



# SLOVENSKI STANDARD

## SIST EN 60118-0:2002

01-september-2002

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### Hearing aids - Part 0: Measurement of electroacoustical characteristics (IEC 60118-0:1983)

Hearing aids -- Part 0: Measurement of electroacoustical characteristics

Hörgeräte -- Teil 0: Messung der elektroakustischen Eigenschaften

Appareils de correction auditive -- Partie 0: Méthodes de mesure des caractéristiques électroacoustiques

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Ta slovenski standard je istoveten z: **EN 60118-0:1993**

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#### **ICS:**

|           |   |   |
|-----------|---|---|
| 11.180.15 | Pripomočki za gluhe osebe in osebe z okvaro sluha | Aids for deaf and hearing impaired people |
| 17.140.50 | Elektroakustika                                   | Electroacoustics                          |

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EUROPEAN STANDARD

EN 60118-0

NORME EUROPEENNE

EUROPÄISCHE NORM

January 1993

Supersedes HD 450.0 S1:1984

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Descriptors: Hearing aids, measurements, electro-acoustic, audiofrequency

## ENGLISH VERSION

Hearing aids  
 Part 0: Measurement of electroacoustical  
 characteristics  
 (IEC 118-0:1983)

Appareils de correction auditive  
 Partie zéro: Méthodes de mesure  
 des caractéristiques  
 électroacoustiques  
 (CEI 118-0:1983)

Hörgeräte  
 Teil 0: Messung der  
 elektroakustischen Eigenschaften  
 (IEC 118-0:1983)

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This European Standard was approved by CENELEC on 1992-12-09.  
 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.

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,  
 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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EN 60118-0:1993

### FOREWORD

At the request of the Technical Board, HD 450.0 S1:1984 (IEC 118-0:1983) was submitted to the CENELEC voting procedure for conversion into a European Standard.

The text of the International Standard was approved by CENELEC as EN 60118-0 on 9 December 1992.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1993-12-01
- latest date of withdrawal of conflicting national standards (dow) -

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

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**ENDORSEMENT NOTICE**

SIST EN 60118-0:2002

The text of the International Standard IEC 118-0:1983 was approved by CENELEC as a European Standard without any modification.

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## ANNEX ZA (normative)

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

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

| IEC<br>Publication<br>----- | Date<br>----- | Title<br>-----   | EN/HD<br>----- | Date<br>----- |
|-----------------------------|---------------|--|----------------|---------------|
| 68                          | series        | Basic environmental testing procedures   | HD 323         | series        |
| 118                         | -             | Hearing aids   | -              | -             |
| 118-1                       | 1983          | Part 1: Hearing aids with induction pick-up coil input   | HD 450.1 S1    | 1984          |
| 118-2                       | 1983          | Part 2: Hearing aids with automatic gain control circuits  | HD 450.2 S1    | 1984          |
| 118-7                       | 1983          | Part 7: Measurement of performance characteristics of hearing aids for quality inspection for delivery purposes          | EN 60118-7     | 1993          |
| 118-8                       | 1983          | Part 8: Methods of measurement of performance characteristics of hearing aids under simulated in situ working conditions | -              | -             |
| 126                         | 1973          | IEC reference coupler for the measurement of hearing aids using earphones coupled to the ear by means of ear inserts     | HD 305 S1      | 1977          |
| 225                         | 1966          | Octave, half-octave and third-octave band filters intended for the analysis of sounds and vibrations                     | -              | -             |
| 263                         | 1982          | Scales and sizes for plotting frequency characteristics and polar diagrams   | -              | -             |
| 711                         | 1981          | Occluded-ear simulator for the measurement of earphones coupled to the ear by ear inserts                                | HD 443 S1      | 1983          |

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
118-0

Deuxième édition  
Second edition  
1983

**Appareils de correction auditive**

**Partie zéro:**

Méthodes de mesure des caractéristiques  
électroacoustiques

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(standards.iteh.ai)  
Hearing aids

<https://standards.iteh.ai/catalog/standards/sist/c91f77f4-1250-406c-bb21->  
SIST EN 60118-0:2002  
**Part 0:**  
Measurement of electroacoustical  
characteristics

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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For price, see current catalogue

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## HEARING AIDS

## Part 0: Measurement of electroacoustical characteristics

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

## iTeh STANDARD PREVIEW

## PREFACE

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This standard has been prepared by IEC Technical Committee No. 29: Electroacoustics.

It forms Part 0 of the second edition of IEC Publication 118 which is currently under revision and which will be issued with a modified generic title: Hearing Aids.

This second edition will comprise the following parts:

|                    |  |
|--------------------|--|
| Publication 118-0  | Part 0: Measurement of Electroacoustical Characteristics.  |
| Publication 118-1  | Part 1: Hearing Aids with Induction Pick-up Coil Input.  |
| Publication 118-2  | Part 2: Hearing Aids with Automatic Gain Control Circuits.   |
| Publication 118-3  | Part 3: Hearing Aid Equipment not Entirely Worn on the Listener.   |
| Publication 118-4  | Part 4: Magnetic Field Strength in Audio-frequency Induction Loops for Hearing Aid Purposes.   |
| Publication 118-5  | Part 5: Nipples for Insert Earphones.  |
| Publication 118-6  | Part 6: External Electrical Inputs to Personal Hearing Aids. (In preparation.)   |
| Publication 118-7  | Part 7: Measurement of Performance Characteristics of Hearing Aids for Quality Inspection for Delivery Purposes.                                   |
| Publication 118-8  | Part 8: Methods of Measurement of Performance Characteristics of Hearing Aids under Simulated <i>in situ</i> Working Conditions. (In preparation.) |
| Publication 118-9  | Part 9: Method of Measurement of Characteristics of Hearing Aids with Bone Vibrator Outputs. (In preparation.)                                     |
| Publication 118-10 | Part 10: Standard Practices for Hearing Aid Specification. (Under consideration.)  |
| Publication 118-11 | Part 11: Symbols and other Markings on Hearing Aids and Related Equipment.   |

A first draft was discussed at the meeting held in Sydney in 1980. As a result of this meeting, a draft, Document 29(Central Office)122, was submitted to the National Committees for approval under the Six Months' Rule in December 1980.

The National Committees of the following countries voted explicitly in favour of publication:

|                               |             |                          |
|-------------------------------|-------------|--------------------------|
| Austria                       | Germany     | Romania                  |
| Belgium                       | Hungary     | South Africa             |
| Canada                        | Israel      | (Republic of)            |
| Czechoslovakia                | Italy       | Spain                    |
| Denmark                       | Japan       | Sweden                   |
| Egypt                         | Netherlands | Turkey                   |
| German Democratic<br>Republic | Norway      | United Kingdom           |
|                               | Poland      | United States of America |

Other IEC publications quoted in this standard:

Publications Nos. 68: Basic Environmental Testing Procedures.

118: Hearing Aids.

118-1: Part 1: Hearing Aids with Induction Pick-up Coil.

118-2: Part 2: Hearing Aids with Automatic Gain Control Circuits.

118-7: Part 7: Measurement of the Performance Characteristics of Hearing Aids for Quality Inspection for Delivery Purposes.

118-8: Part 8: Methods of Measurement of Performance Characteristics of Hearing Aids under Simulated *in situ* Working Conditions (in preparation).

126: IEC Reference Coupler for the Measurement of Hearing Aids Using Earphones Coupled to the Ear by Means of Ear Inserts.

225: Octave, Half-octave and Third-octave Band Filters Intended for the Analysis of Sounds and Vibrations.

263: Scales and Sizes for Plotting Frequency Characteristics and Polar Diagrams.

711: Occluded-ear Simulator for the Measurement of Earphones Coupled to the Ear by Ear Inserts.

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## HEARING AIDS

### Part 0: Measurement of electroacoustical characteristics

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#### 1. Scope

This standard describes the measurement of physical performance characteristics of air-conduction hearing aids based on a free-field technique and measured with an ear simulator.

#### 2. Object

- 2.1 The object of this standard is to describe methods of measurement for the evaluation of the electroacoustical characteristics of hearing aids.

The methods are chosen first of all to be practical and reproducible, and consequently they are based on fixed parameters chosen, to a certain extent, arbitrarily. This should be taken into consideration when comparisons are being made between test results for hearing aids of different models and manufacture, and in each case it is advisable to examine to what extent the arbitrarily chosen parameters will influence the comparison of such test results.

- 2.2 The test results obtained by the methods specified in this standard express the performance under the conditions of the test and may deviate substantially from the performance of the hearing aid under practical conditions of use.

- 2.3 It is not the purpose of this standard to restrict the variety of hearing aid performance and characteristics available, nor to inhibit in any way advances in the state of the art.

- 2.4 The most significant change in this standard is the use of an ear simulator in accordance with IEC Publication 711: Occluded-ear Simulator for the Measurement of Earphones Coupled to the Ear by Ear Inserts, rather than an acoustic coupler, IEC Publication 126: IEC Reference Coupler for the Measurement of Hearing Aids Using Earphones Coupled to the Ear by Means of Ear Inserts. The effect of this change will be to give an apparent significant increase, at some frequencies, of both gain and saturation output levels over the results obtained when measurements are made with the acoustic coupler. Results obtained by using the methods described in this standard cannot therefore be directly compared with those previously obtained using the first edition of IEC Publication 118: Recommended Methods for Measurement of the Electroacoustical Characteristics of Hearing Aids, or IEC Publication 118-7: Hearing Aids, Part 7: Measurement of Performance Characteristics of Hearing Aids for Quality Inspection for Delivery Purposes, or IEC Publication 118-8: Part 8: Methods of Measurement of Performance Characteristics of Hearing Aids under Simulated *in situ* Working Conditions. (In preparation.)