SMPTE RECOMMENDED PRACTICE — RP 49-1986

Leaders for 8-mm Type R and S Motion-Picture Release Prints Used in Continuous-Loop Cartridges

Introduction

In continuous-loop motion-picture cartridges, where the head leader is spliced to the tail leader, the leaders should be prepared so that all visible flashes or marks and all audible cues during startup and runout of the program are eliminated from the print. Elimination of these extraneous visible and audible cues ensures a professional presentation of cartridged films.

1. *Scope*

This practice provides guidelines for head and tail leaders on 8-mm type R and 8-mm type S motion-picture release prints intended for use in continuous-loop cartridges.

2. *General Description*

2.1 Picture Head Leader

The picture head leader shall be as specified in American National Standard for Motion-Picture Film—Leaders and Cue Marks—35- and 16-mm Audio Release Prints, ANSI PH22.55-1983, with the following modification: Frames 28 through 218 inclusive shall be opaque in the release print.

2.2 Picture Tail Leader

The picture tail leader shall be as specified in ANSI PH22.55-1983.

2.3 Audio Head Leader

The audio head leader shall contain no modulation or interfering marks during the period equivalent to frames 28 through 218 of the picture head leader described in 2.1.

2.4 Audio Tail Leader

The audio tail leader shall contain no modulation or interfering marks during the period equivalent to the 87-frame runout section of the picture tail leader described in 2.2.

Appendix

(This Appendix is not part of the SMPTE Recommended Practice, but is included for information only.)

A1. This practice provides a silent black image in the release print of approximately 8 seconds preceding and 3½ seconds following the program material. The length of this silent black interval can be altered when the release print is spliced for loading in the continuous-loop cartridge. Stop cues, if required, and the location of the splice can be at any point within this silent black image. The position of the stop cues and splice location is dependent upon the function of the particular cartridge, its associated projection device, and the intent of the program.

A2. To ensure that frames 28 through 218 will be opaque in the release print, the frames may be replaced in the preprint leader with positive or negative leader as is appropriate to produce black in the release print.

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Reference Carrier Frequencies and Pre-emphasis Characteristic for ½-in Type F Helical-Scan Video Tape Recording

1. *Scope*

This practice specifies the reference frequencies for deviation of the frequency modulated carrier and the associated video pre-emphasis characteristic for ½-in Type F helical-scan video tape recording of 525-line monochrome and NTSC color television signals. (The relationship between the pre-emphasis characteristic of the recording circuit and the de-emphasis characteristic of the playback circuit shall be such that the overall video signal frequency characteristics of input and output (recording and playback) are flat.)

2. *Carrier Reference Frequencies*

2.1 This practice is suitable for both color and monochrome signals.

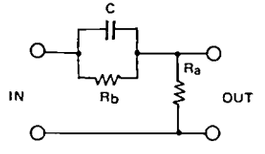
2.2 Recorded FM carrier frequencies for reference video signal levels:

(a) Reference white level 4.5 +0.2 —0.1 MHz

(b) Sync tip level 3.1 +0.2 —0.1 MHz

3. *Pre-emphasis Characteristic*

3.1 The characteristic is described in the figure and defined as the normalized transfer characteristic of the following four-terminal network:



$$\tau = R_b C = 0.65 \pm 0.05\ \mu s$$

$$X = \frac{R_a}{R_b} = 1.8 \pm 0.3$$

where C is capacitance in farads, R is resistance in ohms, τ is time constant in seconds, and X is high-frequency emphasis.

3.2 The pre-emphasis shall be inserted prior to the modulator in the recording circuit. Both the pre-emphasis and de-emphasis circuits for video signals shall be provided in the video signal circuits and the characteristicts of the circuits are assumed to be flat within the passband. If the circuit characteristics are not flat, the emphasis may be changed to a value which is considered equivalent to the above-mentioned value.

NOTE: In addition to this practice, there is available American National Standard for Video Recording—½-in Type F Helical Scan—Records, ANSI/SMPTE 23M-1986.

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