
SMPTE STABLE DOCUMENT



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SMPTE STANDARD

for Television Analog Recording — 1-in Type C — Records



Page 1 of 5 pages

1 Scope

This standard specifies the dimensions and location of recorded video, audio, and tracking-control records for 1-in type C helical-scan television analog recorders operating in the 525/60 monochrome or NTSC color systems.

2 General specifications

2.1 Tests and measurements made on the tape record to check the requirements of this standard shall be made under the following conditions unless otherwise specified:

Temperature:	$20^{\circ}\text{C} \pm 1^{\circ}\text{C}$
Relative humidity:	$(50 \pm 2)\%$
Barometric pressure:	86 kPa to 106 kPa
Tape tension:	$1.7 \text{ N} \pm 0.3 \text{ N}$

2.2 Conditioning before recording and testing shall be as follows:

Environmental:	Stabilized at measurement conditions
Tape tension:	Wound on a reel at 0.5 N to 3.0 N

2.3 The reference edge of the tape for dimensions in this standard shall be the lower edge as shown in figure 1. The magnetic coating is on the side facing the observer in the figures.

3 Tape speed

The tape speed shall be $244.0 \text{ mm/s} \pm 0.5 \text{ mm/s}$.

4 Record location and dimensions

4.1 Record location and dimensions shall be as specified in figure 1 and table 1.

4.2 Dimensions P, Q, R, and θ are for reference purposes only. The parameters given in SMPTE 18M and the tape speed completely determine these values and their tolerances. The nominal values given are based on tensioned tape; therefore, direct measurement without tension must take into account tape elasticity.

5 Video record curvature

The edge of the video record shall be contained within two parallel straight lines 0.030 mm apart.