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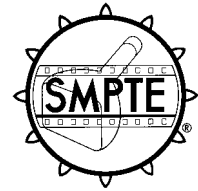
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SMPTE STANDARD**ANSI/SMPTE 209M-1996**Revision of
ANSI/SMPTE 209-1991

for Motion-Picture Film (8-mm Type S) — Magnetic Audio Records — Recorded Characteristic



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1 Scope

This standard specifies the recorded characteristic of magnetic audio records on 8-mm type S motion-picture prints and full-coat motion-picture magnetic film conforming to ANSI/SMPTE 149, running at the nominal speed of 24 frames (102 mm [4.0 in]) per second or 25 frames (106 mm [4.2 in]) per second.

2 Recorded characteristics

The recorded relative short circuit magnetic flux level versus frequency shall be as given by the following equation:

$$L_{\phi} = 0.02738 - 10 \log_{10} \left(\frac{1 + (2\pi\tau_h)^2 f^2}{1 + \frac{1}{(2\pi\tau_l)^2 f^2}} \right) \text{dB}$$

where L_{ϕ} is the recorded relative short circuit magnetic flux level in decibels; f is the frequency in hertz; τ_l is the low-frequency time constant of 3180 μs ; τ_h is the high-frequency time constant of 90 μs ; and 0.02738 is a constant calculated to make $L_{\phi} = 0$ at the reference frequency of 315 Hz.

The appropriate numerical values of the recorded relative short circuit magnetic flux level, L_{ϕ} , for a series of preferred 1/3-octave frequencies in hertz are given in table 1.

3 Tolerances

Magnetic audio records on the film shall be recorded to the characteristic specified in clause 2 within the tolerances given in figure 1.

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