Width blank.

Type: integer
Required: False
Minimum: -1
Maximum: 2147483647

unit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

Type: VideoOverlayUnit

Required: False

VideoOverlayTransition

Specify one or more Transitions for your video overlay. Use Transitions to reposition or resize your overlay over time. To use the same position and size for the duration of your video overlay: Leave blank. To specify a Transition: Enter a value for Start timecode, End Timecode, X Position, Y Position, Width, or Height.

endTimecode

Specify the timecode for when this transition ends. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

startTimecode

Specify the timecode for when this transition begins. Use the format HH:MM:SS:FF or HH:MM:SS;FF, where HH is the hour, MM is the minute, SS is the second, and FF is the frame number. When entering this value, take into account your choice for Timecode source.

Type: string
Required: False
Format: timecode
Pattern: `^([01][0-9]|2[0-4]):[0-5][0-9]:[0-5][0-9][:;][0-9]{2}$`

endPosition

Specify the ending position for this transition, relative to the base input video's frame. Your video overlay will move smoothly to this position, beginning at this transition's Start timecode and ending at this transition's End timecode.

Type: VideoOverlayPosition

Required: False

VideoOverlayUnit

Specify the Unit type to use when you enter a value for X position, Y position, Width, or Height. You can choose Pixels or Percentage. Leave blank to use the default value, Pixels.

```
PIXELS
PERCENTAGE
```

VideoPreprocessor

Find additional transcoding features under Preprocessors. Enable the features at each output individually. These features are disabled by default.

colorCorrector

Use these settings to convert the color space or to modify properties such as hue and contrast for this output. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/converting-the-color-space.html.

Type: ColorCorrector
Required: False

deinterlacer

Use the deinterlacer to produce smoother motion and a clearer picture. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-scan-type.html.

Type: Deinterlacer
Required: False

dolbyVision

Enable Dolby Vision feature to produce Dolby Vision compatible video output.

Type: DolbyVision
Required: False

hdr10Plus

Enable HDR10+ analysis and metadata injection. Compatible with HEVC only.

Type: Hdr10Plus
Required: False

imageInserter

Enable the Image inserter feature to include a graphic overlay on your video. Enable or disable this feature for each output individually. This setting is disabled by default.

Type: ImageInserter
Required: False

noiseReducer

Enable the Noise reducer feature to remove noise from your video output if necessary. Enable or disable this feature for each output individually. This setting is disabled by default. When you enable Noise reducer, you must also select a value for Noise reducer filter. For AVC outputs, when you include Noise reducer, you cannot include the Bandwidth reduction filter.

Type: NoiseReducer
Required: False

timecodeBurnin

Settings for burning the output timecode and specified prefix into the output.

Type: TimecodeBurnin
Required: False

partnerWatermarking

If you work with a third party video watermarking partner, use the group of settings that correspond with your watermarking partner to include watermarks in your output.

Type: PartnerWatermarking

Required: False

VideoSelector

Input video selectors contain the video settings for the input. Each of your inputs can have up to one video selector.

colorSpace

If your input video has accurate color space metadata, or if you don't know about color space: Keep the default value, Follow. MediaConvert will automatically detect your input color space. If your input video has metadata indicating the wrong color space, or has missing metadata: Specify the accurate color space here. If your input video is HDR 10 and the SMPTE ST 2086 Mastering Display Color Volume static metadata isn't present in your video stream, or if that metadata is present but not accurate: Choose Force HDR 10. Specify correct values in the input HDR 10 metadata settings. For more information about HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr. When you specify an input color space, MediaConvert uses the following color space metadata, which includes color primaries, transfer characteristics, and matrix coefficients: * HDR 10: BT.2020, PQ, BT.2020 non-constant * HLG 2020: BT.2020, HLG, BT.2020 non-constant * P3DCI (Theater): DCIP3, SMPTE 428M, BT.709 * P3D65 (SDR): Display P3, sRGB, BT.709 * P3D65 (HDR): Display P3, PQ, BT.709

Type: ColorSpace
Required: False

sampleRange

If the sample range metadata in your input video is accurate, or if you don't know about sample range, keep the default value, Follow, for this setting. When you do, the service automatically detects your input sample range. If your input video has metadata indicating the wrong sample range, specify the accurate sample range here. When you do, MediaConvert ignores any sample range information in the input metadata. Regardless of whether MediaConvert uses the input sample range or the sample range that you specify, MediaConvert uses the sample range for transcoding and also writes it to the output metadata.

Type: InputSampleRange
Required: False

rotate

Use Rotate to specify how the service rotates your video. You can choose automatic rotation or specify a rotation. You can specify a clockwise rotation of 0, 90, 180, or 270 degrees. If your input video container is .mov or .mp4 and your input has rotation metadata, you can choose Automatic to have the service rotate your video according to the rotation specified in the metadata. The rotation must be within one degree of 90, 180, or 270 degrees. If the rotation metadata specifies any other rotation, the service will default to no rotation. By default, the service does no rotation, even if your input video has rotation metadata. The service doesn't pass through rotation metadata.

Type: InputRotate
Required: False

pid

Use PID to select specific video data from an input file. Specify this value as an integer; the system automatically converts it to the hexidecimal value. For example, 257 selects PID 0x101. A PID, or packet identifier, is an identifier for a set of data in an MPEG-2 transport stream container.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

programNumber

Selects a specific program from within a multi-program transport stream. Note that Quad 4K is not currently supported.

Type: integer
Required: False
Minimum: -2147483648
Maximum: 2147483647

embeddedTimecodeOverride

Set Embedded timecode override to Use MDPM when your AVCHD input contains timecode tag data in the Modified Digital Video Pack Metadata. When you do, we recommend you also set Timecode source to Embedded. Leave Embedded timecode override blank, or set to None, when your input does not contain MDPM timecode.

Type: EmbeddedTimecodeOverride
Required: False

alphaBehavior

Ignore this setting unless this input is a QuickTime animation with an alpha channel. Use this setting to create separate Key and Fill outputs. In each output, specify which part of the input MediaConvert uses. Leave this setting at the default value DISCARD to delete the alpha channel and preserve the video. Set it to REMAP_TO_LUMA to delete the video and map the alpha channel to the luma channel of your outputs.

Type: AlphaBehavior
Required: False

colorSpaceUsage

There are two sources for color metadata, the input file and the job input settings Color space and HDR master display information settings. The Color space usage setting determines which takes precedence. Choose Force to use color metadata from the input job settings. If you don't specify values for those settings, the service defaults to using metadata from your input. FALLBACK - Choose Fallback to use color metadata from the source when it is present. If there's no color metadata in your input file, the service defaults to using values you specify in the input settings.

Type: ColorSpaceUsage
Required: False

padVideo

Use this setting if your input has video and audio durations that don't align, and your output or player has strict alignment requirements. Examples: Input audio track has a delayed start. Input video track ends before audio ends. When you set Pad video to Black, MediaConvert generates

black video frames so that output video and audio durations match. Black video frames are added at the beginning or end, depending on your input. To keep the default behavior and not generate black video, set Pad video to Disabled or leave blank.

Type: PadVideo
Required: False

selectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

Type: VideoSelectorType
Required: False

streams

Specify a stream for MediaConvert to use from your HLS input. Enter an integer corresponding to the stream order in your HLS manifest.

Type: Array of type integer
Required: False
Minimum: 1
Maximum: 2147483647

maxLuminance

Specify the maximum mastering display luminance. Enter an integer from 0 to 2147483647, in units of 0.0001 nits. For example, enter 10000000 for 1000 nits.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

hdr10Metadata

Use these settings to provide HDR 10 metadata that is missing or inaccurate in your input video. Appropriate values vary depending on the input video and must be provided by a color grader. The color grader generates these values during the HDR 10 mastering process. The valid range for each of these settings is 0 to 50,000. Each increment represents 0.00002 in CIE1931 color coordinate. Related settings - When you specify these values, you must also set Color space to HDR 10. To specify whether the the values you specify here take precedence over the values in the metadata of your input file, set Color space usage. To specify whether color metadata is included in an output, set Color metadata. For more information about MediaConvert HDR jobs, see https://docs.aws.amazon.com/console/mediaconvert/hdr.

Type: Hdr10Metadata
Required: False

VideoSelectorType

Choose the video selector type for your HLS input. Use to specify which video rendition MediaConvert uses from your HLS input. To have MediaConvert automatically use the highest bitrate rendition from your HLS input: Keep the default value, Auto. To manually specify a rendition: Choose Stream. Then enter the unique stream number in the Streams array, starting at 1, corresponding to the stream order in the manifest.

AUTO
STREAM

VideoTimecodeInsertion

Applies only to H.264, H.265, MPEG2, and ProRes outputs. Only enable Timecode insertion when the input frame rate is identical to the output frame rate. To include timecodes in this output, set Timecode insertion to PIC_TIMING_SEI. To leave them out, set it to DISABLED. Default is DISABLED. When the service inserts timecodes in an output, by default, it uses any embedded timecodes from the input. If none are present, the service will set the timecode for the first output frame to zero. To change this default behavior, adjust the settings under Timecode configuration. In the console, these settings are located under Job > Job settings > Timecode configuration. Note - Timecode source under input settings does not affect the timecodes that are inserted in the output. Source under Job settings > Timecode configuration does.

DISABLED
PIC_TIMING_SEI

VorbisSettings

Required when you set Codec, under AudioDescriptions>CodecSettings, to the value Vorbis.

channels

Optional. Specify the number of channels in this output audio track. Choosing Mono on the console gives you 1 output channel; choosing Stereo gives you 2. In the API, valid values are 1 and 2. The default value is 2.

Type: integer
Required: False
Minimum: 1
Maximum: 2

sampleRate

Optional. Specify the audio sample rate in Hz. Valid values are 22050, 32000, 44100, and 48000. The default value is 48000.

Type: integer
Required: False
Minimum: 22050
Maximum: 48000

vbrQuality

Optional. Specify the variable audio quality of this Vorbis output from -1 (lowest quality, ~45 kbit/s) to 10 (highest quality, ~500 kbit/s). The default value is 4 (~128 kbit/s). Values 5 and 6 are approximately 160 and 192 kbit/s, respectively.

Type: integer
Required: False
Minimum: -1
Maximum: 10

Vp8FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp8FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

```
DUPLICATE_DROP
INTERPOLATE
FRAMEFORMER
MAINTAIN_FRAME_COUNT
```

Vp8ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose

SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE
SPECIFIED

Vp8QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

MULTI_PASS
MULTI_PASS_HQ

Vp8RateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp8Settings

Required when you set Codec to the value VP8.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp8QualityTuningLevel
Required: False

rateControlMode

With the VP8 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp8RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 1152000000

hrdBufferSize

Optional. Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp8FramerateControl

Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp8FramerateConversionAlgorithm

Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

Type: Vp8ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer

Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

Vp9FramerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

```
INITIALIZE_FROM_SOURCE
SPECIFIED
```

Vp9FramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using

FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP

INTERPOLATE

FRAMEFORMER

MAINTAIN_FRAME_COUNT

Vp9ParControl

Optional. Specify how the service determines the pixel aspect ratio (PAR) for this output. The default behavior, Follow source, uses the PAR from your input video for your output. To specify a different PAR in the console, choose any value other than Follow source. When you choose SPECIFIED for this setting, you must also specify values for the parNumerator and parDenominator settings.

INITIALIZE_FROM_SOURCE

SPECIFIED

Vp9QualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

MULTI_PASS

MULTI_PASS_HQ

Vp9RateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

VBR

Vp9Settings

Required when you set Codec to the value VP9.

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, multi-pass encoding.

Type: Vp9QualityTuningLevel
Required: False

rateControlMode

With the VP9 codec, you can use only the variable bitrate (VBR) rate control mode.

Type: Vp9RateControlMode
Required: False

gopSize

GOP Length (keyframe interval) in frames. Must be greater than zero.

Type: number
Required: False
Format: float
Minimum: 0.0

maxBitrate

Ignore this setting unless you set qualityTuningLevel to MULTI_PASS. Optional. Specify the maximum bitrate in bits/second. For example, enter five megabits per second as 5000000. The default behavior uses twice the target bitrate as the maximum bitrate.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

bitrate

Target bitrate in bits/second. For example, enter five megabits per second as 5000000.

Type: integer
Required: False
Minimum: 1000
Maximum: 480000000

hrdBufferSize

Size of buffer (HRD buffer model) in bits. For example, enter five megabits as 5000000.

Type: integer
Required: False
Minimum: 0
Maximum: 47185920

framerateControl

If you are using the console, use the Framerate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list or choose Custom. The framerates shown in the dropdown list are decimal approximations of fractions. If you choose Custom, specify your frame rate as a fraction.

Type: Vp9FramerateControl
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using

FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: Vp9FramerateConversionAlgorithm
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parControl

Optional. Specify how the service determines the pixel aspect ratio for this output. The default behavior is to use the same pixel aspect ratio as your input video.

Type: Vp9ParControl
Required: False

parNumerator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parNumerator is 40.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

parDenominator

Required when you set Pixel aspect ratio to SPECIFIED. On the console, this corresponds to any value other than Follow source. When you specify an output pixel aspect ratio (PAR) that is different from your input video PAR, provide your output PAR as a ratio. For example, for D1/DV NTSC widescreen, you would specify the ratio 40:33. In this example, the value for parDenominator is 33.

Type: integer
Required: False
Minimum: 1
Maximum: 2147483647

WarningGroup

Contains any warning codes and their count for the job.

code

Warning code that identifies a specific warning in the job. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/warning_codes.html

Type: integer
Required: True
Format: int32

count

The number of times this warning occurred in the job.

Type: integer
Required: True
Format: int32

WatermarkingStrength

Optional. Ignore this setting unless Nagra support directs you to specify a value. When you don't specify a value here, the Nagra NexGuard library uses its default value.

LIGHTEST
LIGHTER
DEFAULT
STRONGER
STRONGEST

WavFormat

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

RIFF
RF64
EXTENSIBLE

WavSettings

Required when you set Codec to the value WAV.

bitDepth

Specify Bit depth, in bits per sample, to choose the encoding quality for this audio track.

Type: integer
Required: False
Minimum: 16
Maximum: 24

channels

Specify the number of channels in this output audio track. Valid values are 1 and even numbers up to 64. For example, 1, 2, 4, 6, and so on, up to 64.

Type: integer
Required: False
Minimum: 1
Maximum: 64

sampleRate

Sample rate in Hz.

Type: integer
Required: False
Minimum: 8000
Maximum: 192000

format

Specify the file format for your wave audio output. To use a RIFF wave format: Keep the default value, RIFF. If your output audio is likely to exceed 4GB in file size, or if you otherwise need the extended support of the RF64 format: Choose RF64. If your player only supports the extensible wave format: Choose Extensible.

Type: WavFormat

Required: False

WebvttAccessibilitySubs

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

`DISABLED`

`ENABLED`

WebvttDestinationSettings

Settings related to WebVTT captions. WebVTT is a sidecar format that holds captions in a file that is separate from the video container. Set up sidecar captions in the same output group, but different output from your video. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/ttml-and-webvtt-output-captions.html.

stylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while

merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

Type: WebvttStylePassthrough
Required: False

accessibility

If the WebVTT captions track is intended to provide accessibility for people who are deaf or hard of hearing: Set Accessibility subtitles to Enabled. When you do, MediaConvert adds accessibility attributes to your output HLS or DASH manifest. For HLS manifests, MediaConvert adds the following accessibility attributes under EXT-X-MEDIA for this track: CHARACTERISTICS="public.accessibility.describes-spoken-dialog,public.accessibility.describes-music-and-sound" and AUTOSELECT="YES". For DASH manifests, MediaConvert adds the following in the adaptation set for this track: <Accessibility schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>. If the captions track is not intended to provide such accessibility: Keep the default value, Disabled. When you do, for DASH manifests, MediaConvert instead adds the following in the adaptation set for this track: <Role schemeIDUri="urn:mpeg:dash:role:2011" value="subtitle"/>.

Type: WebvttAccessibilitySubs
Required: False

WebvttHlsSourceSettings

Settings specific to WebVTT sources in HLS alternative rendition group. Specify the properties (renditionGroupId, renditionName or renditionLanguageCode) to identify the unique subtitle track among the alternative rendition groups present in the HLS manifest. If no unique track is found, or multiple tracks match the specified properties, the job fails. If there is only one subtitle track in the rendition group, the settings can be left empty and the default subtitle track will be chosen. If your caption source is a sidecar file, use FileSourceSettings instead of WebvttHlsSourceSettings.

renditionGroupId

Optional. Specify alternative group ID

Type: string
Required: False

renditionName

Optional. Specify media name

Type: string
Required: False

renditionLanguageCode

Optional. Specify ISO 639-2 or ISO 639-3 code in the language property

Type: LanguageCode
Required: False

WebvttStylePassthrough

Specify how MediaConvert writes style information in your output WebVTT captions. To use the available style, color, and position information from your input captions: Choose Enabled. MediaConvert uses default settings when style and position information is missing from your input captions. To recreate the input captions exactly: Choose Strict. MediaConvert automatically applies timing adjustments, including adjustments for frame rate conversion, ad avails, and input clipping. Your input captions format must be WebVTT. To ignore the style and position information from your input captions and use simplified output captions: Keep the default value, Disabled. Or leave blank. To use the available style, color, and position information from your input captions, while merging cues with identical time ranges: Choose merge. This setting can help prevent positioning overlaps for certain players that expect a single single cue for any given time range.

```
ENABLED
DISABLED
STRICT
MERGE
```

Xavc4kIntraCbgProfileClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

```
CLASS_100
```

CLASS_300

CLASS_480

Xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

xavcClass

Specify the XAVC Intra 4k (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraCbgProfileClass

Required: False

Xavc4kIntraVbrProfileClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_100

CLASS_300

CLASS_480

Xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

xavcClass

Specify the XAVC Intra 4k (VBR) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kIntraVbrProfileClass

Required: False

Xavc4kProfileBitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_100
BITRATE_CLASS_140
BITRATE_CLASS_200

Xavc4kProfileCodecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

HIGH
HIGH_422

Xavc4kProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ

Xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

bitrateClass

Specify the XAVC 4k (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: Xavc4kProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 8
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

codecProfile

Specify the codec profile for this output. Choose High, 8-bit, 4:2:0 (HIGH) or High, 10-bit, 4:2:2 (HIGH_422). These profiles are specified in ITU-T H.264.

Type: Xavc4kProfileCodecProfile
Required: False

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: Xavc4kProfileQualityTuningLevel
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization
Required: False

XavcAdaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

```
OFF
AUTO
LOW
MEDIUM
HIGH
HIGHER
MAX
```

XavcEntropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

```
AUTO
CABAC
CAVLC
```

XavcFlickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them

at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

DISABLED
ENABLED

XavcFramerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

INITIALIZE_FROM_SOURCE
SPECIFIED

XavcFramerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

DUPLICATE_DROP
INTERPOLATE

FRAMEFORMER
MAINTAIN_FRAME_COUNT

XavcGopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

DISABLED
ENABLED

XavcHdIntraCbgProfileClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

CLASS_50
CLASS_100
CLASS_200

XavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

xavcClass

Specify the XAVC Intra HD (CBG) Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdIntraCbgProfileClass
Required: False

XavcHdProfileBitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

BITRATE_CLASS_25

```
BITRATE_CLASS_35
BITRATE_CLASS_50
```

XavcHdProfileQualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

```
SINGLE_PASS
SINGLE_PASS_HQ
MULTI_PASS_HQ
```

XavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

bitrateClass

Specify the XAVC HD (Long GOP) Bitrate Class to set the bitrate of your output. Outputs of the same class have similar image quality over the operating points that are valid for that class.

Type: XavcHdProfileBitrateClass
Required: False

slices

Number of slices per picture. Must be less than or equal to the number of macroblock rows for progressive pictures, and less than or equal to half the number of macroblock rows for interlaced pictures.

Type: integer
Required: False
Minimum: 4
Maximum: 12

hrdBufferSize

Specify the size of the buffer that MediaConvert uses in the HRD buffer model for this output. Specify this value in bits; for example, enter five megabits as 5000000. When you don't set this

value, or you set it to zero, MediaConvert calculates the default by doubling the bitrate of this output point.

Type: integer
Required: False
Minimum: 0
Maximum: 1152000000

qualityTuningLevel

Optional. Use Quality tuning level to choose how you want to trade off encoding speed for output video quality. The default behavior is faster, lower quality, single-pass encoding.

Type: XavcHdProfileQualityTuningLevel
Required: False

interlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

Type: XavcInterlaceMode
Required: False

telecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

Type: XavcHdProfileTelecine
Required: False

gopClosedCadence

Frequency of closed GOPs. In streaming applications, it is recommended that this be set to 1 so a decoder joining mid-stream will receive an IDR frame as quickly as possible. Setting this value to 0 will break output segmenting.

Type: integer
Required: False
Minimum: 0
Maximum: 2147483647

gopBReference

Specify whether the encoder uses B-frames as reference frames for other pictures in the same GOP. Choose Allow to allow the encoder to use B-frames as reference frames. Choose Don't allow to prevent the encoder from using B-frames as reference frames.

Type: XavcGopBReference
Required: False

flickerAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. Enable this setting to have the encoder reduce I-frame pop. I-frame pop appears as a visual flicker that can arise when the encoder saves bits by copying some macroblocks many times from frame to frame, and then refreshes them at the I-frame. When you enable this setting, the encoder updates these macroblocks slightly more often to smooth out the flicker. This setting is disabled by default. Related setting: In addition to enabling this setting, you must also set Adaptive quantization to a value other than Off or Auto. Use Adaptive quantization to adjust the degree of smoothing that Flicker adaptive quantization provides.

Type: XavcFlickerAdaptiveQuantization

Required: False

XavcHdProfileTelecine

Ignore this setting unless you set Frame rate (framerateNumerator divided by framerateDenominator) to 29.970. If your input framerate is 23.976, choose Hard. Otherwise, keep the default value None. For more information, see https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-telecine-and-inverse-telecine.html.

NONE

HARD

XavcInterlaceMode

Choose the scan line type for the output. Keep the default value, Progressive to create a progressive output, regardless of the scan type of your input. Use Top field first or Bottom field first to create an output that's interlaced with the same field polarity throughout. Use Follow, default top or Follow, default bottom to produce outputs with the same field polarity as the source. For jobs that have multiple inputs, the output field polarity might change over the course of the output. Follow behavior depends on the input scan type. If the source is interlaced, the output will be interlaced with the same polarity as the source. If the source is progressive, the output will be interlaced with top field bottom field first, depending on which of the Follow options you choose.

PROGRESSIVE

TOP_FIELD

BOTTOM_FIELD

FOLLOW_TOP_FIELD

FOLLOW_BOTTOM_FIELD

XavcProfile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

XAVC_HD_INTRA_CBG

XAVC_4K_INTRA_CBG

XAVC_4K_INTRA_VBR

XAVC_HD

XAVC_4K

XavcSettings

Required when you set Codec to the value XAVC.

profile

Specify the XAVC profile for this output. For more information, see the Sony documentation at https://www.xavc-info.org/. Note that MediaConvert doesn't support the interlaced video XAVC operating points for XAVC_HD_INTRA_CBG. To create an interlaced XAVC output, choose the profile XAVC_HD.

Type: XavcProfile
Required: False

xavcHdIntraCbgProfileSettings

Required when you set Profile to the value XAVC_HD_INTRA_CBG.

Type: XavcHdIntraCbgProfileSettings
Required: False

xavc4kIntraCbgProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_CBG.

Type: Xavc4kIntraCbgProfileSettings
Required: False

xavc4kIntraVbrProfileSettings

Required when you set Profile to the value XAVC_4K_INTRA_VBR.

Type: Xavc4kIntraVbrProfileSettings
Required: False

xavcHdProfileSettings

Required when you set Profile to the value XAVC_HD.

Type: XavcHdProfileSettings
Required: False

xavc4kProfileSettings

Required when you set Profile to the value XAVC_4K.

Type: Xavc4kProfileSettings
Required: False

softness

Ignore this setting unless your downstream workflow requires that you specify it explicitly. Otherwise, we recommend that you adjust the softness of your output by using a lower value for the setting Sharpness or by enabling a noise reducer filter. The Softness setting specifies the quantization matrices that the encoder uses. Keep the default value, 0, for flat quantization. Choose the value 1 or 16 to use the default JVT softening quantization matricies from the H.264 specification. Choose a value from 17 to 128 to use planar interpolation. Increasing values from 17 to 128 result in increasing reduction of high-frequency data. The value 128 results in the softest video.

Type: integer
Required: False
Minimum: 0
Maximum: 128

framerateDenominator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateDenominator to specify the

denominator of this fraction. In this example, use 1001 for the value of FramerateDenominator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Frame rate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 1
Maximum: 1001

slowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

Type: XavcSlowPal
Required: False

spatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

Type: XavcSpatialAdaptiveQuantization

Required: False

temporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

Type: XavcTemporalAdaptiveQuantization
Required: False

entropyEncoding

Optional. Choose a specific entropy encoding mode only when you want to override XAVC recommendations. If you choose the value auto, MediaConvert uses the mode that the XAVC file format specifies given this output's operating point.

Type: XavcEntropyEncoding
Required: False

framerateControl

If you are using the console, use the Frame rate setting to specify the frame rate for this output. If you want to keep the same frame rate as the input video, choose Follow source. If you want to do frame rate conversion, choose a frame rate from the dropdown list. The framerates shown in the dropdown list are decimal approximations of fractions.

Type: XavcFramerateControl
Required: False

framerateNumerator

When you use the API for transcode jobs that use frame rate conversion, specify the frame rate as a fraction. For example, 24000 / 1001 = 23.976 fps. Use FramerateNumerator to specify the numerator of this fraction. In this example, use 24000 for the value of FramerateNumerator. When you use the console for transcode jobs that use frame rate conversion, provide the value as a decimal number for Framerate. In this example, specify 23.976.

Type: integer
Required: False
Minimum: 24
Maximum: 60000

adaptiveQuantization

Keep the default value, Auto, for this setting to have MediaConvert automatically apply the best types of quantization for your video content. When you want to apply your quantization settings manually, you must set Adaptive quantization to a value other than Auto. Use this setting to specify the strength of any adaptive quantization filters that you enable. If you don't want MediaConvert to do any adaptive quantization in this transcode, set Adaptive quantization to Off. Related settings: The value that you choose here applies to the following settings: Flicker adaptive quantization (flickerAdaptiveQuantization), Spatial adaptive quantization, and Temporal adaptive quantization.

Type: XavcAdaptiveQuantization
Required: False

framerateConversionAlgorithm

Choose the method that you want MediaConvert to use when increasing or decreasing your video's frame rate. For numerically simple conversions, such as 60 fps to 30 fps: We recommend that you keep the default value, Drop duplicate. For numerically complex conversions, to avoid stutter: Choose Interpolate. This results in a smooth picture, but might introduce undesirable video artifacts. For complex frame rate conversions, especially if your source video has already been converted from its original cadence: Choose FrameFormer to do motion-compensated

interpolation. FrameFormer uses the best conversion method frame by frame. Note that using FrameFormer increases the transcoding time and incurs a significant add-on cost. When you choose FrameFormer, your input video resolution must be at least 128x96. To create an output with the same number of frames as your input: Choose Maintain frame count. When you do, MediaConvert will not drop, interpolate, add, or otherwise change the frame count from your input to your output. Note that since the frame count is maintained, the duration of your output will become shorter at higher frame rates and longer at lower frame rates.

Type: XavcFramerateConversionAlgorithm
Required: False

perFrameMetrics

Optionally choose one or more per frame metric reports to generate along with your output. You can use these metrics to analyze your video output according to one or more commonly used image quality metrics. You can specify per frame metrics for output groups or for individual outputs. When you do, MediaConvert writes a CSV (Comma-Separated Values) file to your S3 output destination, named after the output name and metric type. For example: videofile_PSNR.csv Jobs that generate per frame metrics will take longer to complete, depending on the resolution and complexity of your output. For example, some 4K jobs might take up to twice as long to complete. Note that when analyzing the video quality of your output, or when comparing the video quality of multiple different outputs, we generally also recommend a detailed visual review in a controlled environment. You can choose from the following per frame metrics: * PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

Type: Array of type frameMetricType
Required: False

XavcSlowPal

Ignore this setting unless your input frame rate is 23.976 or 24 frames per second (fps). Enable slow PAL to create a 25 fps output by relabeling the video frames and resampling your audio. Note that enabling this setting will slightly reduce the duration of your video. Related settings: You must also set Frame rate to 25.

DISABLED
ENABLED

XavcSpatialAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on spatial variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas that can sustain more distortion with no noticeable visual degradation and uses more bits on areas where any small distortion will be noticeable. For example, complex textured blocks are encoded with fewer bits and smooth textured blocks are encoded with more bits. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen with a lot of complex texture, you might choose to disable this feature. Related setting: When you enable spatial adaptive quantization, set the value for Adaptive quantization depending on your content. For homogeneous content, such as cartoons and video games, set it to Low. For content with a wider variety of textures, set it to High or Higher.

DISABLED
ENABLED

XavcTemporalAdaptiveQuantization

The best way to set up adaptive quantization is to keep the default value, Auto, for the setting Adaptive quantization. When you do so, MediaConvert automatically applies the best types of quantization for your video content. Include this setting in your JSON job specification only when you choose to change the default value for Adaptive quantization. For this setting, keep the default value, Enabled, to adjust quantization within each frame based on temporal variation of content complexity. When you enable this feature, the encoder uses fewer bits on areas of the frame that aren't moving and uses more bits on complex objects with sharp edges that move a lot. For example, this feature improves the readability of text tickers on newscasts and scoreboards on sports matches. Enabling this feature will almost always improve your video quality. Note, though, that this feature doesn't take into account where the viewer's attention is likely to be. If viewers are likely to be focusing their attention on a part of the screen that doesn't have moving objects

with sharp edges, such as sports athletes' faces, you might choose to disable this feature. Related setting: When you enable temporal adaptive quantization, adjust the strength of the filter with the setting Adaptive quantization.

```
DISABLED
ENABLED
```

frameMetricType

* PSNR: Peak Signal-to-Noise Ratio * SSIM: Structural Similarity Index Measure * MS_SSIM: Multi-Scale Similarity Index Measure * PSNR_HVS: Peak Signal-to-Noise Ratio, Human Visual System * VMAF: Video Multi-Method Assessment Fusion * QVBR: Quality-Defined Variable Bitrate. This option is only available when your output uses the QVBR rate control mode.

```
PSNR
SSIM
MS_SSIM
PSNR_HVS
VMAF
QVBR
```

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

SearchJobs

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V3

Tags

URI

`/2017-08-29/tags`

HTTP methods

POST

Operation ID: `TagResource`

Add tags to a MediaConvert queue, preset, or job template. For information about tagging, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/tagging-resources.html

Responses

Status code	Response model	Description
200	TagResourceResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict

Status code	Response model	Description
		with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

POST schema

```
{
  "arn": "string",
  "tags": {
  }
}
```

Response bodies

TagResourceResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

ExceptionBody

message

Type: string
Required: False

TagResourceRequest

To add tags to a queue, preset, or job template, send a request with the Amazon Resource Name (ARN) of the resource and the tags that you want to add.

arn

The Amazon Resource Name (ARN) of the resource that you want to tag. To get the ARN, send a GET request with the resource name.

Type: string
Required: True

tags

The tags that you want to add to the resource. You can tag resources with a key-value pair or with only a key.

Type: object
Required: True

TagResourceResponse

A successful request to add tags to a resource returns an OK message.

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

TagResource

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Tags arn

URI

`/2017-08-29/tags/arn`

HTTP methods

GET

Operation ID: `ListTagsForResource`

Retrieve the tags for a MediaConvert resource.

Path parameters

Name	Type	Required	Description
arn	String	True	

Responses

Status code	Response model	Description
200	ListTagsForResourceResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.

Status code	Response model	Description
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

PUT

Operation ID: `UntagResource`

Remove tags from a MediaConvert queue, preset, or job template. For information about tagging, see the User Guide at https://docs.aws.amazon.com/mediaconvert/latest/ug/tagging-resources.html

Path parameters

Name	Type	Required	Description
arn	String	True	

Responses

Status code	Response model	Description
200	UntagResourceResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissions for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.

Status code	Response model	Description
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Path parameters

Name	Type	Required	Description
arn	String	True	

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "arn": "string"
}
```

PUT schema

```
{
  "arn": "string",
  "tagKeys": [
    "string"
  ]
}
```

Response bodies

ListTagsForResourceResponse schema

```
{
  "resourceTags": {
    "arn": "string",
    "tags": {
    }
  }
}
```

UntagResourceResponse schema

```
{
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

ExceptionBody

message

Type: string
Required: False

ListTagsForResourceRequest

List the tags for your AWS Elemental MediaConvert resource by sending a request with the Amazon Resource Name (ARN) of the resource. To get the ARN, send a GET request with the resource name.

arn

The Amazon Resource Name (ARN) of the resource that you want to list tags for. To get the ARN, send a GET request with the resource name.

Type: string
Required: False

ListTagsForResourceResponse

A successful request to list the tags for a resource returns a JSON map of tags.

resourceTags

The Amazon Resource Name (ARN) and tags for an AWS Elemental MediaConvert resource.

Type: ResourceTags
Required: False

ResourceTags

The Amazon Resource Name (ARN) and tags for an AWS Elemental MediaConvert resource.

arn

The Amazon Resource Name (ARN) of the resource.

Type: string
Required: False

tags

The tags for the resource.

Type: object
Required: False

UntagResourceRequest

To remove tags from a resource, send a request with the Amazon Resource Name (ARN) of the resource and the keys of the tags that you want to remove.

arn

The Amazon Resource Name (ARN) of the resource that you want to remove tags from. To get the ARN, send a GET request with the resource name.

Type: string
Required: False

tagKeys

The keys of the tags that you want to remove from the resource.

Type: Array of type string
Required: False

UntagResourceResponse

A successful request to remove tags from a resource returns an OK message.

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

ListTagsForResource

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

UntagResource

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Versions

URI

```
/2017-08-29/versions
```

HTTP methods

GET

Operation ID: `ListVersions`

Retrieve a JSON array of all available Job engine versions and the date they expire.

Responses

Status code	Response model	Description
200	ListVersionsResponse	200 response
400	ExceptionBody	The service can't process your request because of a problem in the request. Please check your request form and syntax.
403	ExceptionBody	You don't have permissio ns for this action with the credentials you sent.
404	ExceptionBody	The resource you requested does not exist.
409	ExceptionBody	The service could not complete your request because there is a conflict with the current state of the resource.
429	ExceptionBody	Too many requests have been sent in too short of a time. The service limits the rate at which it will accept requests.
500	ExceptionBody	The service encountered an unexpected condition and cannot fulfill your request.

OPTIONS

Supports CORS preflight requests.

Responses

Status code	Response model	Description
200	None	The request completed successfully.

Schemas

Request bodies

GET schema

```
{
  "nextToken": "string",
  "maxResults": integer
}
```

Response bodies

ListVersionsResponse schema

```
{
  "versions": [
    {
      "version": "string",
      "expirationDate": "string"
    }
  ],
  "nextToken": "string"
}
```

ExceptionBody schema

```
{
  "message": "string"
}
```

Properties

ExceptionBody

message

Type: string
Required: False

JobEngineVersion

Use Job engine versions to run jobs for your production workflow on one version, while you test and validate the latest version. Job engine versions are in a YYYY-MM-DD format.

version

Use Job engine versions to run jobs for your production workflow on one version, while you test and validate the latest version. Job engine versions represent periodically grouped MediaConvert releases with new features, updates, improvements, and fixes. Job engine versions are in a YYYY-MM-DD format. Note that the Job engine version feature is not publicly available at this time. To request access, contact AWS support.

Type: string
Required: False

expirationDate

The date that this Job engine version expires. Requests to create jobs with an expired version result in a regular job, as if no specific Job engine version was requested.

Type: string
Required: False
Format: date-time

ListVersionsRequest

Retrieve a JSON array of all available Job engine versions and the date they expire. Job engine versions are in YYYY-MM-DD format. Note that the Job engine version feature is not publicly available at this time. To request access, contact AWS support.

nextToken

Optional. Use this string, provided with the response to a previous request, to request the next batch of Job engine versions.

Type: string
Required: False

maxResults

Optional. Number of valid Job engine versions, up to twenty, that will be returned at one time.

Type: integer
Required: False
Format: int32
Minimum: 1
Maximum: 20

ListVersionsResponse

Successful list versions requests will return a JSON for available Job engine versions.

versions

Retrieve a JSON array of all available Job engine versions and the date they expire.

Type: Array of type JobEngineVersion
Required: False

nextToken

Optional. Use this string, provided with the response to a previous request, to request the next batch of Job engine versions.

Type: string
Required: False

See also

For more information about using this API in one of the language-specific AWS SDKs and references, see the following:

ListVersions

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Document History

The following table describes important changes to this documentation.

- **API version: 2017-08-29**

Change	Description	Date
Documentation update	Updated *Getting Started with the API* chapter; minor updates to the sample job settings JSONs.	July 5, 2023
Preventing duplicate jobs	Added a section that describes how to create an idempotent request and prevent duplicate jobs from being submitted.	August 1, 2022
Additional captions formats Per-input graphic image overlay Motion graphic image overlay	Added input caption format support for SCTE-20 and SMI. Added output caption format support for SCTE-20 + Embedded, Embedded + SCTE-20, SMI, and SMPTE-TT. You can now now specify graphic overlays (inserted images) on individual inputs. You can now overlay motion graphics over your video.	Nov 23, 2018
Reserved transcoding queues	Reserved transcoding allows customers who have consistent video volume to benefit from lower rates in	Sept 27, 2018

Change	Description	Date
	exchange for longer term commitments.	
Quality-Defined Variable Bitrate (QVBR) Encoding	Introduces an encoding mode where the service automatic ally determines how many bits to use for each portion of the video to maintain constant quality.	Aug 13, 2018
Tagging and cost allocation	Add support for tagging and integration with cost allocatio n on AWS	July 2, 2018
New CMAF output group	cmafGroupSettings and its children added to schema, under OutputGroupSettings.	June 12, 2018
New Getting Started Using SDKs or CLI	Added chapter that shows how to get your custom endpoint and send MediaConvert requests to it. Includes examples in various programming languages.	May 17, 2018
New AWS Elemental MediaConvert service release	Initial documentation for the AWS Elemental MediaConvert service.	November 27, 2017

AWS Glossary

For the latest AWS terminology, see the AWS glossary in the *AWS Glossary Reference*.