

**SMPTE** RECOMMENDED PRACTICE

*Specifications for Test Films for Subjective  
Checking of 16-mm and 8-mm Type S  
Motion-Picture Sound Projectors*

RP 18-1981

Revision of  
RP 18-1964

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## 1. Scope

This practice describes test films and a method for subjective checking and demonstrating 16-mm and 8-mm Type S motion-picture projection and sound performance.

## 2. Test Film Specifications

2.1 The film shall be made available in 16-mm and 8-mm Type S formats.

2.2 Where applicable, the film shall contain the following sections:

## 2.2.1 Sound Samples

- (a) Dynamic wide-range orchestration to check reproduction of music
  - (b) A recording of piano music having sufficiently sustained notes that a subjective assessment of wow and flutter can be made.
  - (c) Seven tones (nominally 50, 125, 500, 800, 2000, 3150, and 5000 Hz) recorded at normal program level
  - (d) A section of male and female actors in dialog as a check for speech intelligibility and synchronization
- 16-mm photographic sound version only:
- (e) A section of buzz-track test film as specified in SMPTE Recommended Practice on Specifications for Buzz-Track Test Film for 16-mm Motion-Picture Sound Reproducers, Photographic Type, RP 67-1976
  - (f) Three sections of a 5-kHz tone to check for a compromise focus for the photographic sound record; sections one and three in the normal emulsion position and section two in the reverse emulsion position

## 2.2.2 Picture Samples

- (a) General picture steadiness (vertical and horizontal)
- (b) Uniform projected picture luminance

(c) General picture quality such as sharpness and contrast

- 2.3 Each film shall be provided with a leader and trailer. The main title shall include the issue number. Titles or subtitles, as appropriate, shall indicate the particular projector sound and/or picture characteristic to be tested by that portion of the film.
- 2.4 Each film shall be accompanied by an instruction sheet describing the procedure to be used for checking the projection equipment.

## 3. 16-mm Prints

- 3.1 The film stock used shall be cut and perforated in accordance with long-pitch dimensions specified in American National Standard Dimensions for 16-mm Motion-Picture Film Perforated 1R, ANSI PH22.109-1980.
- 3.2 The sound record dimensions shall comply with American National Standard Dimensions of Photographic Sound Records on 16-mm Motion-Picture Prints, ANSI PH22.41-1975; or American National Standard Position, Dimensions and Reproducing Speed of 100-Mil Magnetic Sound Record on 16-mm Motion-Picture Film, ANSI PH22.112-1977.
- 3.3 Prints may be in monochrome or color with the emulsion toward the lens for direct-projection viewing. The prints shall be in accord with American National Standard Specifications for Projector Usage of 16-mm Motion-Picture Film, ANSI PH22.10-1980; and American National Standard Dimensions of Projectable Image Area on 16-mm Motion-Picture Film, ANSI PH22.8-1981.

## 4. 8-mm Type S Prints

- 4.1 Type A Film. The magnetic sound record on the Type A film shall be a recording which will reproduce properly at a linear velocity of 24 frames per second or approximately 20 ft (6 m) per minute (4 in or 10.2 cm per second).

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- 4.2 Type B Film. The magnetic sound record on the Type B film shall be a recording which will reproduce properly at a linear velocity of 18 frames per second or approximately 15 ft (5 m) per minute (3 in or 7.6 cm per second).
- 4.3 Type C Film. The photographic sound record on the Type C film shall be a recording which will reproduce properly at a linear velocity of 24 frames per second or approximately 20 ft (6 m) per minute (4 in or 10.2 cm per second).
- 4.4 The location and dimensions of the sound record shall be in accordance with American National Standard Position, Dimensions and Reproducing Speed of Magnetic Sound Record on 8-mm Type S (Super 8) Motion-Picture Film, ANSI PH22.164-1975; or American National Standard Dimensions for Photographic Sound Record on 8-mm Type S

(Super 8) Motion-Picture Prints, ANSI PH22.182-1978.

- 4.5 Prints shall be on color stock, cut and perforated in accordance with American National Standard Dimensions for 8-mm Motion-Picture Film Perforated 8-mm Type S, 1R, ANSI PH22.149-1981. The prints shall be in accordance with American National Standard Specifications for Projector Usage of 8-mm Type S (Super 8) Motion-Picture Film, ANSI PH22.155-1976; and American National Standard Dimensions of Projectable Image Area on 8-mm Type S (Super 8) Motion-Picture Film, ANSI PH22.154-1976.

NOTE: Test films conforming to this practice are available from the Society of Motion Picture and Television Engineers.

## Appendix

(The Appendix is not a part of this SMPTE Recommended Practice, but is included for information purposes only.)

## A1. Method of Use

With the projector set up for projection of a sound picture print and the loudspeaker(s) properly located in accordance with the instructions furnished with the equipment, proceed as follows:

- (a) Pre-set tone control(s) to normal, thread test film into projector and set volume for comfortable loudness. If the sound optics have adjustable focus, adjust the focus to give the most satisfactory audio quality.
- (b) Frame and focus picture for best overall screen image.

## A2. Audio and Visual Qualities

As the test sections are projected, observe the following:

- (a) Listen for full range of orchestra and overall quality of sound. Note picture steadiness at top and sides. Note picture sharpness across the entire frame. White streaks above or below letters indicate travel ghost.

(b) Look for uniform picture brightness. Listen for smooth, even music; quaver indicates flutter.

(c) Silence or equal loudness of the two tones shows correct lateral positioning of the sound reproducer (photographic record only).

(d) In the 16-mm photographic version, three successive (5000 Hz) tones are included to permit detection of correct photographic sound focus. Emulsion position is reversed for the second (middle) tone. (To compensate for prints which may be projected emulsion to the lens or emulsion away from the lens, a compromise position of the photographic sound-focusing optics must be determined so that the sound level results in equal loudness between the two positions. The difference between the two positions can be considered as the mid-point of the film, 0.0035 in (0.089 mm) below the surface.)

(e) Seven tones are provided having the frequencies of 50 to 5000 Hz. All should reproduce well.

(f) Listen for natural quality of the sound and proper lip synchronization of voices.

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