

Sound system equipment —

Part 4: Microphones

ICS 33.160.50

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National foreword

This British Standard reproduces verbatim IEC 60268-4:1997 and implements it as the UK national standard. It supersedes BS 6840-4:1987 which is withdrawn. The UK participation in its preparation was entrusted by Technical Committee EPL/100, Audio, video and multimedia systems and equipment, to Subcommittee EPL/100/3, Equipment and systems in the field of audio, video and audiovisual engineering, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

From 1 January 1997, all IEC publications have the number 60000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

IEC 60268 consists of the following Parts, most of which have been published as Parts of BS 6840:

- *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- *Part 15: (Superseded by IEC 61938:1997 – BS EN 61938:1997);*
- *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

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the CEI IEC title page, pages ii to vi, pages 1 to 28 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.

**NORME
INTERNATIONALE
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60268-4

Deuxième édition
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**Equipements pour systèmes
électroacoustiques –**

**Partie 4:
Microphones**

Sound system equipment –

**Part 4:
Microphones**



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Foreword

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

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6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60268-4 has been prepared by subcommittee 100C: Equipment and systems in the field of audio, video and audiovisual engineering, of IEC Technical Committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 1972, and constitutes a technical revision.

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

FDIS	Report on voting
100C/53/FDIS	100C/127/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.

Annex A forms an integral part of this standard.

Annex B and Annex C are for information only.

Introduction

This part of IEC 60268 gives recommendations relative to the characteristics to be specified and the methods of measurement for sound system microphones.

Measuring methods are specified for the electrical impedance, sensitivity, directional response pattern, dynamic range and external influences.

1 Scope

This part of IEC 60268 applies to sound system microphones for all applications for speech and music. They do not apply to measurement microphones.

The microphones shall be understood to include devices, if any, such as transformers, preamplifiers, or other elements which form an integral part of the microphone, up to the output terminals specified by the manufacturer.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60268. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60268 are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 600065:1985, *Safety requirements for mains operated electronic and related apparatus for household and similar general use.*

IEC 60268-1:1985, *Sound system equipment — Part 1: General.*

IEC 60268-2:1987, *Sound system equipment — Part 2: Explanation of general terms and calculation methods.*

IEC 60268-3:1988, *Sound system equipment — Part 3: Amplifiers.*

IEC 60268-5:1989, *Sound system equipment — Part 5: Loudspeakers.*

IEC 60268-11:1987, *Sound system equipment — Part 11: Application of connectors for the interconnection of sound system components.*

IEC 60268-12:1987, *Sound system equipment — Part 12: Application of connectors for broadcast and similar use.*

IEC 60268-15:1987, *Sound system equipment — Part 15: Preferred matching values for the interconnection of sound system components.*

IEC 60574-3:1983, *Audiovisual, video and television equipment and system — Part 3: Connectors for the interconnection of equipment in audiovisual systems.*

IEC 60581-5:1981, *High fidelity audio equipment and systems — Minimum performance requirements — Part 5: Microphones.*

IEC 60651:1979, *Sound level meters.*

IEC 60801-2:1991, *Electromagnetic compatibility for industrial-process measurement and control equipment — Part 2: Electrostatic discharge requirements.*

IEC 60914:1988, *Conference systems — Electrical and audio requirements.*

IEC 61000-4-3:1995, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 3: Radiated, radio-frequency, electromagnetic field immunity test.*

IEC 61094-2:1992, *Measurement microphones — Part 2: Primary method for pressure calibration of laboratory standard microphones by the reciprocity technique.*

IEC 61265:1995, *Electroacoustics — Instruments for measurement of aircraft noise — Performance requirements for systems to measure one-third-octave-band sound pressure levels in noise certification of transport-category aeroplanes.*

CISPR 20:1990, *Limits and methods of measurement of immunity characteristics of sound and television broadcast receivers and associated equipment.*

ISO 354:1985, *Acoustics — Measurement of sound absorption coefficients in a reverberant room.*

ITU-T Recommendation P.51:1996, *Artificial mouth.*

3 General conditions

3.1 General

Special reference is made to IEC 60268-1 and IEC 60268-15, concerning:

- units and system of measurement;
- frequencies of measurement;
- quantities to be specified and their accuracy (see also 4.7);
- marking (see also 6.1);
- powering of microphones;
- ambient conditions;
- filters, networks and measuring instruments for noise specification and measurement;
- individual specifications and type specifications;
- graphical presentation of characteristics;