



SLOVENSKI STANDARD
SIST EN 60651:1997/A1:1997
01-oktober-1997

Sound level meters (IEC 60651:1979/A1:1993) - Amendment 1

Sound level meters

Schallpegelmesser

Sonomètres

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Ta slovenski standard je istoveten z: EN 60651:1994/A1:1994

[SIST EN 60651:1997/A1:1997](https://standards.iteh.ai/catalog/standards/sist/6a00c260-0a75-4ac8-9400-c180755233f5/sist-en-60651-1997-a1-1997)

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ICS:

17.140.50 Elektroakustika Electroacoustics

SIST EN 60651:1997/A1:1997 **en**

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EUROPEAN STANDARD

EN 60651/A1

NORME EUROPEENNE

EUROPÄISCHE NORM

January 1994

UDC 621.317.799.534.621.2.534.793:001.4:620.1:621.317.3

Descriptors: Sound level meters, precision, requirements, testing,
properties, definitions

Amendment A1 to the English version of EN 60651

Sound level meters
(IEC 651:1979/A1:1993)

Sonomètres
(CEI 651:1979/A1:1993)

Schallpegelmesser
(IEC 651:1979/A1:1993)

This amendment A1 modifies the European Standard EN 60651:1994. It was approved by CENELEC on 1993-12-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CENELEC member.

This amendment 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B-1050 Brussels

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Ref. No. EN 60651:1994/A1:1994 E

FOREWORD

The text of document 29(CO)203, as prepared by IEC Technical Committee N° 29: Electroacoustics, was submitted to the IEC-CENELEC parallel vote in March 1993.

The reference document was approved by CENELEC as amendment A1 to EN 60651 on 8 December 1993.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1994-12-01
- latest date of withdrawal of
conflicting national standards (dow) 1994-12-01

Annexes designated "normative" are part of the body of the standard. In this standard, annexes D and ZA are normative.

ENDORSEMENT NOTICE

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The text of amendment 1:1993 to the International Standard IEC 651:1979 was approved by CENELEC as an amendment to the European Standard without any modification.

<https://standards.iteh.ai/catalog/standards/sist/6a00c260-0a75-4ac8-9400-c180755233f5/sist-en-60651-1997-a1-1997>

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
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942	1988	Sound calibrators	HD 556 S1	1991

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
651

AMENDEMENT 1
AMENDMENT 1

1993-09

Amendement 1

Sonomètres

Amendment 1

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Sound level meters

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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PRICE CODE

H

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For price, see current catalogue*

FOREWORD

This amendment has been prepared by IEC technical committee 29: Electroacoustics.

The text of this amendment is based on the following documents:

DIS	Report on voting
29(CO)203	29(CO)208

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

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CONTENTS

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Add the following new appendix:

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Appendix D – Equations for design-goal frequency weightings

[SIST EN 60651:1997/A1:1997](https://standards.iteh.ai/catalog/standards/sist/6a00c260-0a75-4ac8-9400-c180755233f5/sist-en-60651-1997-a1-1997)

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PREFACE

Add the following title after the existing IEC reference:

IEC 942: 1988, *Sound calibrators*

Page 11

3 Definitions

Replace in 3.2, the first sentence by the following:

weighted sound pressure level; sound level: Logarithm of the ratio of a given sound pressure to the reference sound pressure of 20 μPa , the sound pressure being obtained with a standard frequency weighting and with standard exponentially weighted time-averaging. Sound level in decibels is twenty times the logarithm to the base ten of that ratio.

Delete the note in 3.2.

Page 13

4 General characteristics

Replace in 4.2 the existing text by the following:

The reading of the sound level meter under the reference conditions as defined in 9.1 and 9.2.1 shall be accurate to within $\pm 0,4$ dB, $\pm 0,7$ dB, $\pm 1,0$ dB, and $\pm 1,5$ dB for types 0, 1, 2, and 3 instruments respectively, after any warm-up period specified by the manufacturer and after following the manufacturer's recommended field checking/calibrating procedure. A means shall be available (for example a sound calibrator meeting the requirements of IEC 942) to check and maintain calibration such that the tolerances specified above are met for the reading under reference conditions.

Add the following note in 4.5:

NOTE - The "maximum S", "maximum F", and "maximum I" responses (if provided) are not the same as the Peak response.

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6 Frequency weighting and amplifier characteristics

Add, on page 17, the following new sentence below table IV:

Relative frequency response levels for the A-, B-, and C-frequency weightings in table IV are given as rounded values to the nearest tenth of a decibel.

<https://standards.iteh.ai/catalog/standards/sist/6a00c260-0a75-4ac8-9400-c18075533375/sist-en-60651-1997-a1-1997>

Replace, in 6.2 on pages 17 and 19, first, second, third, and fourth paragraphs by the following:

A practical realization of the frequency weightings specified in table IV may be derived from the equations given in appendix D for the zeros and pole frequencies specified below.

The C-weighting characteristic is realized with two zeros at the origin in the complex frequency plane plus two poles situated on the real axis at a frequency of 20,6 Hz to provide the low frequency roll-off and two poles on the real axis at a frequency of 12,2 kHz to provide the high frequency roll-off. The lower-frequency half-power or 3 dB-down point with respect to the 1 kHz response is at 31,62 Hz and the upper-frequency half-power or 3 dB-down point is at 7 943 Hz. Attenuation rates approach 12 dB per octave at both low and high frequencies.

The B-weighting characteristic is realized by adding one zero at the origin and a pole on the real axis at a frequency of 158,5 Hz to the C-weighting characteristic.

The A-weighting characteristic is realized by adding two zeros at the origin and two poles on the real axis, at frequencies of 107,7 Hz and 737,9 Hz, to the C-weighting characteristic.