
5_i gh_U! FYZfYb bU'b] `UnUi a Yf'Ub^Y'Uj X]ca Yf'cj '!') "XY. FYZfYb b] Y_j]j UYb]b] dfU' fUj b] nj c bY[UñU_UñU]ghY'hc bY'j `ZY_j Yb bYa `cVa c f' , `<n Xc`% `<n f'GC#HF" , - !). %- , Ł

Acoustics - Reference zero for the calibration of audiometric equipment - Part 5: Reference equivalent threshold sound pressure levels for pure tones in the frequency range 8 kHz to 16 kHz (ISO/TR 389-5:1998)

Akustik - Standard-Bezugspegel für die Kalibrierung audiometrischer Geräte - Teil 5: Äquivalente Bezugs-Schwellenschalldruckpegel für reine Töne im Frequenzbereich von 8 kHz bis 16 kHz (ISO/TR 389-5:1998)

[SIST EN ISO 389-5:2001](https://standards.iteh.ai/catalog/standards/sist/9f4f5e51-5264-405d-a68c-11eb-9122-68819bb791d6/iso-389-5-1998)

Acoustique - Zéro normal de référence pour l'étalonnage d'équipements audiométriques - Partie 5: Niveaux de référence équivalents de pression acoustique liminaire pour les sons purs dans le domaine de fréquences de 8 kHz à 16 kHz (ISO/TR 389-5:1998)

Ta slovenski standard je istoveten z: EN ISO 389-5:1999

ICS:

13.140	Vpliv hrupa na ljudi	Noise with respect to human beings
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SIST EN ISO 389-5:2001**en**

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SIST EN ISO 389-5:2001

<https://standards.iteh.ai/catalog/standards/sist/9f4f5e51-5264-405d-a68c-cd38c540a5a/sist-en-iso-389-5-2001>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 389-5

November 1999

ICS 13.140

English version

Acoustics — Reference zero for the calibration of
audiometric equipment — Part 5: Reference equivalent
threshold sound pressure levels for pure tones in the
frequency range 8 kHz to 16 kHz

(ISO/TR 389-5:1998)

Acoustique — Zéro normal de référence pour
l'étalonnage d'équipements audiométriques —
Partie 5: Niveaux de référence équivalents de
pression acoustique liminaire pour les sons purs
dans le domaine de fréquences de 8 kHz à 16 kHz
(ISO/TR 389-5:1998)

Akustik — Standard-Bezugspegel für die
Kalibrierung audiometrischer Geräte —
Teil 5: Äquivalente Bezugs-
Schwellenschalldruckpegel für reine Töne im
Frequenzbereich von 8 kHz bis 16 kHz
(ISO/TR 389-5:1998)

This European Standard was approved by CEN on 3 October 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

The text of the International Standard from Technical Committee ISO/TC 43, Acoustics, of the International Organization for Standardization (ISO) has been taken over as a European Standard by Technical Committee CEN/TC 211, Acoustics, the Secretariat of which is held by DS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2000, and conflicting national standards shall be withdrawn at the latest by May 2000.

According to CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

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TECHNICAL REPORT

ISO/TR 389-5

First edition
1998-05-01

Acoustics — Reference zero for the calibration of audiometric equipment —

Part 5:

Reference equivalent threshold sound
pressure levels for pure tones in the frequency
range 8 kHz to 16 kHz

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Acoustique — Zéro normal de référence pour l'étalonnage d'équipements
audiométriques —

Partie 5: Niveaux de référence équivalents de pression acoustique liminaire
pour les sons purs dans le domaine de fréquences de 8 kHz à 16 kHz



Reference number
ISO/TR 389-5:1998(E)

ISO/TR 389-5:1998(E)

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard (“state of the art”, for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 389-5, which is a Technical Report of type 2, was prepared by Technical Committee ISO/TC 43, *Acoustics*.

This document is being issued in the Technical Report (type 2) series of publications (according to subclause G.3.2.2 of part 1 of the ISO/IEC Directives, 1995) as a “prospective standard for provisional application” with regard to the calibration of audiometric equipment in the frequency range 8 kHz to 16 kHz because there is an urgent need for guidance on the values of reference equivalent sound pressure levels to be used.

This Technical Report contains information on the reference equivalent threshold sound pressure levels (RETSPLs) related to the earphones for

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which threshold data are currently available in the frequency range 8 kHz to 16 kHz. It is hoped that by publishing this report, this information will become more readily available to manufacturers and users of high-frequency audiometric equipment. In addition, it is hoped that this will also encourage other workers to produce more threshold data which will enable this report to become an International Standard in due course.

This document is not to be regarded as an "International Standard". It is proposed for provisional application so that information and experience of its use in practice may be gathered. Comments on the content of this document should be sent to the ISO Central Secretariat.

A review of this Technical Report (type 2) will be carried out not later than three years after its publication with the options of: extension for another three years; conversion into an International Standard; or withdrawal.

ISO 389 consists of the following parts, under the general title *Acoustics — Reference zero for the calibration of audiometric equipment*:

- *Part 1: Reference equivalent threshold sound pressure levels for pure tones and supra-aural earphones*
- *Part 2: Reference equivalent threshold sound pressure levels for pure tones and insert earphones*
- *Part 3: Reference equivalent threshold force levels for pure tones and bone vibrators*
- *Part 4: Reference levels for narrow-band masking noise*
- *Part 5: Reference equivalent threshold sound pressure levels for pure tones in the frequency range 8 kHz to 16 kHz (Technical Report)*
- *Part 6: Reference equivalent threshold sound pressure levels for acoustic test signals of short duration*
- *Part 7: Reference threshold of hearing under free-field and diffuse-field listening conditions*

Part 1 will be a revision of ISO 389:1991; part 6 is under development.

Annex A of this part of ISO 389 is for information only.

A bibliography is given at the end of this Technical Report.

Introduction

An International Standard for extended high-frequency audiometers has been published, IEC 60645-4. Adaptors to be used with the IEC 60318-1 ear simulator to provide an interim acoustic coupler for the calibration of audiometric earphones in the extended high-frequency range are being standardized in IEC/TC 29 (IEC 60318-2). The reference equivalent threshold sound pressure levels for specific earphones described in this Technical Report enable calibration of those audiometers which are equipped with these earphones, in order to promote agreement and uniformity in the expression of hearing threshold level measurements worldwide.

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[SIST EN ISO 389-5:2001](https://standards.iteh.ai/catalog/standards/sist/9f4f5e51-5264-405d-a68c-cd38c540a5a/sist-en-iso-389-5-2001)

<https://standards.iteh.ai/catalog/standards/sist/9f4f5e51-5264-405d-a68c-cd38c540a5a/sist-en-iso-389-5-2001>

Acoustics — Reference zero for the calibration of audiometric equipment —

Part 5:

Reference equivalent threshold sound pressure levels for pure tones in the frequency range 8 kHz to 16 kHz

1 Scope

This part of ISO 389 specifies reference equivalent threshold sound pressure levels (RETSPLs) of pure tones in the frequency range from 8 kHz to 16 kHz, applicable to the calibration of air conduction audiometers for specific earphones.

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NOTE Some notes and references on the derivation and the test conditions used to determine the recommended reference levels are given in annex A and the Bibliography. (standards.iteh.ai)

2 Normative references

[SIST EN ISO 389-5:2001](https://standards.iteh.ai/catalog/standards/sist/9f45e51-5264-405d-a68c-cd38c540a5a/sist-en-iso-389-5-2001)

standards.iteh.ai/catalog/standards/sist/9f45e51-5264-405d-a68c-cd38c540a5a/sist-en-iso-389-5-2001

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 389. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 389 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 389-1:—¹⁾, *Acoustics — Reference zero for the calibration of audiometric equipment — Part 1: Reference equivalent threshold sound pressure levels for pure tones and supra-aural earphones.*

ISO 389-2:1994, *Acoustics — Reference zero for the calibration of audiometric equipment — Part 2: Reference equivalent threshold sound pressure levels for pure tones and insert earphones.*

IEC 60318-1:1998¹⁾, *Electroacoustics — Simulators of human head and ear — Part 1: Ear simulator for the calibration of supra-aural earphones.*

IEC 60318-2:1998¹⁾, *Electroacoustics — Simulators of human head and ear — Part 2: An interim acoustic coupler for the calibration of audiometric earphones in the extended high-frequency range.*

IEC 60645-1, *Audiometers — Part 1: Pure-tone audiometers.*

IEC 60711, *Occluded ear simulator for the measurement of earphones coupled to the ear by ear inserts.*

1) To be published.