

Captioning in Episode

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Overview

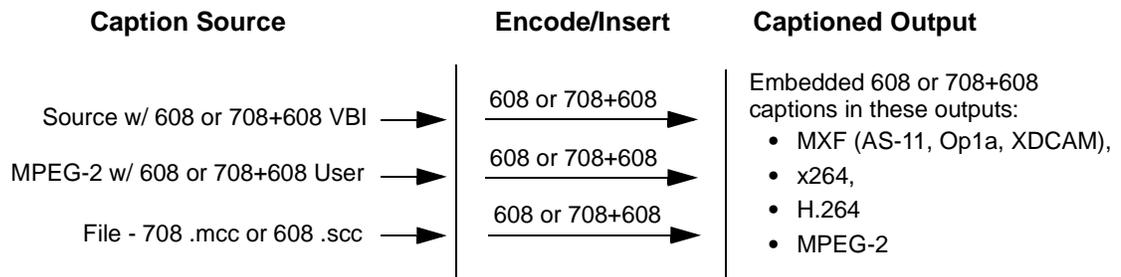
Television captioning in North America is provided in these formats:

- EIA-608—The caption format for analog standard definition (SD) NTSC television, in which the captions are inserted into video line 21 in the Vertical Blanking Interval (VBI).
- EIA-708—The caption format for standard (SD) and high definition (HD) digital television in which captions are inserted into the digital video data stream. EIA-708 captions include more font formatting options than 608, but they must also include an embedded 608 data stream for backward compatibility. This combined 708+608 caption is generally placed in the ancillary caption track of MXF media files or the user data stream of MPEG-2 files.
- SCTE-20—The caption format that embeds 608 captions into the MPEG-2 user data stream. This format is less common, used mainly by cable systems.

Episode workflows can process captions in these ways (Figure 1):

- Pass embedded CEA-608 or CEA-708 closed captions in the source media VBI or User Data to the transcoded MXF, MPEG-2, or H.264 output.
- Import CEA-608 or CEA-708 closed caption data from .scc or .mcc caption files and embed CEA-608 or CEA-708 captions in a transcoded MXF, MPEG-2, or H.264 output.

Figure 1. Captioning Processing in Episode



Closed captioning works with ordinary workflows as well as Split and Stitch.

The following topics explain how to use the Episode closed captioning features:

- [Importing Captions from a File](#)
- [Passing Through Embedded Captions](#)

Importing Captions from a File

Episode can import .scc or .mcc caption files and embed their closed captioning data in the transcoded output. Caption files of the .scc type will add EIA-608 SD captions. MacCaption or CaptionMaker files of the .mcc type will add both EIA-608 SD and EIA-708 HD captions.

The following output formats and codecs can include captions from an SCC or MCC file:

- MXF (AS-11, Op1a, XDCAM) container—captions inserted into Vertical Ancillary Data (VANC) cc track (SMPTE 436M)
- MPEG-2 codec—captions inserted into User Data cc track (ATSC A/53)
- H.264 (MainConcept) and H.264 (x264) codecs—captions inserted into User Data cc track

Any source media file that can be transcoded into one of the above outputs can be used with a .scc or .mcc caption file to produce a captioned output. However, the timecode in the source media file and the caption file must exactly match.

If a MOV source media file is used, both the .MOV file and the .scc or .mcc caption file must have timecode starting at 00:00:00:00. (To add timecode starting at zero to the source, you can pre-process it in an Episode workflow using the Timecode selection in the Format menu. Then use another workflow to import captions into the modified source.)

The caption data from the .scc or .mcc file is inserted into the Vertical Ancillary data cc track for MXF files, or into the User Data cc track for MPEG-2 and H.264 files.

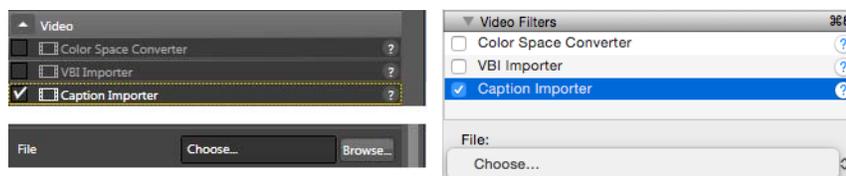
To import a caption file:

These elements must all be set correctly to produce a captioned output from a file:

- Use the Caption Importer Filter *File Browse* menu to select and import a .scc or .mcc caption file. The source file must include QuickTime timecode.
- Enable the Container *Add Ancillary Closed Caption Track* selection.
- Set Video Encoder Closed Captioning to *Same as Source* or *EIA-608 + EIA-708*.

Follow these steps:

1. Create a workflow to encode a media file into one of the formats supporting captions: MXF Container (AS-11, Op1a, XDCAM), MPEG-2 Video Encoder, or H.264 Video Encoder.
2. Select *Video Filters* in the Inspector, and select the [Caption Importer Filter](#).

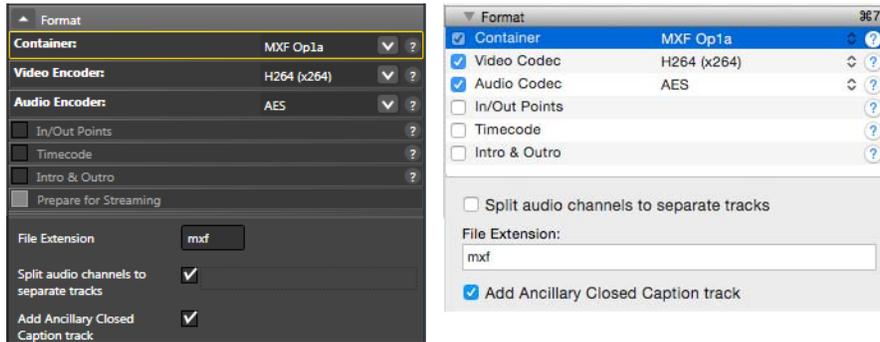


3. Use the *File* menu in the Caption Importer to browse, select, and import a .scc or .mcc caption file. Captions from the file will be embedded during encoding.

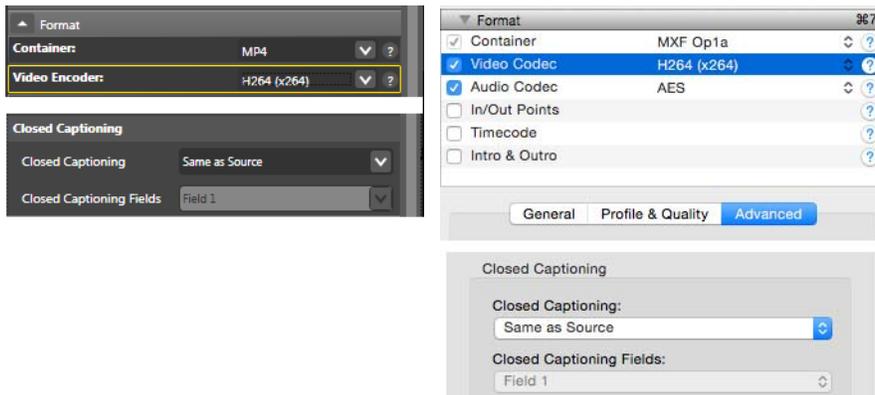
Note: Because you must explicitly specify a file (and not a file variable), you must select the file in the filter each time you run the caption import workflow.

4. Enable captions in the encoded output by making one or both of these selections:

- To add the captions to an MXF container file, select the container, and check *Add Ancillary Closed Caption Track*.



- To add the captions to an MPEG-2 or H.264 video bitstream, select the Video Codec and ensure Closed Captioning is set to *Same As Source*. (Since this is the default setting, you won't actually have to change anything.)



Passing Through Embedded Captions

Episode allows EIA-608, EIA-708, or SCTE-20 captions already embedded in the source media vertical blanking interval (VBI) or user data to be passed-through to the transcoded output.

Note: Episode cannot pass through embedded closed captions from MOV sources.

These output formats and codecs are supported:

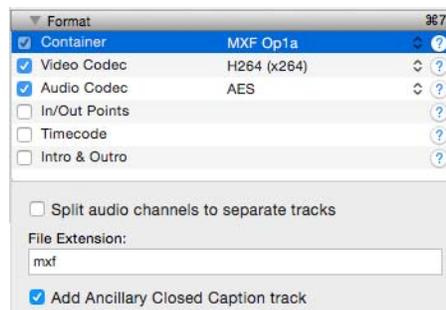
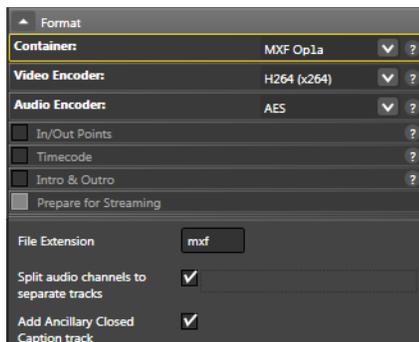
- MXF (AS-11, Op1a, XDCAM)
- MPEG-2
- H.264 (MainConcept) and H.264 (x264)

The following topics provide steps to pass through embedded captions in Episode:

- [To pass captions embedded in an MXF or MPEG-2 source:](#)
- [To pass captions embedded in a source other than MXF or MPEG-2:](#)

To pass captions embedded in an MXF or MPEG-2 source:

1. Create a workflow to encode the MXF or MPEG-2 source file containing captions into a format supporting captions: MXF Container, MPEG-2 Video Encoder, or H.264 Video Encoder.
2. No input Video Filter settings are required. Captions will automatically pass to the output.
3. Enable captions in the encoded output by making one or both of these selections:
 - To add the captions to an MXF container file, select the container, and check *Add Ancillary Closed Caption Track*.

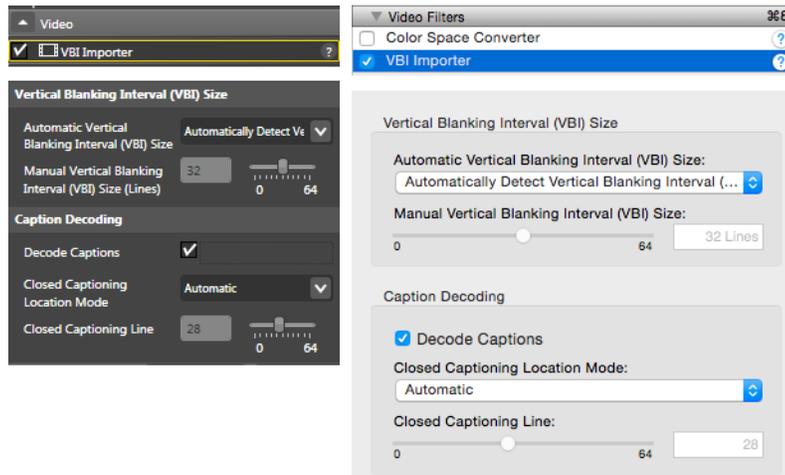


- To add the captions to an MPEG-2 or H.264 video bitstream, select the Video Codec and ensure Closed Captioning is set to *Same As Source*. (Since this is the default setting, you won't actually have to change anything.)



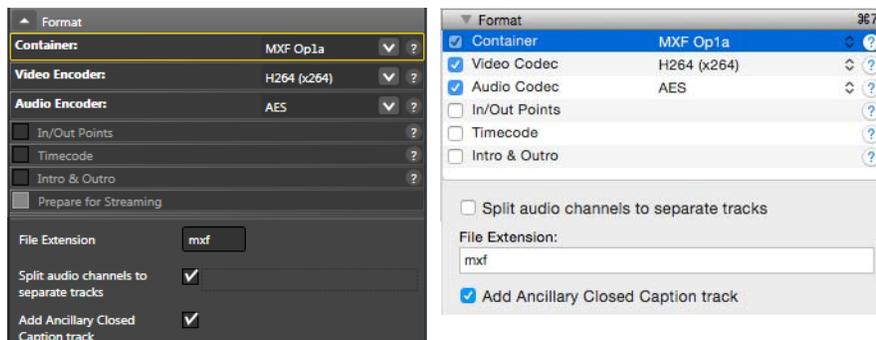
To pass captions embedded in a source *other than* MXF or MPEG-2:

1. Create a workflow to encode the source file containing captions into a format supporting captions: MXF Container, MPEG-2 Video Encoder, or H.264 Video Encoder.
2. Select the VBI Importer Video Filter, and check *Decode Captions*. When set to *Automatic* (the default), this will detect and extract the caption data on the input for embedding in the output. You can select *Automatic*, or you have the option of setting decoding to *Manual* and selecting the vertical blanking line number that contains the caption data.

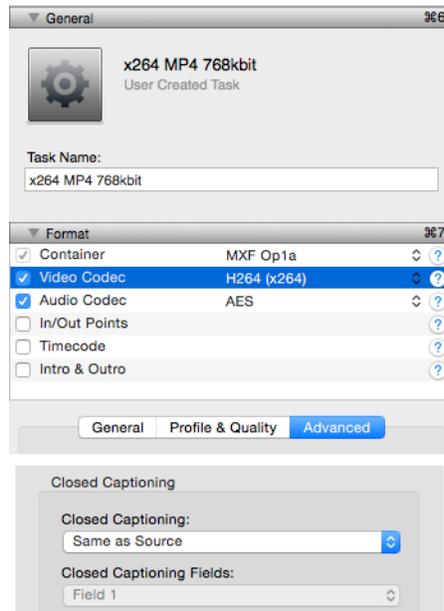
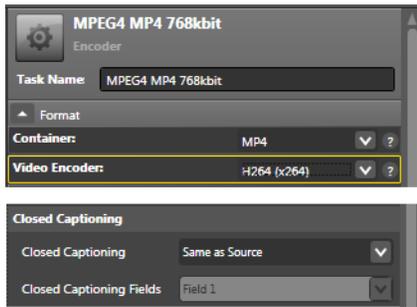


3. Enable captions in the encoded output by making one or both of these selections:

- To add the extracted captions to an MXF container file, select the container, and check *Add Ancillary Closed Caption Track*.



- To add the captions to an MPEG-2 or H.264 video bitstream, select the Video Codec and ensure Closed Captioning is set to *Same As Source*. (Since this is the default setting, you won't actually have to change anything.)



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