

American National Standard

for motion-picture film (8-mm type S)— magnetic striping— 16-mm film perforated 8-mm type S, (1-4)

Sponsor: Society of Motion Picture and Television Engineers

Approved June 4, 1986

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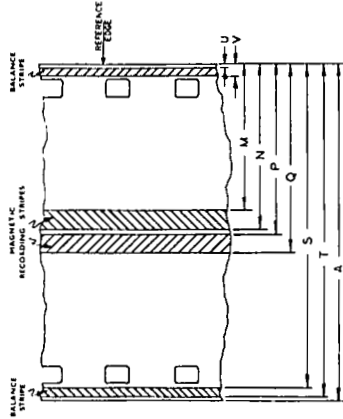
1. Scope
This standard specifies the location and dimensions of the magnetic recording stripes and the balance stripes applied to 16-mm motion-picture film with two rows of 8-mm Type S perforations in positions 1 and 4.

2. Referenced American National Standards
This standard is intended to be used in conjunction with the following American National Standards:

ANSI/SMPTE 161-1986, Motion-Picture Film (8-mm Type S)—Magnetic Striping
ANSI PH22.168-1973 (R1980), Dimensions for 16 mm Motion-Picture Film Perforated Super 8, (1-4)

3. Dimensions

3.1 The location and dimensions of the magnetic recording stripes and balance stripes shall be as given in the figure and table.
3.2 The magnetic striping material shall be applied to the surface of the film away from a camera or projector lens, for example, toward the light source of a projector arranged for direct front projection on a reflection-type screen.



Dimensions	Inches	Millimeters
A	0.628 nom	15.95 nom
M*	0.285 ± 0.002	7.24 ± 0.05
N*	0.312 ± 0.002	7.92 ± 0.05
P*†	0.316 ± 0.002	8.02 ± 0.05
Q*	0.343 ± 0.002	8.71 ± 0.05
S	0.613 ± 0.003	15.57 ± 0.08
T	0.625 ± 0.003	15.88 ± 0.08
U	0.003 ± 0.003	0.08 ± 0.08
V	0.015 ± 0.003	0.38 ± 0.08

*See Note 3.

†The millimeter conversion is approximate so that Dimension P minimum equals Dimension N maximum.

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3.3 The stripes designated as "recording" are made of a magnetic material and are intended for the audio record. The stripes between the edge of the film and the perforations are the balance stripes. The balance stripes may be stripes of magnetic or nonmagnetic material of such thickness that the balance and recording

separate stripes. If two stripes are used, the amount of separation between the stripes should be sufficient to permit slitting within the requisites of the standard without obtaining undesirable feather edges of magnetic material. The separation required is determined by laboratory practice.

NOTE 1: The width and edge-to-perforation distance of the 8-mm slit strip shall be in accordance with ANSI PH22.168-1973. The location of the magnetic recording and balance stripes shall be in accordance with ANSI/SMPTE 161-1986. Consequently, it is not possible to take full advantage of the tolerance of both the slit width and the location of the magnetic recording and balance stripes.

NOTE 2: Tolerances for the recording stripes are specified to permit usage of a single wide stripe or two

stripes project above the surface of the film to substantially the same degree.

4. Film Stock

The film stock used shall be safety type, cut and perforated in accordance with ANSI PH22.168-1973.

separate stripes. If two stripes are used, the amount of separation between the stripes should be sufficient to permit slitting within the requisites of the standard without obtaining undesirable feather edges of magnetic material. The separation required is determined by laboratory practice.

NOTE 3: Notwithstanding the tolerance on Dimensions M, N, P, and Q, the width of the stripes, Dimension N minus M and Q minus P, shall be 0.0250 in (0.635 mm) minimum.

ANSI/SMPTE 162-1986

ANSI/SMPTE 161-1986
Revision and Redesignation of
ANSI PH22.161-1980

American National Standard for motion-picture film (8-mm type S)— magnetic striping

Approved June 4, 1986

Sponsor: Society of Motion Picture and Television Engineers

1. Scope

This standard specifies the location and dimensions of the magnetic recording stripe and the balance stripe applied to 8-mm motion-picture film with one row of 8-mm Type S perforations.

2. Referenced American National Standard

This standard is intended to be used in conjunction with the following American National Standard:

ANSI PH22.149-1981, Dimensions for 8-mm Motion-Picture Film Perforated 8-mm Type S, 1R

3. Dimensions

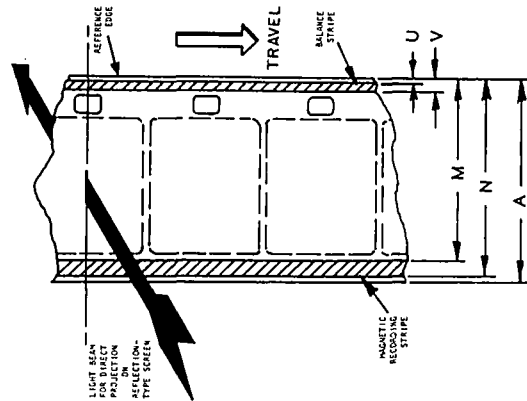
3.1 The location and dimensions of the magnetic recording stripe and the balance stripe shall be as given in the figure and table.

3.2 The magnetic stripe shall be on the side of the film which will be toward the light source when used on a projector arranged for direct front projection on a reflection-type screen.

3.3 The magnetic stripe shall be adjacent to the unperforated edge and is intended for the audio record. The narrow stripe adjacent to the stripe may be a stripe of magnetic or non-magnetic material of such thickness that the balance and recording stripes project above the surface of the film to substantially the same degree.

4. Film Stock

The film stock used shall be safety type, cut and perforated in accordance with ANSI PH22.149-1981.



Film As Seen Looking Toward Lens

Dimensions	Inches	Millimeters
A	0.314	nom 7.98
M*	0.285 ± 0.002	7.24 ± 0.05
N*	0.312 ± 0.002	7.92 ± 0.05
U	0.003 ± 0.003	0.08 ± 0.08
V	0.015 ± 0.003	0.38 ± 0.08

*See Note.

NOTE: Notwithstanding the tolerance on Dimensions M and N, the width of the stripe, Dimension N minus M, shall be 0.0250 in (0.635 mm) minimum.

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SMPTE RECOMMENDED PRACTICE

RP 51-1986

Screen Luminance and Viewing Conditions for 8-mm Review Rooms



1. Scope

This practice specifies the screen luminance level and characteristics of the projection screen and the viewing conditions for 8-mm review rooms.

2. Viewing Prints for General Application

The luminance and conditions specified in American National Standard for Motion-Picture Film—Screen Luminance and Viewing Conditions—Indoor Theater Projection, ANSI/SMPTE 196M-1986, shall apply to the review room for 8-mm prints intended to be viewed in a conventional theatrical manner; i.e., front projection in a darkened room. This is essentially 16 ± 2 footlamberts (55 ± 7 candelas per square meter).

3. Viewing Prints for Special Purposes

3.1 Because of the multitudinous applications of 8-mm prints, they are occasionally intended to be viewed under conditions quite different from those defined in ANSI/SMPTE 196M-1986. The most common departures include the following:

(a) prints used as a background moving image in the design of a public place rather than as the focus of a viewer's attention as in a movie theater

- (b) prints used as a point of purchase (P.O.P.) selling tool in retail stores or trade exhibitions
- (c) prints used as a selling or instructional tool in compact, suitcase-style, rear-screen projectors
- (d) prints used in airplane cabins for entertainment of passengers
- (e) prints used in public locations for instruction or entertainment under high ambient-light levels
- (f) prints used in the home
- (g) prints used for photographic instrumentation data analysis

Experience has shown that modifications to the viewing conditions such as those above usually introduce more stringent limitations upon print density, color balance, etc., such that some prints that would be accepted under the conditions specified in ANSI/SMPTE 196M-1986 become less satisfactory for those modified viewing conditions.

3.2 Prints intended for special applications should be judged in a review room with a screen that simulates the special purpose as closely as possible.

Appendix

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

Prints are judged best on the type of screen to be used by the end user. Among the types of flat screens commonly used for 8-mm prints are plastic or glass rear screens, matte white vinyl screens, and lenticular vinyl screens. Specially formed screens are also used. The rear support member of these screens will have a concave curvature from side to side only or be curved in two directions; i.e., from side to side and from top to bottom. These formed curved screens will have surfaces ranging from silver-colored lithographic foils to vinyl materials embossed with lenticles.

These screens have various gains. Gain is a measure of reflectance. The matte white is arbitrarily designated to have a gain of approximately 1 for reference. For accurate comparisons, it has been determined that matte white screens have an actual gain in the range of 0.95 to 0.98.

Gain screens (those with a gain above 1) are available as treated screens which are flat as well as those embossed with lenticles.

Flat lenticular screens have gains ranging from 2 to as high as 20, depending on the design of the lenticles and the screen material used. Flat gain screens which are not lenticular, such as the pearlescent surface, have gains from 1.2 to 2.5.

Special formed screens have gains ranging from 6 to 19 depending on the surface material used (flat or lenticular) and the spherical radius used in the rear support member.

Acceptable viewing angles of gain screens decrease inversely with increasing gain.

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