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SMPTE STANDARD**SMPTE 16M-1998**Revision of
ANSI/SMPTE 16M-1992

for Television Analog Recording — 1-in Type B Helical Scan — Records



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1 Scope

This standard specifies the dimensions and location of the video, audio, and tracking-control records and the longitudinal separation of the simultaneously recorded information of the video and audio records, as recorded on 1-in type B helical-scan television tape recordings.

2 General specifications

2.1 The dimensions in the metric system are primary. The English equivalents are derived and may deviate from established conversion practices.

2.2 The reference edge for dimensions in this standard shall be the lower edge as shown in figure 1.

2.3 Tests and measurements made on the recorder to check the requirements of this standard shall be made under the following atmospheric conditions:

- temperature $23^{\circ}\text{C} \pm 1^{\circ}\text{C} (73^{\circ}\text{F} \pm 2^{\circ}\text{F})$
- relative humidity $(50 \pm 2)\%$
- barometric pressure 86 to 106 kPa
(860 to 1060 mbar)
- conditioning before testing 24 h

3 Dimensions and position of the recorded records

3.1 The lateral location and dimensions of the video, audio, and control tracks shall be in accordance with figure 1 and table 1.

3.2 The nominal width of audio records 1, 2, and 3 shall be 0.8 mm (0.031 in).

3.3 The audio and cue recordings shall be downstream from the associated video information (see dimension J in figure 1 and table 1).

3.4 The audio recording shall be made so that the azimuth of the recorded record is at an angle of $90^{\circ} \pm 5'$ to the reference edge of the tape. Audio 1 and 2 head gaps shall be in line.

3.5 The position of the field synchronizing signal on the video record shall be $7.609 \text{ mm} \pm 0.024 \text{ mm}$ ($0.29957 \text{ in} \pm 0.00094 \text{ in}$) from the intersection of L_t and X, in the direction of tape travel as measured along the video track.

3.6 The cue signal and time code shall be recorded on the audio 3 track.