

Proposed American Standards

ON THE FOLLOWING PAGES appear three Proposed American Standards pertaining to magnetic recording. They cover the direction of film travel, type of base, speed, dimension and positions of magnetic sound tracks on 35-mm, 17½-mm, 16-mm and 8-mm motion picture films with standard perforations.

The proposals are the result of the work of the Sound Committee's Subcommittee on Magnetic Recording, under the chairmanship of G. L. Dimmick. The subcommittee has been active since October 1948, widely investigating the subject through meetings and correspondence among equipment manufacturers, studio sound departments and users of magnetic film.

The Sound Committee and the Standards Committee of the Society have approved preliminary publication of the proposals in the JOURNAL for a ninety-day trial period. If, at the end of that time, no adverse criticism has been received, they will be processed as American Standards.

In the case of the proposals for 35-mm and 17½-mm film, one of the considerations affecting track location is the desirability of reproducing films of both widths on studio editing equipment in particular, and, consequently, the track location on 17½-mm film was made the same as the No. 1 track on 35-mm film, which is the track used when only one recording is made on 35-mm magnetic film. Careful cross-talk and scanning tests have shown the feasibility of recording three tracks on 35-mm film when it is desired to record dialogue, music and sound effects separately and simultaneously, for example, for selective later use and resulting economy of film.

The major equipment manufacturers are supplying equipment meeting these specifications which has proved satisfactory in motion picture studio operations. It should be noted that the 35-mm

and 17½-mm proposed standards are for original recording and re-recording and do not apply to release film.

The 16-mm proposal applies only to film having both picture and sound. Later committee work will cover 16-mm sound film with full-width magnetic coating. It should be noted that the photographic emulsion for picture is in the standard position for 16-mm films, and the magnetic coating is on the base side along the unperforated edge. The point of sound translation is also specified as 26 frames which is the same distance and in the same direction from the corresponding picture as is the point of translation for photographic sound track. At least one projector manufacturer is presently considering manufacturing projectors to this proposed standard and others are expected soon.

The proposal for 8-mm film applies to film having both picture and sound. The magnetic coating is along the edge on the base side of the film outside the sprocket holes. The 24-frame speed is recommended for the more serious amateur and for use on professional sound films reduced from 35- or 16-mm material. The 18-frame speed has been selected to replace the former 16-frame standard because of the added improvement in sound quality and the somewhat smoother action in picture material. Several experimental projectors have been built to support the practicability of the proposed standard.

Subcommittee on Magnetic Recording

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**Proposed American Standard
Dimensions for
Magnetic Sound Tracks on 35-Mm and 17½-Mm
Motion Picture Film
(First Draft)**

PH22.86

Note 1. This practice pertains to magnetic sound records, both single and multiple tracks, on 35-mm perforated film, and single tracks on 17½-mm perforated film.

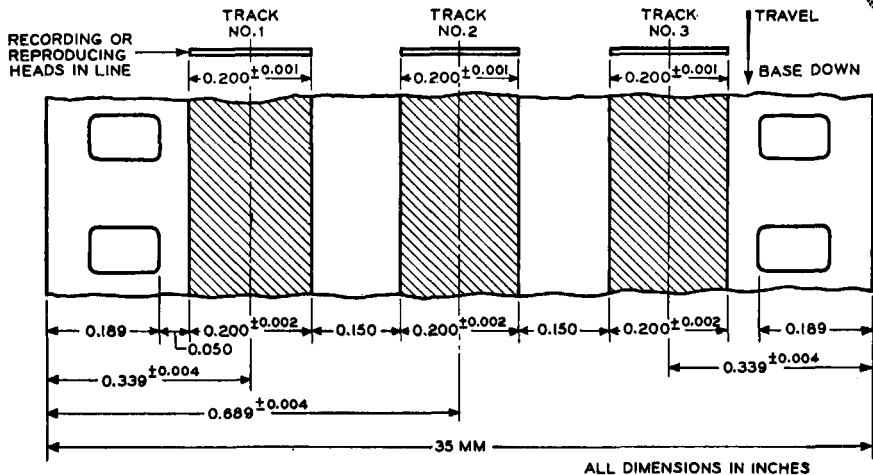
Note 2. The film base shall be of the low-shrinkage safety type.

Note 3. With the direction of travel as shown in

the drawing, the magnetic material is coated on the upper side of the film base.

Note 4. The magnetic coating is normally applied from edge to edge.

Note 5. Track dimensions and positions are given in inches. All dimensions are given relative to unshrunken film.



Note 6. Cutting and perforating dimensions and tolerances are identical to those given in Standard Z22.36, "Cutting and Perforating Dimensions for 35-Mm Motion Picture Positive Raw Stock."

Note 7. Track #1 is the preferred position for

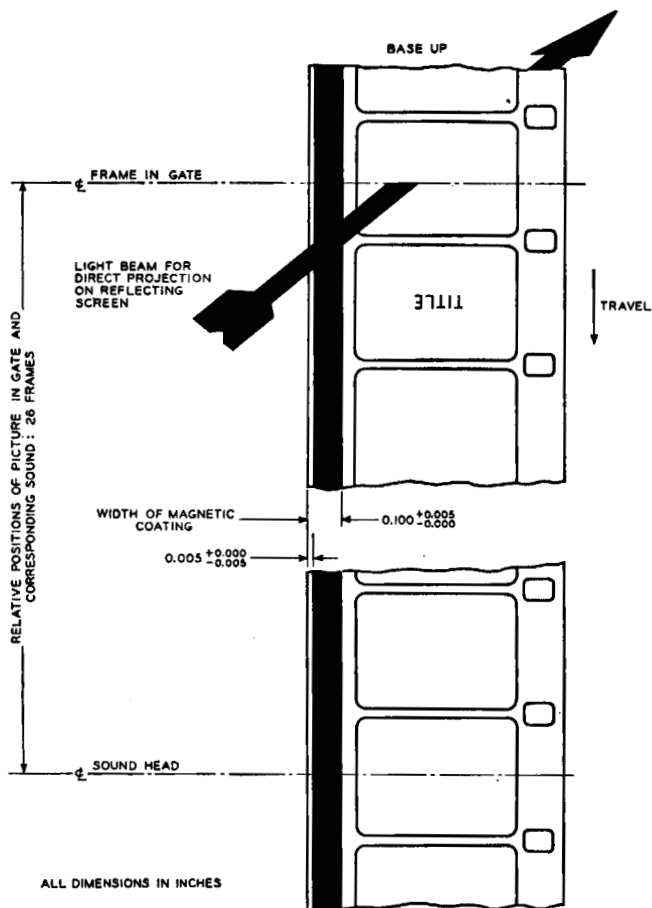
35-mm single track recording, and is the standard position for 17½-mm recording.

Note 8. Recording and reproducing speed shall be 24 frames per second (Standard Z22.2). This is exactly 96 perforations per second and approximately 18 inches per second.

NOT APPROVED

Proposed American Standard
 Dimensions for
 Magnetic Sound Track on 16 - Mm
 Motion Picture Film

PH22.87



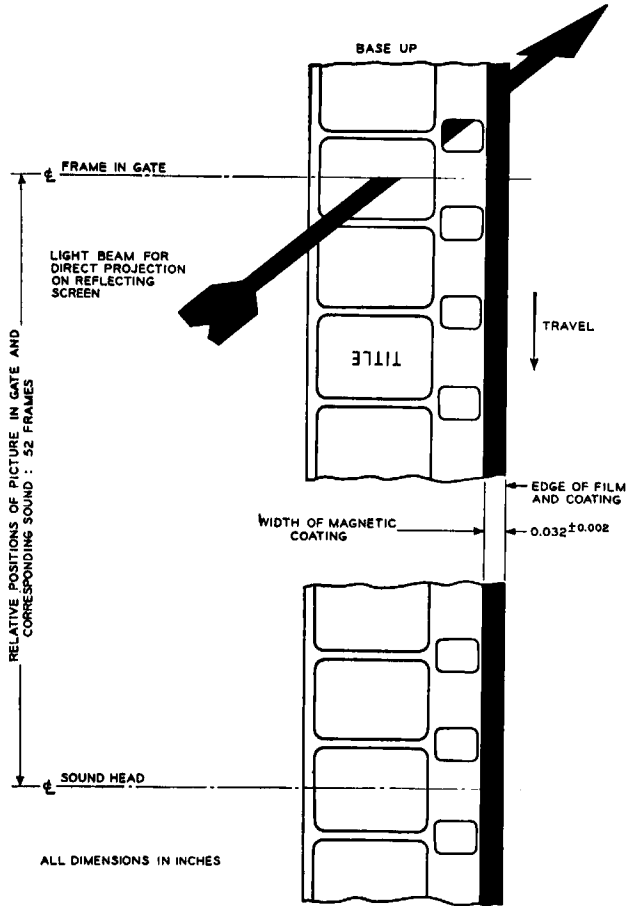
Note 1. The magnetic coating in the above drawing is on the side of the film toward the lamp on a projector arranged for direct projection on a reflection-type screen.

Note 2. Projection Speed — 24 frames per second.

NOT APPROVED

Proposed American Standard
 Dimensions for
 Magnetic Sound Track on 8 - Mm
 Motion Picture Film

PH22.88



Note 1. The magnetic coating in the above drawing is on the side of the film toward the lamp on a projector arranged for direct projection on a reflection-type screen.

Note 2. Projection Speeds — 24 frames per second for professional use; 18 frames per second for amateur use.

NOT APPROVED