

Figure A.1 – Female screw lock mounting detail

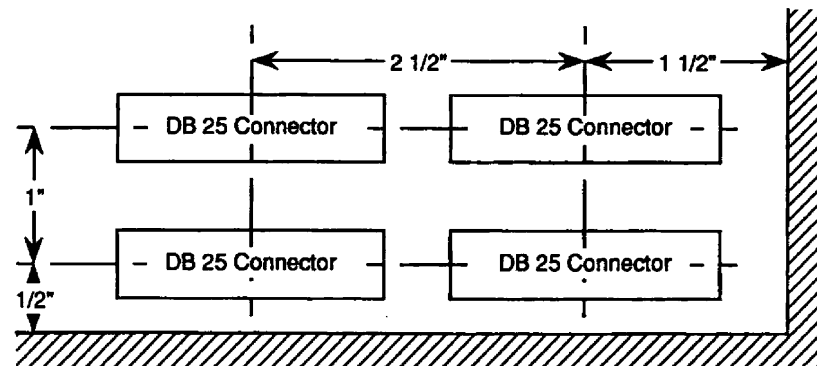


Figure A.2 – Minimum connector spacing

PROPOSED SMPTE RECOMMENDED PRACTICE

Specifications for Safe Action and Safe Title Areas Test Pattern for 4:3 Aspect Ratio Television Systems

1 Scope and purpose

1.1 Scope

This practice specifies the format, dimensions, and optical densities for a test pattern for safe action and safe title areas for 4:3 aspect ratio television systems.

1.2 Purpose

This practice specifies a test pattern which indicates the safe action image area within which all significant action must take place and the safe title image area within which the more important information must be confined to ensure visibility of the information on the majority of 4:3 aspect ratio home television receivers.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this practice. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this practice are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

ANSI IT2.19-1990, Photography — Density Measurements — Geometric Conditions for Transmission Density

ANSI/SMPTE 7-1994, Motion-Picture Film (16-mm) — Camera Aperture Image and Usage

ANSI/SMPTE 59-1991, Motion-Picture Film (35-mm) — Camera Aperture Image and Usage

ANSI/SMPTE 96-1992, Television — 35- and 16-mm Motion-Picture Film and 2x2-in Slides — Scanned

Area and Photographic Image Area for 4:3 Aspect Ratio

3 Format

3.1 Pattern

A reproduction of the test pattern is shown in figure 1.

3.2 Area limit markings

Dashed lines having the shape and dimensions shown in the figures and table shall be provided to indicate the boundaries of the safe action and title areas.

3.3 Arrows and border

The eight boundary arrows and border define the edge of the test pattern area and the scanned area.

3.4 Pattern identification

The identification number of this practice shall appear on the pattern as specified in the figures.

4 Dimensions

4.1 Test pattern

The dimensions of the test pattern shall be as shown in figure 2 and table 1 in percentage of frame height and reproduced with a tolerance of $\pm 0.2\%$ of the frame height.

4.1.1 The area identification marks shall be positioned symmetrically on the centerlines of the image area as specified in 4.4 within $\pm 2\%$ of the respective dimension.

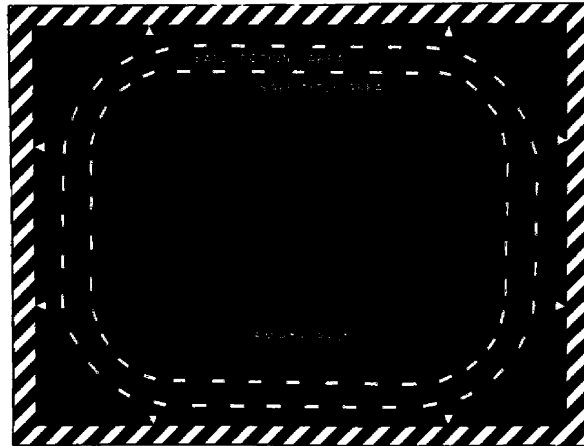


Figure 1 – Reproduction of test pattern

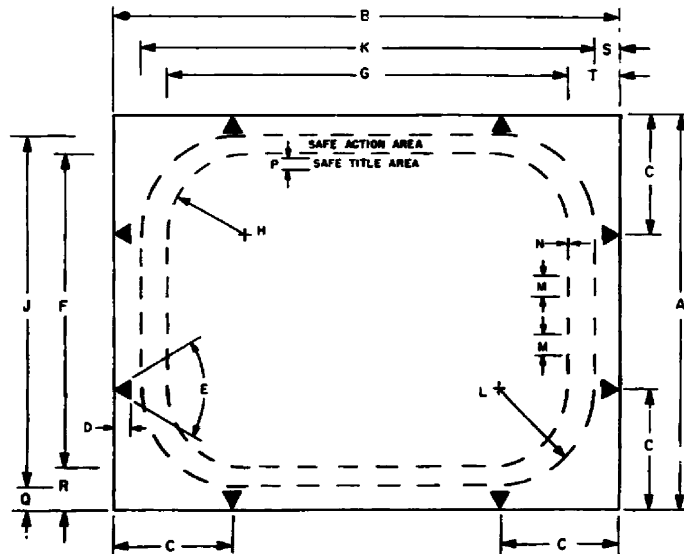


Figure 2 – Dimensional drawing of test pattern

Table 1 – Specifications

Dimensions	Percent	Inches		
		2x2	35-mm	16-mm
A Scanned image height	100.0	0.843	0.594	0.276
B Scanned image width	133.3333	1.124	0.792	0.368
C Position of arrow	30.0	0.253	0.178	0.083
D Arrow length	4.0	0.034	0.024	0.011
E Arrow shape in degrees		40.0	40.0	40.0
F Height of safe title area	80.0	0.674	0.475	0.221
G Width of safe title area	106.6667	0.899	0.634	0.294
H Corner radius, safe title area	21.0	0.177	0.125	0.058
J Height of safe action area	90.0	0.759	0.535	0.248
K Width of safe action area	120.0	1.012	0.713	0.331
L Corner radius, safe action area	24.0	0.202	0.143	0.068
M Length and spacing of lines	5.0	0.042	0.030	0.014
N Width of line	0.5	0.004	0.003	0.0014
P Height of letters	2.5	0.021	0.015	0.007
Q Vertical position of action area	5.0	0.042	0.030	0.014
R Vertical position of title area	10.0	0.084	0.059	0.028

4.2 Image size

The size of the scanned area, as indicated by the eight boundary arrows, shall be as follows:

2x2-in test slides and 35- and 16-mm test films shall have image dimensions in accordance with ANSI/SMPTE 96.

4.3 Black-and-white border

The dimensions of the black-and-white border shall be as given in table 1.

4.3.1 Height and width dimensions of the black-and-white border for 2x2 in slides shall extend to the minimum dimensions specified in ANSI/SMPTE 96.

4.3.2 For 35-mm motion-picture films, the black-and-white border shall extend to the dimensions specified by style A in ANSI/SMPTE 59.

4.3.3 For 16-mm motion-picture films, the black-and-white border shall extend to the dimensions specified in ANSI/SMPTE 7.

4.4 Line width

The line width of the area limit marks shall be $0.50 \pm 0.05\%$ of picture height.

4.5 Lettering

The lettering shall be bold and of a style and size shown in the figures.

4.6 Safe title

Dimensions F, G, H, R, and T shall not limit moving titles. Horizontally moving titles (crawls) and vertically moving titles (rolls) are allowed to move to and between the extreme edges of the scanned image.

RP 27.3

5 Optical densities

5.1 Optical densities

All optical densities shall be measured in accordance with ANSI IT2.19.

5.2 Background

The black background shall have a density greater than 1.9.

5.3 Density

The density of the dashes, arrows, and lettering shall be nominally clear.

NOTES

1 The emulsion position shall correspond to the one normally used for the specific format.

2 Test material conforming to this practice is available from the Society of Motion Picture and Television Engineers.

PROPOSED SMPTE ENGINEERING GUIDELINE

EG 9
Revision of EG 9-1985

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

Page 1 of 3 pages

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 nonsprocketed analog and digital magnetic and photographic materials.

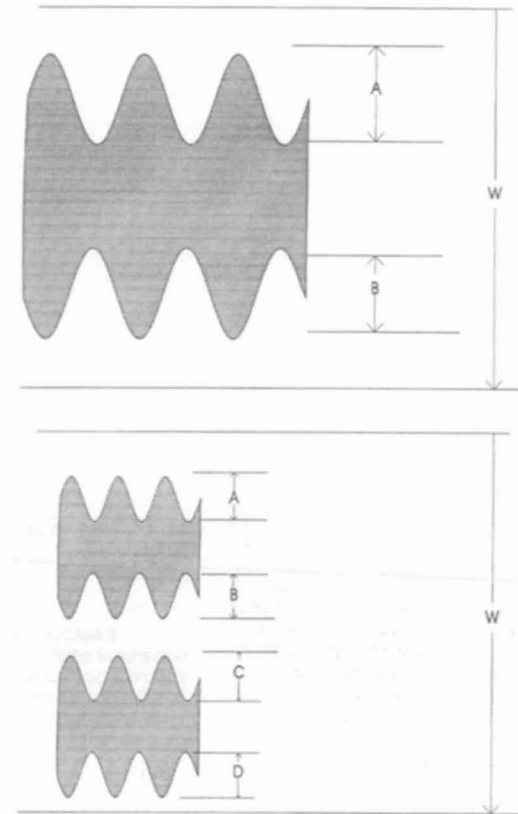
2 Specifications

2.1 The audio recording reference level shall be a sine wave of approximately 1 kHz.

2.2 For analog recording on magnetic materials, the fluxivity of the reference level shall be 185 nWb/m.

2.3 For analog recording on photographic audio tracks, the reference level shall correspond to 50% maximum modulation. The maximum modulation width is 0.076 in (1.93 mm) for 35-mm monophonic sound tracks, 0.033 in (0.84 mm) for each track of 35-mm stereo sound tracks, and 0.060 in (1.52 mm) for 16-mm monophonic sound tracks. The condition of 100% modulation is commonly referred to as optical clash, and thus 50% modulation represents a level of approximately 6 dB below optical clash (see figure 1).

2.4 For digital recording, the reference level shall correspond to 20 dB below the maximum recording level of the digital medium.



$$\% \text{ MOD} = \frac{A+B}{W} \times 100\% = \frac{A+B+C+D}{W} \times 100\%$$

WHERE: W = 0.076 IN (1.93 MM) FOR 35-MM MONO (SMPTE 40)
 W = 0.033 IN (0.84 MM) FOR 1 TRACK OF 35-MM STEREO (SMPTE 203)
 W = 0.060 IN (1.52 MM) FOR 16-MM MONO (SMPTE 41)

EXAMPLE: % MODULATION OF ONE TRACK OF A STEREO TRACK

$$\begin{aligned} A &= 0.0083 \text{ IN} \\ B &= 0.0082 \text{ IN} \end{aligned} \quad \% \text{ MOD} = \frac{0.0083 + 0.0082}{0.033} \times 100\% = 50\% \text{ MOD}$$

Figure 1 – Measurement of percent modulation