

# American National Standard for television— image areas and mounts for slides and opaques

Approved June 12, 1985

Sponsor: Society of Motion Picture and Television Engineers

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## 1. Scope

**1.1** This standard specifies the size and location of that portion of the image area to be reproduced by a television telecine chain in slides and opaques designated for television use.

**1.2** It specifies the slides and opaques designated for television use as those having nominal dimensions of 2 x 2, 3¼ x 4 and 4 x 5 inches. It also specifies the dimensions of the mounts.

**1.3** It also specifies the size and location of the minimum overall image areas considered necessary to ensure appropriate coverage for the scanned transmitted areas.

## 2. Reference Documents

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

ANSI/ASC PH3.43-1977 (R1985), Dimensions for Projector Slides


SMPTE RP 9-1983, Dimensions of Double-Frame 35-mm 2x2 Slides for Precise Applications in Television

SMPTE RP 27.3-1983, Specifications for Safe Action and Safe Title Areas Test Pattern for Television Systems

	2 X 2 SLIDE		¾ X 4 SLIDE & OPAQUE		4 X 5 OPAQUE	
	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
Mount height	1.985 <sup>+0.015</sup> -0.015	50.42 <sup>+0.38</sup> -0.38	3.25 <sup>+0.02</sup> -0.03	82.5 <sup>+0.5</sup> -0.8	4.00 ± 0.03	101.6 ± 0.8
Mount width	1.985 <sup>+0.015</sup> -0.015	50.42 <sup>+0.38</sup> -0.38	4.00 <sup>+0.02</sup> -0.03	101.6 <sup>+0.5</sup> -0.8	5.00 ± 0.03	127.0 ± 0.8
Mount maximum thickness	0.120	3.05	0.156	3.96	0.03	0.8
Minimum overall image height	0.952	24.18	2.25	57.2	3.19	81.0
Minimum overall image width	1.417	35.99	3.00	76.2	4.25	108.0
Transmitted image height	0.843 <sup>+0.005</sup> -0.005	21.41 <sup>+0.13</sup> -0.13	2.06 <sup>+0.00</sup> -0.03	52.3 <sup>+0.0</sup> -0.8	3.00 <sup>+0.00</sup> -0.04	76.2 <sup>+0.0</sup> -1.0
Transmitted image width	1.124 <sup>+0.005</sup> -0.005	28.55 <sup>+0.13</sup> -0.13	2.75 <sup>+0.00</sup> -0.03	69.8 <sup>+0.0</sup> -0.8	4.00 <sup>+0.00</sup> -0.04	101.6 <sup>+0.0</sup> -1.0
Centering radius	0.02	0.5	0.05	1.3	0.06	1.5

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## 3. Dimensions

**3.1** The dimensions shall be as specified in the table.

**3.2** The center of the overall image area shall be located within the limits specified of the true center of the slide mount.

## 4. Thumb Mark

To indicate proper orientation, a thumb mark shall be placed in the lower left-hand corner of the mount when the slide is viewed directly as it is to appear on the screen.

Note 1: Dimensions for 2x2 in slide mounts and slides specified in this standard are not intended for precision uses such as those specified in SMPTE RP 9-1983.

Note 2: Dimensions of slides for nontelevision usage are specified in ANSI/ASC PH3.43-1977.

Note 3: The dimensions shown for the transmitted picture are those which will be scanned by a perfectly aligned camera chain. To allow for some misalignment of the camera chain and an additional misalignment in the home receiver, it is recommended that all essential information be contained in a centrally located area, as specified in SMPTE RP 27.3-1983.

# American National Standard for motion-picture film— spectral diffuse density— photographic audio record

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## 1. Scope

This standard supplements American National Standards ANSI/ASC PH2.18-1984 and ANSI/ASC PH2.19-1976 by specifying spectral conditions suitable for determining the sensitometric characteristics of photographic audio records on three-component subtractive color films having records made up of dye images plus silver or a metallic salt. It does not apply to the density measurement of records composed of dyes only. The conditions of this standard are applicable to systems of audio reproduction using the S-1 photosurface. It is recognized that there are other types of photosurfaces used for photographic audio reproduction that do not fall within the scope of this standard. This standard defines a practical condition by means of which it is expected that most density measurements will be made.

## 2. Reference Standards

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

ANSI/ASC PH2.18-1984, Photography (Sensitometry)—Density Measurements—Spectral Conditions

ANSI/ASC PH2.19-1976 (R1983), Conditions for Diffuse and Doubly Diffuse Transmission Measurements (Transmission Density)

## 3. Terminology Used in the Densitometry of Photographic Color Audio Records

**3.1 Peak Response.** The peak response of a densitometer is the wavelength to which the densitometer has the greatest response, including such factors as the spectral emission of the light source, the combined spectral transmission of all optical filters in the light path, and the spectral sensitivity of the photo-sensitive receptor.

**3.2 Bandwidth.** The bandwidth of a densitometer is the range of wavelengths to which the densitometer is sensitive. In a practical densitometer, this range of wavelengths is not sharply defined; but, for the purposes of this standard, the bandwidth shall be considered to lie between those wavelengths that excite, in the photo-sensitive receptor, one half the current which is excited at the wavelength of peak response. These limiting wavelengths are to be measured or computed using the light source, all operating optical filters, and the photo-sensitive receptor of the densitometer.

**3.3 Overall Response.** The overall response of a densitometer is the integrated response of the densitometer to all wavelengths, including such factors as the spectral emission of the light source, the combined spectral transmission of all optical filters in the light path, and the spectral sensitivity of the photo-sensitive receptor.

## 4. American National Standard Spectral Density of Photographic Audio Record on Three-Component Subtractive Color Films

American National Standard spectral diffuse density of photographic audio record on three-

component subtractive color films is American National Standard diffuse transmission density as measured with an instrument having a response of 20-nm bandwidth peaking at  $800 \text{ nm} \pm 5 \text{ nm}$ , with at least 80 percent of the overall response of the instrument falling within the 20-nm bandwidth.

## Appendix


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

In three-component subtractive color films, dyes or color couplers are used to form the photographic image. These color materials are designed primarily for the visual region, but audio-record reproduction via the S-1 photosurfaces uses the infrared region of approximately 700 to 900 nm, which is far enough away from the visual region so that the color materials cannot be used efficiently, but close enough so that they produce a measurable effect. The spectral characteristics of this effect depend on the type of light-absorbing material used for

the audio record, and on the manner in which the audio record is processed. Therefore, in order to obtain uniformity of audio record densitometry among different films and density-measuring instruments, it is necessary to specify the spectral conditions under which these density measurements are made. It is the aim of this standard to define these conditions sufficiently to ensure reasonable uniformity of density measurements, yet not so rigidly as to make impractical the obtaining of such measurements.

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