



NETA Program Service File Submission Requirements

Files that do not conform to the specifications listed in this document must be tested and approved by our origination center at South Carolina ETV prior to routine submission. NETA recommends also that first time submitters provide test files for approval. Recommended test file lengths should be no less than 2 minutes and no more than 10 minutes. Please contact Greg Tillou, NETA director of network operations to arrange: greg@netaonline.org or 803-978-1574.

File contents

Files will contain a 20 to 30 second leader containing slate information identifying the included media and 15 seconds of clean black run-out at the end of the file. Identification shall include, but is not limited to, audio track assignments, show title, duration, and indicate if any promo material exists after the show. There shall be 1.8 seconds of black between slate and the start of program material.

Do not include bars and tone. They are not necessary and increase file size.

Files will contain 2, 4, or 8 channels of audio configured as follows:

Surround Sound

Channel 1	Left Front
Channel 2	Right Front
Channel 3	Center
Channel 4	LFE
Channel 5	Left Surround
Channel 6	Right Surround
Channel 7	Mono Mix or DVI
Channel 8	Mono Mix or SAP (Secondary language)

Stereo (8 Channels)

Channel 1	Left
Channel 2	Right
Channel 3	Silence
Channel 4	Silence
Channel 5	Silence
Channel 6	Silence
Channel 7	Mono Mix or DVI
Channel 8	Mono Mix or SAP (Secondary language)

Stereo (4 Channels)

Channel 1	Left
Channel 2	Right
Channel 3	Mono Mix or DVI
Channel 4	Mono Mix or SAP (Secondary language)

Stereo (2 Channels)

Channel 1	Left
Channel 2	Right

Closed Captioning

All media must have accompanying captioning either embedded in the VANC, as SMPTE 436M (or CDP captions), or as a .scc caption file. The caption file should include an EDM (Erase Displayed Memory command), also known as a clear pulse as the first frame matching video. The caption file filename must exactly match the video file filename. The timecodes for the video file and the SCC file must also match.

File Formats

① XDCamHD MXF OP1a

Video Format: 1080i, 29.97 frames

Video Format: 1080i/59.94, 1080p/29.97

Resolution: 1440x1080 or 1920x1080

Container Format: **MXF OP1a**

Video Essence: XDCAM HD

- XDCAM HD: 4:2:0 at 25 Mbps MXF {Up to 4 channel audio}
- XDCAM HD: 4:2:0 at 35 Mbps MXF {Up to 4 channel audio}
- XDCAM HD422: 4:2:2, at 50 Mbps MXF {Up to 8 channels of audio}
- Field Order: Upper field first (TFF)

Audio Essence: PCM Uncompressed

- Audio Format: 48 KHz sample rate, uncompressed
- Reference Tone: -20dBfs
- Peak audio program levels at -12 to -8 dBfs, nominal peak levels -10dBfs, average audio levels should be around -20 dBfs.
- Nominal Loudness level: -24 LKFS plus or minus 2 dB.
 - Loudness is measured using ITU BS.1770-3 weighting for the duration of the show.

Closed Captioning Essence:

- SMPTE436M Ancillary data track containing 708 captions with 608 compatibility bits.

② MPEG2-Long Gop MXF OP1a/AS02

Omneon encodes

Video Format: 1080i/59.94, 1080p/29.97

Resolution: 1440x1080 or 1920x1080

Container Format: **MXF OP1a**

Video Essence: MPEG2 Long Gop

- MPEG-2 Long-GOP: 4:2:2 @ 25Mbps (MXF OP1a or AS02 self contained)
- Field Order: Upper field first (TFF)

Audio Essence: PCM Uncompressed

- Audio Format: 48 kHz uncompressed WAV or AIFF.
- Reference Tone: -20dBfs
- Peak audio program levels at -12 to -8 dBfs, nominal peak levels -10dBfs, average audio levels should be around -20 dBfs.
- Nominal Loudness level: -24 LKFS plus or minus 2 dB.
 - Loudness is measured using ITU BS.1770-3 weighting for the duration of the show.

Closed Captioning Essence:

- SMPTE436M Ancillary data track containing 708 captions with 608 compatibility bits (preferred).
- 708 captions with 608 compatibility bits embedded in the VANC (Alternate).

③ Quicktime Files

Video Format: 1080i/59.94, 1080p/29.97

Resolution: 1440x1080 or 1920x1080

Container Format: **Quicktime**

Video Essence: XDCAM HD, ProRes SD(145 Mbps), or ProRes HQ (220 Mbps)

- XDCAM HD: 4:2:0 at 25 Mbps MXF {Up to 4 channel audio}
- XDCAM HD: 4:2:0 at 35 Mbps MXF {Up to 4 channel audio}
- XDCAM HD422: 4:2:2, at 50 Mbps MXF {Up to 8 channels of audio}
- ProRes 422 SD (145 Mbps)
- ProRes 422 HQ (220 Mbps)
- Field Order: Upper field first (TFF)

Audio Essence: PCM Uncompressed

- Audio Format: 48 KHz sample rate, uncompressed
- Reference Tone: -20dBfs

- Peak audio program levels at -12 to -8 dBfs, nominal peak levels –10dBfs, average audio levels should be around -20 dBfs.
- Nominal Loudness level: -24 LKFS plus or minus 2 dB.
 - Loudness is measured using ITU BS.1770-3 weighting for the duration of the show.

Closed Captioning Essence:

- 708 captions with 608 compatibility bits embedded in the VANC.

For additional information or to resolve related questions, contact Greg Tillou, NETA director of network operations: 803-978-1574 or greg@netaonline.org