RP 18-1995
Revision of RP 18-1991

SMPTE RECOMMENDED PRACTICE

Specifications for Test Film for Subjective Checking of 16-mm Motion-Picture Audio Projectors

1 Scope

This practice describes a test film and a method for subjective checking and demonstrating 16-mm motion-picture projection and audio performance.

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/SMPTE 41-1994, Motion-Picture Film (16-mm) — Prints — Photographic Audio Records

ANSI/SMPTE 109-1992, Motion-Picture Film (16-mm) — Perforated 1R and 2R

ANSI/SMPTE 112-1994, Motion-Picture Film (16-mm) — 100-Mil Magnetic Audio Record

ANSI/SMPTE 233-1992, Motion-Picture Film (16-mm) — Projectable Image Area and Projector Usage

SMPTE RP 67-1993, Specifications for Buzz-Track Test Film for 16-mm Motion-Picture Audio Reproducers, Photographic Type

3 Test film specifications

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

3.1.1 Audio 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 audio version only:

e) A section of buzz-track test film as specified in SMPTE RP 67.

f) Three sections of a 5-kHz tone to check for a compromise focus for the photographic audio record; sections one and three in the normal emulsion position and section two in a reverse emulsion position.

3.1.2 Picture samples

a) General picture steadiness (vertical and horizontal).

b) Uniform projected picture luminance.

c) General picture quality such as sharpness and contrast.

3.2 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 audio and/or picture characteristic to be tested by that portion of the film.

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3.3 Each film shall be accompanied by an instruction sheet describing the procedure to be used for checking the projection equipment.

4 Prints

4.1 The film stock used shall be cut and perforated in accordance with long-pitch dimensions specified in ANSI/SMPTE 109.

4.2 The audio record dimensions shall comply with ANSI/SMPTE 41 or ANSI/SMPTE 112.

4.3 Color prints shall be made with the emulsion toward the lens for direct-projection viewing. The prints shall be in accord with ANSI/SMPTE 233.

Annex A (informative)
Procedure

A.1 Method of use

With the projector set up for projection of an audio 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 audio optics have adjustable focus, adjust the focus to give the most satisfactory audio quality.

b) Frame and focus picture for best overall screen image.

A.2 Audio and visual qualities

As the test sections are projected, observe the following:

a) Listen for full range of orchestra and overall quality of audio. 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 of the buzz-track shows correct lateral positioning of the audio producer (photographic record only).

d) In the photographic audio version, three successive tones (5000 Hz) are included to permit detection of correct audio 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 audio-focusing optics must be determined so that the audio level results in equal loudness between the two positions. The difference between the two positions can be considered as the midpoint of the film, 0.00 35 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 audio and proper lip synchronization of voices.