SLOVENSKI STANDARD
SIST EN IEC 60268-16:2021

01-julij-2021

Nadomešča:
SIST EN 60268-16:2011

Oprema za zvokovne sisteme - 16. del: Objektivno ocenjevanje govorne razumljivosti z uporabo indeksa prenosa govora (IEC 60268-16:2020)

Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index (IEC 60268-16:2020)

Elektroakustische Geräte - Teil 16: Objektive Bewertung der Sprachverständlichkeit durch den Sprachübertragungsindex (IEC 60268-16:2020)

Equipements pour systèmes électroacoustiques - Partie 16: Evaluation objective de l'intelligibilité de la parole au moyen de l'indice de transmission de la parole (IEC 60268-16:2020)

Ta slovenski standard je istoveten z: **EN IEC 60268-16:2020**

ICS:

33.160.30	Avdio sistemi	Audio systems

SIST EN IEC 60268-16:2021 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60268-16

November 2020

ICS 33.160.01

Supersedes EN 60268-16:2011 and all of its amendments and corrigenda (if any)

English Version

Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index (IEC 60268-16:2020)

Équipements pour systèmes électroacoustiques - Partie 16: Évaluation objective de l'intelligibilité de la parole au moyen de l'indice de transmission de la parole (IEC 60268-16:2020)

Elektroakustische Geräte - Teil 16: Objektive Bewertung der Sprachverständlichkeit durch den Sprachübertragungsindex (IEC 60268-16:2020)

This European Standard was approved by CENELEC on 2020-10-30. CENELEC 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.

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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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 100/3202/CDV, future edition 5 of IEC 60268-16, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60268-16:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-07-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-10-30

This document supersedes EN 60268-16:2011 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60268-16:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60318-1:2009	NOTE	Harmonized as EN 60318-1:2009 (not modified)
IEC 61672-1	NOTE	Harmonized as EN 61672-1
IEC 60118-4	NOTE	Harmonized as EN 60118-4
ISO 9921:2003	NOTE	Harmonized as EN ISO 9921:2003 (not modified)
ISO/TR 22411:2008	NOTE	Harmonized as CEN ISO/TR 22411:2011 (not modified)
ISO 3382-1:2009	NOTE	Harmonized as EN ISO 3382-1:2009 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 61260-1	2014	Electroacoustics - Octave-band and fractional-octave-band filters - Part 1: Specifications	EN 61260-1	2014

IEC 60268-16

Edition 5.0 2020-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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SOUND SYSTEM EQUIPMENT –

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FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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International Standard IEC 60268-16 has been prepared by IEC technical committee 100: Audio, video and multimedia equipment and systems.

This fifth edition cancels and replaces the fourth edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the spectrum of the male speech test signal has been changed, with significant reductions in the 125 Hz and 250 Hz bands being implemented;

b) some corrections to formulae have been made;

c) additional information has been included on prediction and measurement procedures;

d) spectrum and weighting factors for female speech have been removed;

e) verification information for STI measurement devices added;

f) the relationships between STI and number of other speech intelligibility measures have been updated in Annex E;

g) greater information is given in Annex M about adjustments to the measured STI results to simulate effects of alternative ambient noise and speech levels.

NOTE See Introduction for a historical summary listing the various changes from the first to the fifth edition (current edition).

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/3202/CDV	100/3422/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60268 series, published under the general title *Sound system equipment*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Speech is considered to be the major method of communication between humans. In many situations, the speech signal is degraded by the signal path or the transmission channel between talker and listener, resulting in a reduction of the intelligibility of the speech at the listener's location.

To quantify the deterioration of the speech intelligibility induced by the transmission channel, a fast and objective measuring method was developed; the Speech Transmission Index (STI).

The STI method applies a specific test signal to the transmission channel and by analysing the received test signal; the speech transmission quality of the channel is derived and expressed in a value between 0 and 1, as the Speech Transmission Index (STI). Using the obtained STI-value, the potential speech intelligibility can be determined.

Although there are limitations to the STI method, the use of STI has proved useful in many situations and has gained international acceptance.

The STI method has been the subject of ongoing development and refinement since its introduction in the 1970s. Major improvements of the STI have been consolidated by incorporating them in successive revisions of IEC 60268-16.

To avoid misinterpretation of STI results, it is important that all users of the STI understand the basic principles behind the operation of the STI, the application domain and the limitations. This document provides substantial information to assist users.

Potential applications of the STI

The STI can be used to measure the potential intelligibility of a wide range of electronic systems and acoustic environments. Typical applications include:

- measurement of public address and sound reinforcement systems;
- measurement and certification of emergency sound and communication systems;
- measurement of communication channels and systems such as intercoms and wireless communication;
- measurement of potential speech intelligibility and communication in rooms and auditoria;
- evaluation of direct speech communication (situations without electronic amplification) in rooms or acoustic spaces, including vehicles;
- evaluation of the potential intelligibility of assistive hearing systems.

NOTE The STI method was not designed for the measurement and evaluation of speech privacy or speech masking systems and, therefore, has not been validated for these situations. It is not recommended to use the STI below 0,3, but if this is to be undertaken, specialist expertise and techniques beyond the scope of this standard are required.

Potential users of STI

The range of users of STI measurements is diverse. Among the users who might apply this method are:

- certifiers of voice alarm and other types of emergency systems;
- certifiers of sound reinforcement and audio systems;
- audio and telecommunication equipment manufacturers;
- audio and communication engineers;
- acoustic and electroacoustic consultants;
- sound system installers;
- researchers into STI methods and developers of instruments to measure the STI.