

# Public Television File Submission Part 1 - Short Form - 2018

This document provides the key parameters for common acceptance for distribution via PBS, APT and NETA. Readers must reference additional parameters in the applicable "TOS" or other distributor specifications to insure acceptance.

## REFERENCE SPECIFICATION

Major distributors rely on [PBS TOS-1 2016](#) as the principal specification.

## WRAPPER

mxfl OP1a

## VIDEO

### Codec

XDCam HD422 @ 50 Mbps

*PBS also accepts DNxHD 145, 220 and 220x*

*NETA also accepts XDCam EX @ 35 Mbps*

### Frame Size & Rate

1920x1080i, 59.94 fps Drop-frame, Field 1/Upper Dominant

### Video Level

Levels (Y, Cb, Cr) 0-700mv (out of range content may be limited by the distributor)

Digital equivalent 8 bit values are 16-235

### Protected Areas

Safe Title = 90%, Safe Action 93% of image area

Producers are advised to keep text and graphics out of the area occupied by station bugs.

See the [PBS advisory template](#), also attached.

### TV Rating Icon

APT and NETA requires rating bug lasting 15 seconds.

PBS does not allow on incoming content since the rating bug is added later.

## CAPTIONS

Closed captions must include both 708 and 608 compatibility bytes embedded within MXF per SMPTE 436M

*PBS and NETA also accept captions via .scc sidecar file*

## **AUDIO**

### **Codec**

PCM, 48 kHz, 16 or 24 bit

Submissions can be either stereo or surround.

DVI and second language are optional.

### **Channel Assignment - Stereo**

- 1 - Left (L)
- 2 - Right (R)
- 3 - Silence
- 4 - Silence
- 5 - Silence
- 6 - Silence
- 7 - DVI or Mono Mix (Silence not allowed)
- 8 - Alternate Language or Mono Mix (Silence not allowed)

### **Channel Assignment - Surround**

Producer should mix assuming viewer downmix parameters of -3 dB for C, Ls & Rs

- 1 - Left Front (Lf)
- 2 - Right Front (Rf)
- 3 - Center (C)
- 4 - Low Frequency Effects (LFE)
- 5 - Left Surround (Ls)
- 6 - Right Surround (Rs)
- 7 - DVI or Mono Mix (Silence not allowed)
- 8 - Alternate Language, Mono Mix (Silence not allowed)

### **Audio Level**

True peak level cannot exceed -2 dBFS.

Loudness integrated over duration of entire program must be within -24 LKFS  $\pm$ 2.

A 5.1-channel program down-mixed to stereo must also be within -24 LKFS  $\pm$ 2.

*(Best practice: Do not mix lead singers to all three front speakers.)*

### **Lip Sync & Phase**

Lip Sync shall not lead or lag more than one-half frame.

All channels, including DVI and Second Language must be in phase.

### **SLATE**

*PBS & APT require a slate - See specific [PBS](#) and [APT](#) requirements.*

Reference tone -20 dBFS at 1 kHz on all active channels except LFE.

LFE channel -20 dBFS at 80 Hz.



16:9 Title Safe

4:3 Action/Title Safe

Station Logo for  
4x3 Center Cut Material

Station Logo

16:9 Action Safe