
**Slušni pripomočki – 2. del: Slušni pripomočki z vezji za samodejno krmiljenje
ojačenja – Dopolnilo A2 (IEC 60118- 2:1983/A2:1997)**

Hearing aids - Part 2: Hearing aids with automatic gain control circuits; Amendment
A2 (IEC 60118- 2:1983/A2:1997)

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UDC 534.773.2:621.395.92:621.395.665:620.1:621.317.6
ICS 17.140.50

Descriptors: Electromedical device, hearing aid, automatic gain control, definitions, measurement procedures

English version

Hearing aids
Part 2: Hearing aids with automatic gain control circuits
(IEC 60118-2:1983/A2:1997)

Appareils de correction auditive
Partie 2: Appareils de correction
auditive comportant des commandes
automatiques de gain
(CEI 60118-2:1983/A2:1997)

Hörgeräte
Teil 2: Hörgeräte mit automatischer
Verstärkungsregelung
(IEC 60118-2:1983/A2:1997)

This amendment A2 modifies the European Standard EN 60118-2:1995; it was approved by CENELEC on 1997-07-01. 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.

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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

Foreword

The text of document 29/350/FDIS, future amendment 2 to IEC 60118-2:1983, prepared by IEC TC 29, Electroacoustics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60118-2:1995 on 1997-07-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 1998-04-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 1998-04-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annex ZA is normative and annexes B and C are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 2:1997 to the International Standard IEC 60118-2:1983 was approved by CENELEC as an amendment to the European Standard without any modification.

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Annex ZA (normative)

**Normative references to international publications
with their corresponding European publications**

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60118-0	1983	Hearing aids Part 0: Measurement of electroacoustical characteristics	EN 60118-0	1993
A1	1994		A1	1994
IEC 60711	1981	Occluded-ear simulator for the measurement of earphones coupled to the ear by ear inserts	HD 443 S1	1983
IEC 61260	1995	Electroacoustics - Octave-band and fractional-octave-band filters	EN 61260	1995

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60118-2

1983

AMENDEMENT 2
AMENDMENT 2

1997-05

Amendement 2

Appareils de correction auditive –

Partie 2:

**Appareils de correction auditive comportant
des commandes automatiques de gain**

(standards.iteh.ai)

Amendment 2

<https://standards.iteh.ai/catalog/standards/sist/3bc93e86-fd1b-4023-a73b-3231bb74c731/sist-en-60118-2-2004-a2-2006>

Hearing aids –

Part 2:

**Hearing aids with automatic gain
control circuits**

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International Electrotechnical Commission
Telefax: +41 22 919 0300

3, rue de Varembé Geneva, Switzerland
e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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FOREWORD

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

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

FDIS	Report on voting
29/350/FDIS	29/358/RVD

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 title of the new clause 10 and the new annexes B and C as follows:

- 10 Frequency response of hearing aids with AGC circuits in operation
using steady-state broad-band signals

Annexes

B Smoothed data presentation

C Bibliography

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Add the following list of standards:

IEC 60118-0: 1983, *Hearing aids – Part 0: Measurement of electroacoustical characteristics*
Amendment 1: 1994

IEC 60711: 1981, *Occluded-ear simulator for the measurement of earphones coupled to the ear by ear inserts*

IEC 61260: 1995, *Electroacoustics – Octave-band and fractional-octave-band filters*

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3 Conditions

Delete 3.2

Renumber 3.3 to become 3.2

4 Explanation of terms

Add the following new definitions after 4.9 (page 3 in amendment 1):

4.10 Overall root-mean-square sound pressure level (overall r.m.s. SPL)

The root-mean-square sound pressure level with measurement bandwidth equal to the frequency range covered by the one-third-octave frequency bands (see IEC 61260) from 200 Hz to 8 000 Hz.

4.11 One-third-octave band level

The level of that part of the signal contained within a band one-third-octave wide as defined in IEC 61260.

4.12 Auto-spectrum (power spectrum)

The power spectrum of either the input signal (G_{AA}) to or the output signal (G_{BB}) from a hearing aid in the frequency domain. It is computed by multiplying the Fourier transform of the signal by the complex conjugate of the Fourier transform of the same signal.

4.13 Cross-spectrum (G_{AB})

The degree to which the same signal frequencies are mutually present in the input and output of a hearing aid. It is computed by multiplying the complex conjugate of the Fourier transform of the input signal to the hearing aid by the Fourier transform of the output signal from the hearing aid.

4.14 Coherence

A number ranging from 0 to 1 showing to what degree the output from a hearing aid is correlated to the input. Coherence for a random noise test signal is reduced by non-linearity and by system noise. The coherence is calculated from the auto- and cross-spectrum averages as follows:

$$\text{Coherence} = \frac{|G_{AB}|^2}{G_{AA} \cdot G_{BB}}$$

4.15 Synchronous analysis

Analysis which is synchronized with the period of the input signal, for example with the periodicity of pseudo-random noise.