

# Standards and Recommended Practices

## Approved American National Standards

Two American National Standards were approved by the American National Standards Institute on February 7, 1989: ANSI/SMPTE 29M-1989, Television Analog Recording — 1-in Type B Reference Recorders — Basic System and Transport Geometry; and ANSI/SMPTE 30M-1989, Television Analog Recording — 1-in Type B Reference Recorders — Records on Reference Tapes. Copies of the standards are available for a nominal fee from the American National Standards Institute, 1430 Broadway, New York, NY 10018.

## Approved SMPTE Recommended Practices

The Society's Executive Committee for Standards Approval approved two SMPTE Recommended Practices: RP 27.1-1989, Specifications for Operational Alignment Test Pattern for Television; and RP 27.2-1989, Specifications for Operational Registration Test Pattern for Multiple-Channel Television Cameras. These and other practices may be obtained from Society Headquarters for \$3.00 each.

## Proposed SMPTE Recommended Practices

Published here for a trial period and public review are two Proposed SMPTE Recommended Practices: RP 153, Method for Measuring 35- and 70-mm Shutter Efficiency; and RP 152, Edge Identification of Leader and Picture for 35-mm Release Prints. Copies of the proposals are available from Society Headquarters for \$3.00 each. The proposals will be submitted to the Society's Executive Committee for Standards Approval if no adverse comments are received from publication. Comments should be addressed to Sherwin H. Becker prior to September 1, 1989.

## Reaffirmed SMPTE Recommended Practices

Reaffirmation of two SMPTE Recommended Practices was approved by the Society's Executive Committee for Standards Approval: RP114-1983, Dimensions of Photographic Control and Data Record on 16-mm Motion-Picture Film; and RP 115-1983, Dimensions of Photographic Control and Data Record on 35-mm Motion-Picture Release Prints. Both were reaffirmed in 1989. The practices may be purchased from Society Headquarters for \$3.00 each.

— *Sherwin H. Becker, Director of Engineering*

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For further information, write to: Standards Subscription Service, Engineering Dept., Society of Motion Picture and Television Engineers, 595 West Hartsdale Ave., White Plains, NY 10607.

# American National Standard for television analog recording— 1-in type B reference recorders— basic system and transport geometry

Approved February 7, 1989

Sponsor: Society of Motion Picture and Television Engineers

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## 1. Scope

This standard specifies test conditions, general video record system, video pole-tip locations, scanner parameters, scanner-guide locations, and the tape tension for 1-in type B helical-scan video tape reference recorders operating on the 525/60 monochrome or NTSC color systems.

## 2. Referenced Documents

This standard is intended for use in conjunction with the following documents:

ANSI/SMPTE 26M-1989, Video Recording—1-in Helical-Scan Recorders—Raw Stock for Reference Tapes

ANSI/SMPTE 30M-1989, Television Analog Recording—1-in Type B Reference Recorders—Records on Reference Tapes

SMPTE RP 83-1987, Specifications of Tracking Control Record for 1-in Type B Helical-Scan Video Tape Recording

SMPTE RP 84-1987, Video Reference Carrier Frequencies and Pre-Emphasis Characteristics for 1-in Type B Helical-Scan Video Tape Recording

SMPTE RP 107-1988, Video and Audio Reference Tape for 1-in Type B Helical-Scan Format

## 3. General Specifications

Tests and measurements made on the recorder to check the requirements of this standard shall be

made under the following atmospheric conditions:

Temperature of drum  
diameter 23°C ± 0.5°C

Temperature for all  
other tests 23°C ± 1°C

Relative humidity 50 ± 2 percent

Barometric pressure 86 to 106 kPa  
(860 to 1060 mbar)

Conditioning before  
testing 24 h

## 4. Video Record System

4.1 The video modulation system shall be the FM type.

4.2 The video record shall contain all picture lines and vertical sync information.

## 5. Video Heads and Scanner Parameters

5.1 Two video heads shall be positioned 180° ± 20° apart, β, measured from the gap of video head 1 to the gap of video head 2, as shown in Fig. 1.

5.2 The drum size shall be 50.330 mm + 0 — 0.003 mm.

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5.3 The nominal rotational speed of the head wheel shall be 150 r/s.

5.4 The video head protrusion shall be 0.030 mm ± 0.005 mm, measured from the outer surface of the drum to the end of the head tip.

5.5 The video head gap shall be 90° nominal to the plane of rotation of the video head.

5.6 The control head gap shall be located at point Y (see Fig. 1) which lies on a line which is at 90° ± 7.5°, measured from diameter F-G which is the centerline through the plate assembly.

## 6. Tape Tension

The record tape tension shall be as follows:

$T_{in}$ , tape tension in measured between B and X = 2.0 N ± 0.1 N  
 $T_{out}$ , maximum tape tension out measured between Y and E = 2.3 N ± 0.1 N

## 7. Characteristic Frequencies

Characteristic frequencies shall be in accordance with Table 1 in SMPTE RP 84-1987, except that the tolerances shall be tightened to ± 0.025 MHz. Other values shall be held as closely as possible.

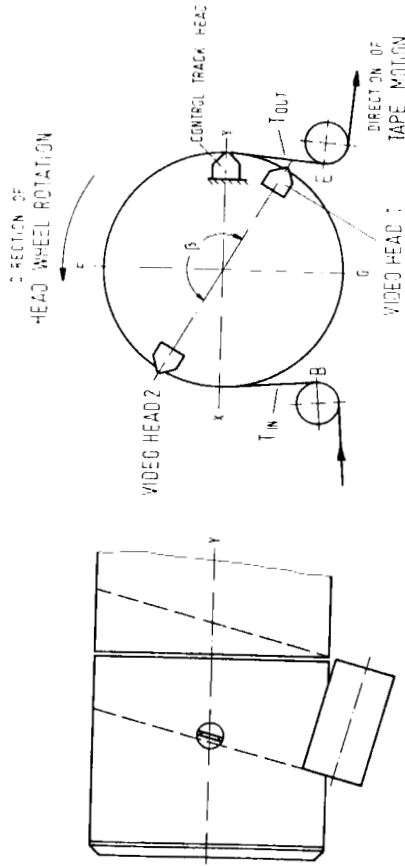


Fig. 1