

*Audio Recording Reference Level for Post-Production of Motion-Picture Related Materials*

1. Scope

This guideline specifies the audio recording reference level for intra- and inter-studio operations concerned with motion-picture post-production audio recording on both sprocketed and non-sprocketed magnetic and photographic materials.

2. Specifications

2.1 The audio recording reference level on magnetic materials shall be a sine wave of approximately 1 kHz with a fluxivity of 185 nanowebers per meter.

2.2 The level on photographic audio tracks shall correspond to 8 dB below optical flash. The reference level is generally referred to as 50%.

Appendix

(The Appendix is not a part of this SMPTE Engineering Guideline, but is included for information purposes only.)

A1. The specified level shall normally correspond to 0 on a vu meter, specified in American National Standard Volume Measurements of Electrical Speech and Program Waves, ANSI/IEEE 152-1933 (R1976), which normally corresponds to 4 on a peak program meter having a scale of 0 to 7 in accordance with IEC 268-10:1976, Sound System Equipment, Part 10, Program Meters; and IEC 268-10A:1978, First Supplement to 268-10. This refers to type

2A program level meters. Type 2B program meters will read "test" for the specified level. Light band meters will be set to read -8 dB.

A2. The reference level specified in 2.1 and 2.2 is available on the following SMPTE test films:  
Magnetic — M135-SL and M16-SL  
Photographic — P35-SL and P16-SL

**Cinematography — Motion-picture camera cartridge, 8 mm Type S, Model I — Notches for film speed, film identification and colour-balancing filter — Dimensions and positions**

1 Scope and field of application

This International Standard specifies the dimensions and positions of 8 mm Type S, sound and silent, 15 and 60 m motion-picture film camera cartridge notches intended to preset exposure devices automatically with respect to the film speed and colour-balancing filter.

This International Standard also specifies the dimensions and positions of cartridge notches intended for identification of the motion-picture film inside the cartridge.

2 Reference

ISO 564, *Standard atmospheres for conditioning and/or testing — Specifications.*

3 Dimensions

All measurements shall be carried out at the time of manufacture, in atmospheric conditions of  $23 \pm 2$  °C and  $50 \pm 5$  % relative humidity in accordance with ISO 564. However, manufacturers may indicate other nominal temperatures for the measurement of dimensions.

3.1 The dimensions of the cartridge notches shall be as specified in the figures and tables.

3.2 The datum planes used for dimensioning are mutually perpendicular.

3.3 Datum planes B, C and A are called, respectively primary, secondary and tertiary.

3.3.1 Datum plane A is coincident with the centre of a circle located by basic dimension T. This circle shall come into contact with the edges of the locating slot (defined by dimensions A, O, P and Q) and its diameter shall be such that it is in contact with the slot regardless of the size of the slot (see the annex, clause A.1).

3.3.2 Datum plane B is the unnotched, unlabelled surface of the cartridge.

3.3.3 Datum plane C is the front seating surface of the cartridge.

3.4 Dimension N applies to all film identification notch positions.

4 Assignment of codes<sup>1)</sup>

4.1 The film identification notch positions are numbered 1 to 6 from the locating slot so that combinations of notches can be assigned (see figure 4).

4.2 The 63 possible film identification notch combinations have been systematically arranged and identified with a notch combination code number as shown in table 6.

4.3 Assignment of a code for use with either silent or sound 8 mm Type S motion-picture film camera cartridges shall imply permission to utilize the same identification notch code for the same film offered in an alternative cartridge.

NOTE — Many general-purpose black-and-white reversal films can be processed satisfactorily in a universal process. Notch combination code number 1 has, therefore, been reserved for such general-purpose black-and-white reversal films.

<sup>1)</sup> Assignment of specific combinations of notches can be made according to the manufacturer's needs by application to Manager, Technical Services, National Association of Photographic Manufacturers, Inc., 600 Mamaronck Avenue, Harrison, New York, N.Y. 10628, USA