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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Cinematography — B-chain electro-acoustic response of motion-picture control rooms and indoor theatres — Specifications and measurements

Réponse électro-acoustique de la chaîne B des salles de contrôle et d'exploitation cinématographique — Spécifications et mesurages

Reference number
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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 2969 was prepared by Technical Committee ISO/TC 36, *Cinematography.*

This second edition cancels and replaces the first edition (ISO 2969 : 1974), of which it constitutes a technical revision.

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 — B-chain electro-acoustic response of motion-picture control rooms and indoor theatres — Specifications and measurements

0 Introduction

This International Standard shall be used in conjunction with the relevant standards which cover that part of the motion picture sound system from the transducer to the input terminals of the main fader.

1 Scope and field of application

This International Standard specifies the characteristics of the B-chain response of motion-picture studio dubbing theatres, review rooms and indoor theatres. It is intended to assist in the standardization of recording monitor and reproduction characteristics of motion-picture sound in rooms with volumes of at least 150 m^3. It does not apply where the recorded sound is intended for reproduction under domestic listening conditions, i.e. radio and television broadcasting, tape or disk.

This International Standard does not cover the electro-acoustic response characteristic of motion-picture surround or effects loudspeakers, or sub-bass loudspeakers (sub-woofers).

2 References

ISO 140, *Acoustics — Measurement of sound insulation in buildings and of building elements.*

ISO 266, *Acoustics — Preferred frequencies for measurements.*

IEC Publication 651, *Sound level meters.*

3 Definitions

For the purpose of this International Standard, the following definitions apply.

3.1 complete sound reproduction system: A system used (see figure 1) in sound dubbing theatres, review rooms and indoor theatres; by convention consists of an A-chain and a B-chain.

3.2 pre-emphasized sound-track: A conventional photographic sound-track, also known as an academy sound-track, which is intended for playback over normally de-emphasized theatre playback systems.

3.3 wide range sound-track: A photographic sound-track which has been pre-emphasized and is intended for playback over a theatre system whose B-chain has been aligned to curve A of this International Standard.

3.4 A-chain (transducer system): The "A" part of a motion-picture sound system as shown in figure 1, which extends from the transducer to the input terminals of the main fader.

NOTE — It is customary for the A-chain to contain the necessary de-emphasis network for the playback of pre-emphasized sound-tracks. In some theatres part of the de-emphasis characteristic may result from aperture loss. Wide range sound tracks do not require use of a de-emphasis network and aperture loss will normally require correction. In addition, wide range sound tracks may require the use of noise reduction decoding circuitry.

3.5 B-chain (final chain): The "B" part of a motion-picture reproduction system (see figure 1), which extends from the input terminals of the main fader to the listening area of the room or auditorium.

NOTE — Two B-chain characteristics are described in this International Standard: a normal curve typical of current practice, and a wide range curve referred to as curve X.

3.6 electro-acoustic response: The electro-acoustic response of the final chain at a given position is the sound pressure level expressed in decibels with respect to an arbitrary reference pressure over a given frequency range.

Determination of the electro-acoustic response for the entire listening area requires multiple measurements and averaging as described in clauses A.4 and A.5 of the annex.

3.7 pink noise: A continuous spectrum noise having constant energy per constant percentage bandwith, with Gaussian probability distribution of instantaneous values.

3.8 wideband pink noise: Pink noise having a bandwidth exceeding the frequency range of interest, typically extending from 31,5 Hz to at least 12,5 kHz.