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# International Standard



# 8590

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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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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Price based on 2 pages

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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.

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

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## 1 Scope and field of application

where

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  $\tau = 35 \mu\text{s}$  and  $3\ 180 \mu\text{s}$  (see the note). The characteristic defined above is obtained by the following formula

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

$L_{\phi}$  is the recorded relative magnetic flux level, in decibels;

$f$  is the frequency, in hertz;

$\tau_l$  is the time constant of  $3\ 180 \mu\text{s}$ ;

$\tau_h$  is the time constant of  $35 \mu\text{s}$ ;

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

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

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.

Table — Frequencies recorded in accordance with clause 2

Frequency Hz	dB	Tolerances	
		+	-
40	4,28	2,0	4,0
50	3,20	2,0	4,0
63	2,31	1,5	3,0
80	1,62	1,3	2,0
100	1,16	1,0	1,0
125	0,83	1,0	1,0
160	0,59	1,0	1,0
200	0,45	1,0	1,0
250	0,35	1,0	1,0
315	0,28	1,0	1,0
400	0,22	1,0	1,0
500	0,18	1,0	1,0
630	0,13	1,0	1,0
800	0,07	1,0	1,0
1 000	0,00	1,0	1,0
1 250	- 0,12	1,0	1,0
1 600	- 0,31	1,0	1,0
2 000	- 0,58	1,0	1,0
2 500	- 0,96	1,0	1,0
3 150	- 1,51	1,0	1,0
4 000	- 2,30	1,0	1,0
5 000	- 3,25	1,0	1,0
6 300	- 4,46	1,3	1,0
8 000	- 5,93	1,5	2,0
10 000	- 7,47	2,0	2,5
12 500	- 9,13	2,0	3,5
16 000	- 11,07	2,0	3,5

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