International Standard 8590

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Cinematography — Audio records on 35 mm and 70 mm motion-picture release prints with magnetic stripes — Recorded characteristics

Cinématographie — Enregistrements sonores sur copies 35 mm *et* 70 mm *à pistes magnétiques — Caractéristiques d'enregistrement*

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8590 was prepared by Technical Committee ISO/TC 36, *Cinematography*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Cinematography — Audio records on 35 mm and 70 mm motion-picture release prints with magnetic stripes — Recorded characteristics

1 Scope and field of application

This International Standard specifies the recorded characteristic of audio records on 35 mm release prints with magnetic striping when reproduced at the nominal speed of 24 frames or 25 frames per second, and on 70 mm motion-picture release prints with magnetic striping when reproduced at the nominal speed of 24 frames per second.

2 Recorded characteristic

With a constant amplitude sine-wave applied to the input of the recording system, the relative characteristic in effective values of the short-circuit magnetic flux versus frequency shall decrease with increasing frequency proportionately to the impedance of a combination of capacitance and resistance having time constants of $\tau = 35$ µs and 3 180 µs (see the note). The characteristic defined above is obtained by the following formula

$$L_\phi = C_0 - 10 \log_{10} \left[\frac{1 + (2\pi\tau_h)^2 f^2}{1 + 1/[(2\pi\tau_l)^2 f^2]} \right]$$

where

L_ϕ is the recorded relative magnetic flux level, in decibels;

f is the frequency, in hertz;

τ_l is the time constant of 3 180 µs;

τ_h is the time constant of 35 µs;

C_0 is a constant calculated to make $L_\phi = 0$ at the reference frequency of 1 000 Hz.

The approximate numerical values are given in the table, with the values of the recorded magnetic characteristic normalized to 1 000 Hz.

NOTE — A time constant such as that defined by a frequency response curve is a shorthand notation having the shape defined by a time constant of one or more microseconds. This is a convenient way of defining a response curve, and is not intended as a recommended electrical circuit.

The corresponding reproducing characteristic is that which gives a flat response when reproducing a sound track recorded with the relative short-circuit flux level defined above.