

# NETA

National Educational  
Telecommunications Association

## File Submission Guidelines

Version: March 2016

*Conforms to PBS TOS*

**NOTE:** Files that do not conform to the specifications listed in this document must be tested and approved prior to routine submission. It is also recommended that first time submitters submit test files for approval. Recommended test file lengths should be no less than 2 minutes and no more than 10 minutes.

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### **File Delivery Methods:**

MXF Op1a and MOV files containing XDCamHD and XDCamEX compression may be delivered via NETA's FTP site. Contact NETA for credentials.

MOV files containing ProRes essence must be delivered via external or portable hard drives or a removable device such as a flash drive.

### **Hard Drive Formatting:**

#### **External and portable hard drives**

- **Partitioning**
  - External and portable hard drives may be partitioned GPT or MBR.
- **Formatting:**
  - External and portable hard drives can be formatted with the Windows NTFS filesystem or the MAC HFS+ filesystem. exFat is also an alternative that both Windows and MAC OS can read and write. However, NTFS or HFS+ is preferred.

#### **Removable devices**

- **Partitioning**
  - Removable devices such as Flash Drives and SD cards, **cannot** be GPT partitioned and work with Windows. This is because Windows does not currently support GPT removable devices of any kind, including those formatted NTFS. These devices must be partitioned with MBR. The latest MAC OS versions default to GPT. This must be changed in Disk Utility to MBR.

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- **Formatting:**
  - Removable devices with an MBR partition can be formatted with the Windows NTFS filesystem or the MAC HFS+ filesystem. exFat is also an alternative that both Windows and MAC OS can read and write. However, NTFS or HFS+ is preferred.

**To create a removable drive on a MAC that will work with Windows:**

- Open Disk Utility by opening "Applications" from the Dock, and then "Utilities".
- Then, select Disk Utility.
- Connect the removable device in the left panel.
- Then, select "Partition".
- Select the drop-down under "Volume Scheme" to select the number of partitions you want (usually, one).
- Then, select the "Options" button and select an alternate partition scheme, such as MBR.
- Then, press OK, then Apply. You will be asked to confirm the change; press Partition to proceed.

**\*\*\* GPT PARTITIONED FLASH DRIVES WILL BE REJECTED. \*\*\***

**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 SMTPE 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:**

**XDCamHD MXF OP1a**

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.

## **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).

## **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 MORE INFORMATION, CONTACT:**

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March 2016