Measurements of the Spacing of Video Tracks

An E.B.U. Contribution to the C.C.I.R. and I.E.C.

In § 6.2 of C.C.I.R. Recommendation 469 (New Delhi, 1970), dimension *J*, the spacing of video tracks recorded on a television tape, is specified at an accuracy of ±0.1% (footnote to table V). Some doubts had been expressed on the possibility to reliably measure dimension *J* at the required accuracy, considering that the tracks are recorded on a tape subject to elastic and thermal elongations, and that for the measurement, they are made visible by means of a suspension of ferromagnetic powder consisting of granules of small but finite dimensions.

An investigation of this problem has been undertaken within the E.B.U.; dimension *J* on the same recorded tape has been measured by several Member organisations using different absolute measuring methods, some of which are briefly outlined hereunder.

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Method 1: The spacing of the edit-pulses was measured on a calibrated base 4 m long. The tape was measured under a tension of 0.15 kg, but the measure was corrected to take into account the corresponding elastic elongation.

Method 2: The spacing of the edit-pulses was measured on a calibrated base about 1 meter long, with tape tensions of 0.2 and 0.4 kg; the result was then linearly extrapolated for the case of zero tape tension.

Method 3: The spacing of the edit-pulses was measured against a calibrated base about 1 meter long, with the tape lying in a horizontal plane under (supposedly) zero tension.

Method 4: The tape was allowed to settle on a cleaned plastic plate. Intervals of 10 *J* were repeatedly measured by means of a travelling microscope having a range of 10 cm, and a running mean was calculated.

The maximum discrepancy of the measured values of *J* from the average of the measures taken by the different methods was 0.025%. The E.B.U. therefore feels that it is possible and meaningful to specify dimension *J* at an accuracy of 0.1% as it is done in Recommendation 469.

standards and recommended practices

SMPTE Recommended Practices Approved

On 18 January 1973, the Society's Board of Governors approved two SMPTE Recommended Practices.

RP 48-1973, Lubrication of 16 and 8 mm Motion-Picture Prints, points out that a surface treatment of motion-picture prints helps reduce friction and promotes better projection performances.

RP 49-1973, Leaders for Preprint Material Used in the Manufacture of 8 mm Prints Intended Solely for 8 mm Type R (Regular 8) or S (Super 8) Cassettes and Cartridges for Nontelevision Use, was developed to provide a modified leader to include additional black frames for use in projector cartridges.

Copies of these and other SMPTE Recommended Practices may be obtained from Society Headquarters upon request.

SMPTE Recommended Practice Withdrawn

On 18 January 1973, the Society's Board of Governors also approved the withdrawal of SMPTE Recommended Practice RP 8-1968, Safe Action and Safe Title Areas for Television Transmission. It was felt that this document was no longer necessary inasmuch as the data specified in the practice are now duplicated in SMPTE Recommended Practice RP 27.3-1972, Specifications for Safe Action and Safe Title Areas Test Pattern for Television Systems. — Alex E. Alden, *Staff Engineer*

SMPTE RECOMMENDED PRACTICE — RP 48–1973

Lubrication of 16 and 8 mm Motion-Picture Prints

1. *Scope*

This recommended practice recognizes that surface treatment of 16 and 8 mm motion-picture prints to reduce the film surface friction coefficient is needed to promote good projection performance. The use of such treatment should result in increased steadiness, reduction of noise in the projector gate and less tendency toward perforation damage during projection.

2. *Specifications*

2.1 Some type of lubricant or treatment to reduce film surface friction coefficient should be applied to the full width of the film on both the emulsion and support sides prior to the first projection.

2.2 Unless directed toward specific uses, as noted in 2.3 below, the lubricant or treatment should be removable by certain film-cleaning operations. If removed, the film should be relubricated or retreated prior to the next projection.

2.3 For specific types of projection equipment, particularly where cartridges or endless loops of film are involved, the manufacturer may recommend or require special methods, lubricants or treatments especially suited to that equipment. In such cases, it is suggested that any nonrecommended lubricant or treatment which may be on the film be removed prior to the application of the special lubricant or treatment.

Approved January 1973

SMPTE RECOMMENDED PRACTICE — RP 49–1973

Leaders for Preprint Material Used in the Manufacture of 8 mm Prints Intended Solely for 8 mm Type R (Regular 8) or S (Super 8) Cassettes and Cartridges for Nontelevision Use

Introduction

Both 8 mm Type R (regular 8) and 8 mm Type S (super 8) prints used in cassettes and cartridges are made with varying sound-to-picture separation distances. Therefore, sufficient head and tail leaders should be provided in the manufacture of 8 mm prints to accommodate the various sound systems.

1. *Scope*

This recommended practice specifies the head and tail leaders for preprint materials used solely for the manufacture of 8 mm prints intended for use in 8 mm Type R (regular 8) and 8 mm Type S (super 8) cassettes and cartridges for other than television systems.

2. *Description*

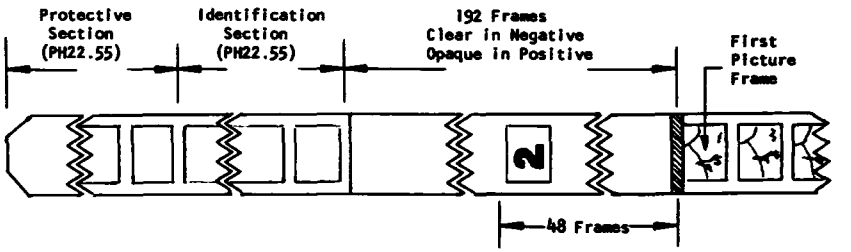
2.1 Head Leader (See figure).

2.1.1 Protective and Identification Sections shall be as specified in American National Standard Specifications for Leaders and Cue Marks for 35 mm and 16 mm Sound Motion-Picture Release Prints, PH22.55-1966.

2.1.2 The following 192 frames to the first frame of picture material shall be free of any markings or printed material and shall be clear in negative material and opaque in positive material, except for the 48th frame ahead of the first picture frame which shall be identified with the figure 2.

2.1.3 The head leader for the corresponding sound record shall contain a sound cue one frame long. The sound cue should be in editorial synchronism with the 48th frame ahead of the first picture frame (identified with the figure 2 in the leader).

2.2 Tail Leader. The tail leader shall be as specified in American National Standard PH22.55-1966.



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