

Sound system equipment —

Part 5: Loudspeakers

ICS 17.140.50;33.160.50

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee EPL/84, Equipment and systems in the field of audio, video and audiovisual engineering, upon which the following bodies were represented:

- Association of British Theatre Technicians
- Audio Engineering Society
- British Broadcasting Corporation
- British Educational Suppliers' Association
- British Radio and Electronic Equipment Manufacturers' Association
- British Telecommunications plc
- Consumers' Association
- Federation of British Audio
- Federation of the Electronics Industry
- Independent Television Association
- Institution of Electrical Engineers
- International Association of Broadcasting Manufacturers
- National Council for Educational Technology (NCET)
- Professional Lighting and Sound Association
- Royal Institute of British Architects
- Royal National Institute for Deaf People
- Society of Cable Television Engineers
- Sound and Communication Industries Federation

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National foreword

This British Standard has been prepared by Subcommittee EPL/100/3 (previously Technical Committee EPL/84) and is the English language version of EN 60268-5:1996 *Sound system equipment Part 5: Loudspeakers* and its amendment EN 60268-5/A2:1996, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 268-5:1989 and amendments A1:1993 and A2:1996, published by the International Electrotechnical Commission (IEC).

The cross-reference of this standard as Part 5 of the BS 60268 series has been retained to facilitate reference to other parts of the series.

IEC 268 consists of the following Parts, most of which have been published as Parts of BS 60268:

- *Part 1: General;*
- *Part 2: Explanation of general terms and calculation methods;*
- *Part 3: Amplifiers;*
- *Part 4: Microphones;*
- *Part 5: Loudspeakers;*
(BS EN 60268-5)
- *Part 6: Auxiliary passive elements;*
- *Part 7: Headphones and earphones;*
(BS EN 60268-7)
- *Part 8: Automatic gain control devices;*
- *Part 9: Artificial reverberation, time delay and frequency shift equipment;*
- *Part 10: Peak programme level meters;*
- *Part 11: Application of connectors for the interconnection of sound system components;*
- *Part 12: Application of connectors for broadcast and similar use;*
(BS EN 60268-12)
- *Part 13: Listening tests on loudspeakers;*
- *Part 14: Circular and elliptical loudspeakers; outer frame diameters and mounting dimensions;*
- *Part 15: Preferred matching values for the interconnection of sound system components;*
- *Part 16: The objective rating of speech intelligibility in auditoria by the “RASTI” method;*
- *Part 17: Standard volume indicators;*
- *Part 18: Peak programme level meters — Digital audio peak level meter.*

Cross-references

Publication referred to	Corresponding British Standard
IEC 50 (151):1978	BS 4727 <i>Glossary of electrotechnical, power, telecommunication, electronics, lighting and colour terms</i> Part 1 <i>Terms common to power, telecommunications and electronics</i> Group 02:1980 <i>Electrical and magnetic devices terminology</i>
EN 60065:1993 (IEC 65:1985)	BS EN 60065:1994 <i>Safety requirements for mains operated electronic and related apparatus for household and similar general use</i>
EN 60065:1993 (IEC 65:1985)	BS EN 60065:1994 <i>Safety requirements for mains operated electronic and related apparatus for household and similar general use</i>

Cross-references

Publication referred to	Corresponding British Standard
EN 61260:1996 (IEC 1260:1995) IEC 263:1982	BS EN 61260:1996 <i>Electroacoustics. Octave-band and fractional-octave-band filters</i> BS 6397:1983 <i>Specification for scales and sizes for plotting frequency characteristics and polar diagrams</i> BS 60268 <i>Sound system equipment</i> Part 1:1987 <i>Methods for specifying and measuring general characteristics used for equipment performance</i> Part 2:1993 <i>Glossary of general terms and calculation methods</i> Part 11:1994 <i>Specification for application of connectors for the interconnection of sound system components</i> BS EN 60268 <i>Sound system equipment</i> BS EN 60268-12:1995 <i>Application of connectors for broadcast and similar use</i> BS 6840 <i>Sound system equipment</i> Part 14:1987 <i>Guide for circular and elliptical loudspeakers; outer frame diameters and mounting dimensions</i> BS EN 60651:1994 <i>Specification for sound level meters</i>
HD 483.1 S2 1989 (IEC 268-1:1985) HD 483.2 S2:1993 IEC 268-2:1987 HD 483.11 S3:1993 (IEC 268-11:1987)	
EN 60268-12:1995 (IEC 268-12:1987)	
IEC 268-14:1980	
EN 60651:1994 (IEC 651:1979)	
EN 23741:1991 (ISO 3741:1988)	BS 4196 <i>Sound power levels of noise sources</i> Part 1:1991 <i>Precision methods for determination of sound power levels for broad-band sources in reverberation rooms</i> Part 3:1981 <i>Engineering methods for determination of sound power levels for sources in special reverberation test rooms</i> Part 4:1981 <i>Engineering methods for determination of sound power levels for sources in free-field conditions over a reflecting plane^a</i> Part 5:1981 <i>Precision methods for determination of sound power levels for sources in anechoic and semi-anechoic rooms</i>
ISO 3743:1976	
ISO 3744:1981	
ISO 3745:1977	

^a Now superseded by BS ISO 3744:1994, which is identical with ISO 3744:1994.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN title page, pages 2 to 28, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

English version

Sound system equipment Part 5: Loudspeakers

(includes amendment A2:1996)
(IEC 268-5:1989 + A1:1993 + A2:1996)

Equipements pour systèmes électroacoustiques
Partie 5: Haut-parleurs
(inclut l'amendement A2:1996)
(CEI 268-5:1989 + A1:1993 + A2:1996)

Elektroakustische Geräte
Teil 5: Lautsprecher
(enthält Änderung A2:1996)
(IEC 268-5:1989 + A1:1993 + A2:1996)

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CENELEC

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

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Foreword

The text of the International Standard IEC 268-5:1989 and its amendment 1:1993, prepared by TC 84 (transformed into SC 100C, Equipment and systems in the field of audio, video and audiovisual engineering, of IEC TC 100, Audio, video and multimedia systems and equipment), was approved by CENELEC as HD 483.5 S2 on 1994-07-05.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60268-5 on 1996-07-02.

The following date was 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) 1997-04-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex ZA is normative.

Annex ZA has been added by CENELEC.

Foreword of amendment A2

The text of document 100C/2/FDIS, future amendment 2 to IEC 268-5:1989, prepared by SC 100C, Equipment and systems in the field of audio, video and audiovisual engineering, of IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60268-5:1996 on 1996-07-02.

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) 1997-04-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dop) 1997-04-01

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1 Scope

This standard applies to sound system loudspeakers, treated as entirely passive elements. Loudspeakers with built-in amplifiers are excluded.

NOTE The term “loudspeaker” used in this standard relates to loudspeaker drive units themselves and also to loudspeaker systems which comprise one or more loudspeaker drive units provided with a baffle, enclosure or horn and such relevant devices as built-in cross-over filters, transformers and any other passive element.

2 Object

The purpose of this standard is to give the characteristics to be specified and the relevant methods of measurement for loudspeakers using sinusoidal or specified noise signals.

The methods of measurement given in this standard are those which are seen to be most directly related to the characteristics.

NOTE 1 If equivalent results can be obtained using other methods of measurement, details of the methods used should be presented with the results.

NOTE 2 The following items are under consideration:

- loudspeakers with built-in amplifiers;
- measurements under conditions other than free-field, half space free-field and diffuse field;
- measurements with signals other than sinusoidal or noise.