

INTERNATIONAL STANDARD

**Sound system equipment –
Part 7: Headphones and earphones**



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Part 7: Headphones and earphones**

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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	7
4 Classification, designation and coding	9
5 Marking of terminals, controls and polarity.....	13
6 User instructions	13
7 Conditions for specifications and measurements	14
7.1 Rated conditions	14
7.2 Standard conditions for measurement	15
7.3 Couplers and ear simulators.....	15
7.4 Measurement conditions for simulated programme signal.....	15
7.5 Loudness comparison conditions.....	16
7.5.1 General	16
7.5.2 Free-field comparison conditions	16
7.5.3 Diffuse-field comparison conditions	17
7.6 Ear canal sound pressure level measurement conditions.....	17
8 Characteristics to be specified and their methods of measurement.....	17
8.1 Power supply.....	17
8.2 Electrical impedance	17
8.2.1 Rated impedance	17
8.2.2 Impedance/frequency characteristic.....	18
8.2.3 Rated source impedance	18
8.3 Input voltage	18
8.3.1 Rated source e.m.f.	18
8.3.2 Limiting values of input voltage.....	18
8.3.3 Characteristic voltage	19
8.3.4 Simulated programme signal characteristic voltage	20
8.3.5 Simulated programme signal characteristic voltage corrected by A-weighting characteristics and free-field response compensation.....	20
8.3.6 Protective devices	21
8.4 Input power	21
8.5 Sound pressure (level)	22
8.5.1 General	22
8.5.2 Characteristics to be specified	22
8.5.3 Method of measurement	22
8.6 Frequency response.....	23
8.6.1 General	23
8.6.2 Coupler or ear simulator (including HATS) frequency response	23
8.6.3 Free-field comparison frequency response	24
8.6.4 Diffuse-field comparison frequency response.....	25
8.6.5 Free-field and diffuse-field ear canal sound pressure level frequency responses.....	25
8.6.6 Rated frequency range	27
8.7 Amplitude non-linearity	27
8.7.1 General	27

8.7.2	Harmonic distortion	27
8.7.3	Modulation distortion	28
8.7.4	Difference-frequency distortion	28
8.8	Rated climatic conditions	29
8.9	External electric and/or magnetic field	29
8.9.1	Characteristics to be specified	29
8.9.2	Method of measurement	29
8.10	Unwanted sound radiation	29
8.10.1	Characteristic to be specified	29
8.10.2	Method of measurement	30
8.11	Sound attenuation	30
8.11.1	Characteristic to be specified	30
8.11.2	Method of measurement	30
8.12	Crosstalk attenuation for multi-channel headphones	30
8.12.1	Characteristic to be specified	30
8.12.2	Method of measurement	30
8.13	Application force	30
8.13.1	Characteristic to be specified	30
8.13.2	Method of measurement	30
8.14	Physical characteristics, cables and connectors	31
8.14.1	Characteristics to be specified	31
9	Classification of characteristics	32
Annex A (normative)	Pinna simulators for measurements of headphones and earphones	33
Annex B (normative)	Specification and conditions of use of a microphone for use inside the ear canal	42
Annex C (informative)	Practical details of free-field comparison conditions	43
Annex D (informative)	Practical details of diffuse-field comparison conditions	44
Annex E (informative)	Practical details of the subjective comparison and ear canal sound pressure level conditions	45
Bibliography		46
Figure 1	– Diagrammatic horizontal sections showing types of earphones and their spatial relationships with the pinna and/or canal entrance	11
Figure 2	– Diagrams showing the four possible construction: acoustically open or closed, and closed- or open-back	13
Figure 3	– Illustrated measurement diagram by simulated programme signal	16
Figure A.1	– Shape of the recommended pinna simulator	34
Figure A.2	– Coordinate for the recommended pinna simulator	35
Figure A.3	– Cross-sectional shapes and dimensions of the recommended pinna simulator, horizontal section	38
Figure A.4	– Cross-sectional shapes and dimensions of the recommended pinna simulator, vertical section	41
Table 1	– Classification of characteristics	32

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SOUND SYSTEM EQUIPMENT –**Part 7: Headphones and earphones**

FOREWORD

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International Standard IEC 60268-7 has been prepared by IEC technical committee TC 100: Audio, video and multimedia systems and equipment.

This third edition cancels and replaces the second edition published in 1996, and constitutes a technical revision. This edition contains the following changes:

- clause/subclause renumbering in accordance with ISO/IEC Directives, Part 2;
- addition of a measurement system using HATS;
- addition of details on pinna simulators for high measurement reproducibility, see Annex A.

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

FDIS	Report on voting
100/1621/FDIS	100/1641/RVD

Full information on the voting for the approval of this 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.

A list of all parts of 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 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.

A bilingual version of this publication may be issued at a later date.

SOUND SYSTEM EQUIPMENT –

Part 7: Headphones and earphones

1 Scope

This part of IEC 60268, is applicable to headphones, headsets, earphones and earsets, intended to be used on, or in, the human ear. It also applies to equipment, such as pre-amplifiers, passive networks and power supplies which form an integral part of the headphone system.

It does not deal with:

- a) safety, for which reference should be made to IEC 60065 or another appropriate standard;
- b) the characteristics of microphones of headsets, for which reference should be made to IEC 60268-4;
- c) earphones and other devices for hearing aids, for which reference should be made to IEC 60118-0;
- d) headphones for audiometry;
- e) headphones and other devices which form part of an active ear-defender system, although some of its provisions may be applicable.

This standard specifies the characteristics which should be included by the manufacturer in specifications, and relevant methods of measurement. It includes a classification of the different types of earphone, mainly characterized by the way in which the transducer is coupled acoustically to the ear, and a classification code which may also be used for marking.

2 Normative references

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.

IEC 60038, *IEC standard voltages*

IEC 60050(801):1994, *International Electrotechnical Vocabulary – Chapter 801: Acoustics and electroacoustics*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60086-1, *Primary batteries – Part 1: General*

IEC Guide 106, *Guide for specifying environmental conditions for equipment performance rating*

IEC 60263, *Scales and sizes for plotting frequency characteristics and polar diagrams*

IEC 60268-1, *Sound system equipment – Part 1: General*

IEC 60268-2, *Sound system equipment – Part 2: Explanation of general terms and calculation methods*

IEC 60268-11, *Sound system equipment – Part 11: Application of connectors for the interconnection of sound system components*

IEC 60268-12, *Sound system equipment – Part 12: Application of connectors for broadcast and similar use*

IEC 60711, *Occluded-ear simulator for the measurement of earphones coupled to the ear by ear inserts*¹

IEC TR 60959, *Provisional head and torso simulator for acoustic measurements on air conduction hearing aids*²

IEC 61672-1, *Electroacoustics – Sound level meters – Part 1: Specifications*

ISO 3741, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Precision methods for reverberation rooms*

ISO 4869-1, *Acoustics – Hearing protectors – Part 1: Subjective method for the measurement of sound attenuation*

ISO 4869-3, *Acoustics – Hearing protectors – Part 3: Measurement of insertion loss of ear-muff type protectors using an acoustic test fixture*

ISO 7619-1, *Rubber, vulcanized and thermoplastic – Determination of indentation hardness – Part 1: Durometer method (Shore hardness)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply, see also IEC 60050-801 (IEV).

NOTE Any device defined in 3.1 to 3.15 and their connector(s) for electrical input should be regarded as part of the transducer.

3.1

earphone

electroacoustic transducer by which acoustic oscillations are obtained from electric signals and intended to be closely coupled acoustically to the ear

[IEV 801-27-18]

3.2

headphone

assembly of one or two earphones on a headband or chinband, the use of which may be optional (e.g. with intra-concha earphones)

3.3

headset

headphones equipped with a microphone

3.4

earset

earphones equipped with a microphone

¹ This publication will be replaced by future IEC 60318-4 (to be published).

² This publication is planned to be replaced by future IEC 60318-7 (under consideration).