

American National Standard for motion-picture cameras — threaded lens mounts — 16-mm and 8-mm cameras

Approved February 4, 1985
Sponsor: Society of Motion Picture and Television Engineers

1. Scope

1.1 This standard specifies the dimensions required for mechanical and optical interchangeability of lenses for 16-mm and 8-mm motion-picture cameras. For 16-mm cameras with threaded lens mounts, threads having a nominal major diameter of 1 in are often specified. Similarly, for 8-mm motion-picture cameras, threads having a nominal major diameter of $\frac{5}{8}$ in are in common use.

1.2 This standard does not apply to continuous-type motion-picture cameras because of the type of optical systems employed in those cameras.

2. Reference Standard

The following American National Standard is intended to be used in conjunction with this standard:

ANSI B1.1-1982, Unified Inch Screw Threads (UN and UNR Thread Form)

3. Dimensions

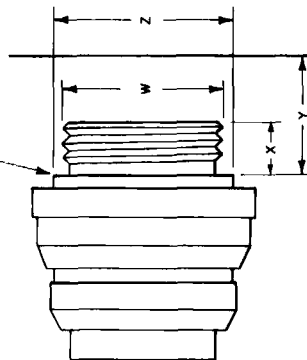
3.1 The dimensions shall be as specified in the figure and table.

3.2 The lens mounts shall have 32 threads per inch.

3.3 The form of the thread shall be in accordance with ANSI B1.1-1982.

Page 1 of 2 pages

THIS SHOULDER ON
LENS MOUNT
REGISTERS AGAINST
LENS SEAT ON
FRONT OF CAMERA



PLANE OF
BEST FOCUS

Dimensions	D Mount		C Mount	
	Inches	Millimeters	Inches	Millimeters
W	0.625	15.88	1.000	25.40
X	0.115	2.92	0.160	4.06
Y	0.484	12.29	0.690	17.53
Z	1.000	25.40	1.187	30.15

3.4 Limiting dimensions and tolerances of the threads shall be class NS-2A for the external threads on the lens. These dimensions shall include plating or any other finish.

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Notes

1. The values specified for Dimension X are the maximums for the lenses; additional length for clearance should be provided in the camera. With some lenses the section of the mount, smaller in diameter than the root of the thread, extends beyond the limit of Dimension X towards the plane of best focus. For such lenses, clearance must be established individually.

2. For the lens, Dimension Y is the distance from the registering shoulder to the plane of the best overall image. For the camera, Dimension Y is the distance from the registering shoulder to the plane that best represents the

location of the emulsion on the film in a camera operating normally. The allowable tolerance for Dimension Y depends upon the f /number of the lens and other variables, and so is not suitable for definite standardization. A tolerance of ± 0.001 in (0.03 mm), applied independently to the lens and camera, is suggested as a generally accepted practice.

3. The values given for Dimension Z are maximum diameters for the seat on the lenses; the seat on the camera shall provide clearance for these diameters.

Appendix

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

A1. Past practice has not been entirely consistent so far as Dimension X of the D mount is concerned. Some existing cameras will not accept a thread longer than 0.115 in (2.92 mm); some lenses have been made with a length of 0.120 or 0.125 in (3.05 or 3.18 mm).

A2. If any part of the lens mount has a larger diameter than Dimension Z, it should be checked for mechanical interference with the camera on which it is to be used.

American National Standard for motion-picture film (35-mm) — camera usage

Approved February 4, 1985

Sponsor: Society of Motion Picture and Television Engineers

1. Scope

This standard specifies the position of the photographic emulsion and the frame rates for 35-mm motion-picture film in cameras.

2. Reference Standard

The following American National Standard is intended to be used in conjunction with this standard:

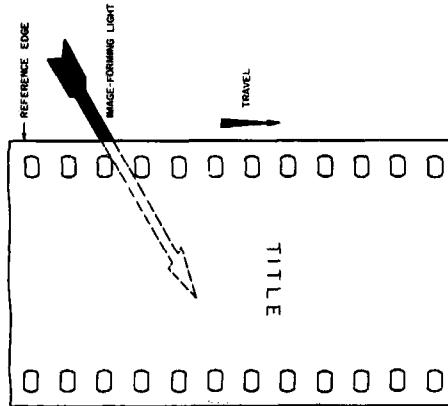
ANSI PH22.40-1984, Motion-Picture Film (35-mm)—Photographic Audio Records—Release Prints

3. Emulsion Position

The emulsion shall be toward the camera lens, as shown in the figure.

4. Frame Rate

The frame rate shall be 24 frames per second.



Film Viewed from Inside Camera
Looking toward Camera Lens

Appendix

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

A1. Relationship Between Photographic Audio and Picture

The displacement of the picture and corresponding photographic audio as recorded in single-system cameras is dependent upon the camera design which may vary among camera models. When prints are made, the picture-audio displacement should be in accordance with ANSI PH22.40-1984. The location and dimensions of the

photographic audio record should also be in accordance with ANSI PH22.40-1984.

A2. Other Frame Rates

Certain special applications may require frame rates different from 24 frames/sec. Cameras used for time-lapse and high-speed photography use various frame rates to acquire desired effects.

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SMPTE RECOMMENDED PRACTICE

RP 68-1984

Specifications for Buzz-Track Test Film for 35-mm Motion-Picture Photographic Audio Reproducers



1. Scope

This practice specifies a test film for checking the lateral position of the audio scanning beam in 35-mm motion-picture photographic audio reproducers.

2. Test Film

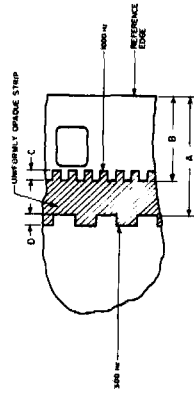
2.1 The test film shall have originally recorded 300- and 1000-Hz signal tracks on opposite sides of the central exposed strip as shown in the figure.

2.2 The position of the tracks shall be in accordance with the dimensions given in the table.

2.3 The central exposed strip and the exposed portions of the two signal tracks shall have a density of $1.0 \pm 0.4 - 0.0$.

3. Film Stock

The film stock, preferably polyester, shall be splice-free, of the low-shrinkage, safety type in accordance with American National Standard Specifications for Motion-Picture Safety Film, ANSI PH22.31-1980, and cut and perforated in accordance with long-pitch dimensions specified in American National Standard Dimensions for 35-mm Motion-Picture Film Perforated K.S., ANSI PH22.199-1980.



Dimensions	Inches	Millimeters
A	$+ 0.000$ $- 0.286$	7.26 ± 0.00 $- 0.93$
B	$+ 0.001$ $- 0.200$	5.08 ± 0.03 $- 0.00$
C	min 0.012	0.30 min
D	min 0.012	0.30 min

4. Identification

Each test film shall be identified by a suitable marking printed lengthwise in the picture area. The spacing between consecutive marks shall be approximately 12 in (30 cm).

Note: A test film conforming to this practice is available from the Society of Motion Picture and Television Engineers.

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