

American National Standard for motion-picture film (35-mm) — photographic audio records — release prints

Approved February 24, 1984
Secretariat: Society of Motion Picture and Television Engineers

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1. Scope

1.1 This standard specifies the position, dimensions and reproducing speed of variable-area and variable-density photographic audio records on 35-mm motion-picture release prints.

1.2 This standard also specifies the longitudinal picture-audio displacement.

2. Reference Standards

The following American National Standards are intended to be used in conjunction with this standard:

ANSI PH22.111-1982, Dimensions of Exposed Areas for Picture and Photographic Sound on 35-mm Motion-Picture Prints Made on Continuous Contact Printers

ANSI PH22.139-1980, Dimensions for 35-mm Motion-Picture Film Perforated KS

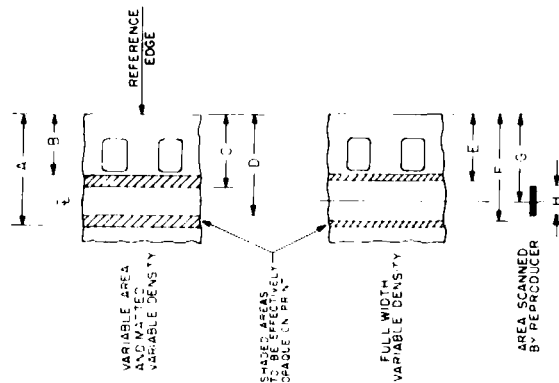
ANSI PH22.194-1984, Motion-Picture Film (35-mm) — Projector Usage — Release Prints Having Four Perforations per Frame

3. Audio Records

The dimensions and location of the audio records shall be as specified in the figure and table.

4. Longitudinal Picture-Audio Displacement

The audio record on the film shall be displaced longitudinally from the center of the correspond-



Dimensions	Inches	Millimeters
A	0.308 nom	7.82 nom
B	0.192 nom	4.88 nom
C	0.205 ± 0.001	5.21 ± 0.03
D	0.281 ± 0.001	7.14 ± 0.03
E	0.193 ± 0.004	4.90 ± 0.10
F	0.293 ± 0.000	7.44 ± 0.00
G	0.243 ± 0.001	6.17 ± 0.03
H	0.084 ± 0.001	2.13 ± 0.03

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ing picture by a distance of 21 frames = 1/2 frame in the direction of film travel during normal projection. (See Sec. 5.)

5. Reproducing Speed

The recordings shall be made so that the audio records will reproduce properly at 96 perforations (18 in [457 mm]) per second which is 24 frames per second.

6. Print Preparation

6.1 During dubbing of the picture, the projectionist shall thread the interlock picture one frame ahead of the start mark in dubbing rooms where the mixer is 50 ft (15 m) from the screen.

6.2 After the master magnetic audio track has been completed, each reel shall have one frame removed immediately after the sync pop, prior to referral to a photographic negative track.

6.3 The negative cutter shall advance the audio record a further 20 frames, making a total displacement of 21 frames.

NOTE 1: Motion-picture prints conforming to this standard are usually projected in accordance with ANSI PH22.194-1984.

NOTE 2: Motion-picture prints conforming to this standard are usually made on film made in accordance with longitudinal dimensions specified in ANSI PH22.139-1980.

NOTE 3: Dimensions A and B, describing the printed area of the sound record, are established by ANSI PH22.111-1982, and are shown in the table as nominal values for reference only.

Appendix

The Appendix is not a part of this American National Standard, but is included for information purposes only.

In the average theater, it is necessary to emit the sound pulses before the corresponding picture frame is positioned in the aperture. Since sound travels approximately 1100 ft per second or about 50 ft per frame, during the normal projection rate of 24 frames per second, the projectionist can place the sound and picture in synchronization in the theater where he wishes by varying the length of the threading path in the projector.

For example, if the positioning of frame 21 at the scanning point brings the corresponding picture and sound to the screen and the speaker at the same instant, then positioning frame 20 at the scanning point would give synchronism at about 50 ft from the screen.

American National Standard for motion-picture film (35-mm)— television image area

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1. Scope

This standard specifies the size and position of the image area recorded on 35-mm motion-picture film from the picture tube of television recording equipment, and the size and position of that portion of the image which is to be reproduced by a television film system.

2. Reference Documents

The following documents are intended to be used in conjunction with this standard:

American National Standard ANSI PH22.59-1974 (R1981), Dimensions of 35-mm Motion-Picture Camera Aperture Images
SMPTE Recommended Practice RP 27.3-1983, Specifications for Safe Action and Safe Title Areas Test Pattern for Television Systems (available from the Society of Motion Picture and Television Engineers, 862 Scarsdale Avenue, Scarsdale, NY 10583)

3. Dimensions

The dimensions shall be as given in the figures and tables.

4. Video Recording

4.1 The dimensions of the picture aperture of a 35-mm television recording camera shall be in accordance with ANSI PH22.59-1974.

4.2 The television picture appearing on the picture tube of the video recording equipment shall produce an image on the recording film in accordance with Fig. 1.

4.3 The standard applies only to video recordings intended for reproduction by a television system. If the video recording is intended for direct projection to a theater screen, the image dimensions, with the exception of picture width, are adequately specified in ANSI PH22.59-1974. For the correct aspect ratio, the image width should be 0.840 ± 0.004 in (21.35 ± 0.10 mm).

5. Video Reproduction

5.1 The dimensions of the projectable image area in the television reproducing system shall be as specified in Fig. 1 and Table 1.

5.2 The portion of the 35-mm motion-picture image area to be reproduced (the scanned area) by a television film system shall be as specified in Fig. 2 and Table 2.

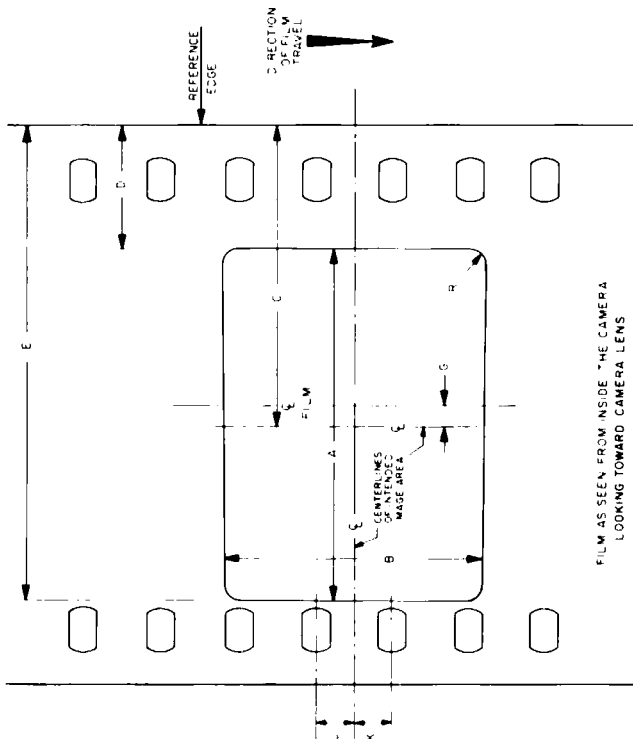


Fig. 1
Video Recording Camera Image

Table 1

Dimensions	Inches	Millimeters
A	0.816 ± 0.002	20.73 ± 0.05
B	0.612 ± 0.002	15.54 ± 0.05
C	ref	18.75 ref
D	nom	8.38 nom
E	1.146 nom	29.11 nom
G	0.050 ref	1.27 ref
J = K	within 0.004	within 0.10
R	0.03 max	0.8 max

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