

SLOVENSKI STANDARD
SIST EN 60118-13:2005**01-december-2005****Nadomešča:****SIST EN 60118-13:1998**

Elektroakustika – Slušni pripomočki – 13. del: Elektromagnetna združljivost (EMC)
(IEC 60118-13:2004)

Electroacoustics - Hearing aids -- Part 13: Electromagnetic compatibility (EMC)

Akustik - Hörgeräte -- Teil 13: Elektromagnetische Verträglichkeit (EMV)

Electroacoustique - Appareils de correction auditive -- Partie 13: Compatibilité
électromagnétique (CEM)[SIST EN 60118-13:2005](https://standards.iteh.ai/catalog/standards/sist/43aad58f-94e7-4279-8f46-44425a/sist-en-60118-13-2005)[https://standards.iteh.ai/catalog/standards/sist/43aad58f-94e7-4279-8f46-](https://standards.iteh.ai/catalog/standards/sist/43aad58f-94e7-4279-8f46-44425a/sist-en-60118-13-2005)**Ta slovenski standard je istoveten z: EN 60118-13:2005****ICS:**

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17.140.50	Elektroakustika	Electroacoustics
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

SIST EN 60118-13:2005**en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60118-13

June 2005

ICS 17.140.50; 33.100.20

Supersedes EN 60118-13:1997

English version

**Electroacoustics –
Hearing aids
Part 13: Electromagnetic compatibility (EMC)
(IEC 60118-13:2004)**

Electroacoustique –
Appareils de correction auditive
Partie 13: Compatibilité
électromagnétique (CEM)
(CEI 60118-13:2004)

Akustik –
Hörgeräte
Teil 13: Elektromagnetische
Verträglichkeit (EMV)
(IEC 60118-13:2004)

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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 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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

Foreword

The text of document 29/561/FDIS, future edition 2 of IEC 60118-13, prepared by IEC TC 29, Electroacoustics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60118-13 on 2005-02-01.

This European Standard supersedes EN 60118-13:1997.

It introduces a new set of requirements for use of hearing aids with mobile phones.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2006-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-02-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive(s) 93/42/EEC. See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60118-13:2004 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60118-0	– ¹⁾	Hearing aids Part 0: Measurement of electroacoustical characteristics	EN 60118-0	1993 ²⁾
IEC 60118-2	– ¹⁾	Part 2: Hearing aids with automatic gain control circuits	EN 60118-2	1995 ²⁾
IEC 60118-7	– ¹⁾	Part 7: Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes	EN 60118-7	1993 ²⁾
IEC 60126	– ¹⁾	IEC reference coupler for the measurement of hearing aids using earphones coupled to the ear by means of ear inserts	HD 305 S1	1977 ²⁾
IEC 61000-4-3	– ¹⁾	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2002 ²⁾
IEC 61000-4-20	– ¹⁾	Part 4-20: Testing and measurement techniques - Emission and immunity testing in transverse electromagnetic (TEM) waveguides	EN 61000-4-20	2003 ²⁾

1) undated reference.

2) valid edition at date of issue.

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers only the following essential requirements out of those given in Annex II of the EC Directive 93/42/EEC:

- Essential Requirement I - 6
- Essential Requirement II - 9
- Essential Requirement II - 12
- Essential Requirement II - 13

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

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60118-13

Deuxième édition
Second edition
2004-11

**Electroacoustique – Appareils de correction
auditive –**

**Partie 13:
Compatibilité électromagnétique (CEM)**

iTeh STANDARD PREVIEW

Electroacoustics – Hearing aids –

Part 13: [SIST EN 60118-13:2005](https://standards-iteh.ai/catalog/standards/sist/43aad59f9474279-881673716146423a/sist-en-60118-13-2005)

Electromagnetic compatibility (EMC)

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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*Pour prix, voir catalogue en vigueur
For price, see current catalogue*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROACOUSTICS – HEARING AIDS –**Part 13: Electromagnetic compatibility (EMC)**

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 60118-13 has been prepared by IEC technical committee 29: Electroacoustics. It has the status of a product EMC standard in accordance with IEC Guide 107, *Electromagnetic compatibility – Guide to the drafting of electromagnetic compatibility publications*.

This second edition cancels and replaces the first edition published in 1997. This second edition constitutes a technical revision. It introduces a new set of requirements for use of hearing aids with mobile phones.

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

FDIS	Report on voting
29/561/FDIS	29/564/RVD

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

IEC 60118 consists of the following parts, under the general title *Hearing aids*:¹

- Part 0: Measurement of electroacoustical characteristics
- Part 1: Hearing aids with induction pick-up coil input
- Part 2: Hearing aids with automatic gain control circuits
- Part 3: Hearing aid equipment not entirely worn on the listener
- Part 4: Magnetic field strength in audio-frequency induction loops for hearing aid purposes
- Part 5: Nipples for insert earphones
- Part 6: Characteristics of electrical input circuits for hearing aids
- Part 7: Measurement of the performance characteristics of hearing aids for quality inspection for delivery purposes
- Part 8: Methods of measurement of performance characteristics of hearing aids under simulated *in situ* working conditions
- Part 9: Methods of measurement of characteristics of hearing aids with bone vibrator output
- Part 11: Symbols and other markings on hearing aids and related equipment
- Part 12: Dimensions of electrical connector systems
- Part 13: Electromagnetic compatibility (EMC)
- Part 14: Specification of a digital interface device

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

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

¹ IEC 60118-10:1986 (Ed.1), *Hearing aids – Guide to hearing aid standards*, was withdrawn in 2002.

INTRODUCTION

This revised version of this International Standard introduces specifications for EMC requirements for user compatible hearing aids. The standard only deals with hearing aid immunity, as experience has shown that hearing aids do not emit electromagnetic signals to an extent that can disturb other equipment. Experience in connection with the use of hearing aids in recent times has identified digital wireless devices, such as GSM mobile phones as potential sources of disturbance for hearing aids. Interference in hearing aids depends on the emitted power from the wireless telephone as well as the immunity of the hearing aid. The performance criteria in this standard will not totally ensure hearing aid users interference- and noise-free use of wireless telephones but will establish useable conditions in most situations. In practice a hearing aid user, when using a wireless phone, will seek, if possible, to find a position on the ear which gives a minimum or no interference in the hearing aid.

Hearing aids are battery powered devices, and therefore disturbances related to A.C. or D.C. power inputs are not relevant and are therefore not considered in this standard.

Hearing aids whose output is not acoustic, e.g. cochlear implants and bone conduction hearing aids, are not covered by this standard.

In some cases, hearing aids are connected to other equipment by cable, but this standard does not cover common mode transients and common mode surges on such cable connections.

Based on experience in connection with the use of hearing aids, relevant sources of disturbance for hearing aids include low frequency radiated magnetic fields, which may interact with the telecoil input included in some hearing aids. As the telecoil input is an intended feature of some hearing aids, and the hearing aid therefore must have a certain sensitivity to low frequency magnetic fields, it is not relevant to specify immunity against disturbing low frequency magnetic fields. To avoid unintended interference from low frequency magnetic noise fields, the recommendations specified in IEC 60118-4 [1]², regarding specifications for induction loop systems, should be followed.

With regard to high frequency radiated electromagnetic fields originating from RF wireless devices such as digital mobile telephone systems, only sources of disturbance which are currently known to be a problem in connection with hearing aids are covered. Reference is made to IEC 61000-4-3, which covers the frequency range 0,08 GHz to 3 GHz, and identifies digital radio telephone systems operating in the frequency ranges 0,8 GHz to 0,96 GHz and 1,4 GHz to 2,0 GHz to be potential sources of interference. Future versions may add tests for other frequency bands, as they come into more common use, e.g. Bluetooth and Universal Mobile Telephone System (UMTS).

² Figures in square brackets refer to the bibliography.