

TECHNICAL OPERATING SPECIFICATION

SPECIFICATIONS FOR RECORDING TAPE LEADER AND TAPE TRAILER AND FOR TAPE LABEL MATERIAL

PBS ENGINEERING COMMITTEE

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1. SCOPE

This specification identifies the audio and video signals preceding and succeeding the program material. Non-synchronous switches are unacceptable during the test signal, program or trailer. Likewise, false starts and/or unusable takes are unacceptable. Only one program or episode per tape is acceptable.

2. TAPE LEADER

2.1 Tape Beginning ("Runup"). A minimum of 10 seconds of blank tape, preceding the reference signal shall be reserved for threading at the beginning of each tape.

2.2 Reference Signal. Sixty seconds of reference signal shall contain both color bars and audio tone recorded concurrent with each other and transmitted through the same source as the program material.

2.2.1 Color Bars. All programs shall be preceded by a signal that will produce a composite NTSC pattern with 100% saturated color bars of 75% amplitude and 7.5% setup. I and Q signals shall be included. The color bars must meet the EIA RS-189A and SMPTE EG1 standards.

2.2.2 Audio Tones

Monaural. A 400Hz tone shall be recorded at 0VU on the audio track concurrent with the video test signal

Stereo. The 30 second PBS stereo leader or the 60 second SMPTE stereo leader shall be on all stereo programs. A continuous sequence of tones must be recorded as indicated below.

The 60 second SMPTE leader is described in ANSI/SMPTE 256M. The 30 second PBS sequence of tones is as follows:

a. 1kHz Reference tone - :20

b. Channel ID Section - :02
.5 sec. silence
.25 sec. tone left channel
.25 sec. silence
.25 sec. tone right channel
.25 sec. silence
.25 sec. tone right channel
.25 sec. silence

c. High Frequency Tone (10kHz) - :05 (level reference -10dB below Operating Level).

d. Silence - :03

e. Total Length - :30

2.3 Dolby A Noise Reduction is strongly recommended for use on both monaural and stereo sound on all 1- inch Type C submissions. Dolby tone, calibrated to Dolby reference level, shall occur during the final 30 seconds of the Reference signal.

2.4 Slate. A 20-second slate shall contain the following:

- a. The series title, subtitle and episode number. The first episode of a series should have the episode #101 on the slate, continuing with episode #102 for the second episode. Episodes in the second series of the same title should be numbered sequentially #201, #202, etc.
- b. Indication of mono or stereo audio.
- c. Track utilization for all audio tracks.
- d. Producing agency.
- e. Special indicators, if applicable, such as "reel 1 of 2," proper subscript after the program number, or other such pertinent information. Refer to TOS-3B for subscript details.
- f. Letterbox (if applicable) including original aspect ratio.

2.5 Countdown Clock. Ten seconds before the program begins, a countdown clock decrementing the seconds until the program starts, shall be inserted, preferably over the slate. A clock change will indicate the beginning of a second. An audio tone burst shall be recorded on the tape for the first 0.2 of each second (during seconds 10,9,8,...2 of the countdown). The tone shall be recorded at reference level. After the first 0.2 of the second number 2, the tone shall be stopped and the video taken to black. So 1.8 seconds before the program is to begin, video shall be black and audio silent.

3. PROGRAM AND PBS LOGO

Each program intended for distribution must conclude with the final PBS animated logo added to the program material in the following sequence.

Each program should conclude with a transition to black and audio to silence. Silent black shall be maintained for one full second followed by a cut to logo audio and video.

The logo shall be held with full audio and video levels for five seconds, followed by a take to black, audio to silence.

4. TAPE TRAILER

A minimum of 20 seconds of silence and synchronous black signal and 2 minutes of blank tape shall follow the program material.

5. TIME CODE

Identical linear and Vertical Interval Timecode (VITC) are required. Timecode shall be drop frame, shall begin with the start of the test signal, be continuous until 10 seconds after the end of the program material and shall not pass through the 00:00 time frame. VITC shall be on lines 14 and 16.

6. LABELING

The tape container and reel labels shall indicate the following:

- a. Master or Backup.
- b. Program series or title.
- c. Episode title and number.
- d. Program length (Hrs. Min. Sec.).
- e. Subscript (Refer to TOS-3B).
- f. Multichannel audio track assignments.
- g. Dolby A if applicable.
- h. SAP (Second language, DVS) if applicable.
- i. Closed Captioning if applicable.