

SLOVENSKI STANDARD

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SIST EN 60268-4:2014

Elektroakustične naprave - 4. del: Mikrofoni (IEC 60268-4:2018)

Sound system equipment - Part 4: Microphones (IEC 60268-4:2018)

Elektroakustische Geräte - Teil 4: Mikrofone (IEC 60268-4:2018)

Equipements pour systèmes électroacoustiques - Partie 4: Microphones (IEC 60268-4:2018)

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NORME EUROPÉENNE
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English Version

**Sound system equipment - Part 4: Microphones
(IEC 60268-4:2018)**

Equipements pour systèmes électroacoustiques - Partie 4:
Microphones
(IEC 60268-4:2018)

Elektroakustische Geräte - Teil 4: Mikrofone
(IEC 60268-4:2018)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60268-4:2018 (E)**European foreword**

The text of document 100/2992/CDV, future edition 6 of IEC 60268-4, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60268-4:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-07-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-10-17

This document supersedes EN 60268-4:2014.

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The text of the International Standard IEC 60268-4:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

CISPR 22:2008	NOTE	Harmonized as EN 55022:2010 (modified)
IEC 60065:2014	NOTE	Harmonized as EN 60065:2014 (modified)
IEC 60958-4:2016 (series)	NOTE	Harmonized as EN 60958-4:2016 (series)
IEC 61000-3-2:2014	NOTE	Harmonized as EN 61000-3-2:2014 (not modified)
IEC 61000-3-3:2013	NOTE	Harmonized as EN 61000-3-3:2013 (not modified)
IEC 61606 (series)	NOTE	Harmonized as EN 61606 (series)
IEC 61672-1:2013	NOTE	Harmonized as EN 61672-1:2013 (not modified)

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
CISPR 35 (mod)	2016	Electromagnetic compatibility of multimedia equipment. Immunity requirements	EN 55035	2017
IEC 60268-1	1985	Sound system equipment. Part 1: General	HD 483.1 S2	1989
+ A1	1988		-	-
+ A2	1988		-	-
IEC 60268-2	1987	Sound system equipment. Part 2: Explanation of general terms and calculation methods	HD 483.2 S2	1993
+ A1	1991		-	-
IEC 60268-3	2013	Sound system equipment - Part 3: Amplifiers	EN 60268-3	2013
IEC 60268-5	2003	Sound system equipment - Part 5: Loudspeakers	EN 60268-5	2003
+ A1	2007		+ A1	2009
IEC 60268-11	1987	Sound system equipment. Part 11: Application of connectors for the interconnection of sound system components	HD 483.11 S3	1993
+ A1	1989		-	-
+ A2	1991		-	-
IEC 60268-12	1987	Sound system equipment. Part 12: Application of connectors for broadcast and similar use	EN 60268-12	1995
+ A1	1991		-	-
+ A2	1994		+ A2	1995
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009

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IEC 61000-4-3	2006	Electromagnetic compatibility (EMC) - Part 4-3 : Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2006
+ A1	2007		+ A1	2008
+ A2	2010		+ A2	2010
IEC 61000-4-4	2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2012
IEC 61000-4-6	2013	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2014
IEC 61000-4-8	2009	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	2010
IEC 61000-4-16	2015	Electromagnetic compatibility (EMC) - Part 4-16: Testing and measurement techniques - Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz	EN 61000-4-16	2016
IEC 61000-4-17	1999	Electromagnetic compatibility (EMC) - Part 4-17: Testing and measurement techniques - Ripple on d.c. input power port immunity test	EN 61000-4-17	1999
+ A1	2001		+ A1	2004
+ A2	2008		+ A2	2009
IEC 61260-1	2014	Electroacoustics - Octave-band and fractional-octave-band filters - Part 1: Specifications	EN 61260-1	2014
IEC 61938	2013	Multimedia systems - Guide to the recommended characteristics of analogue interfaces to achieve interoperability	-	-
ITU-T Recommendation P.51	-	Artificial mouth	-	-
EN 55103-2	2009	Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use - Part 2: Immunity	EN 55103-2	2009
EN 300 422-2 V1.3.1	2011	Electromagnetic compatibility and radio spectrum matters (ERM) - Wireless microphones in the 25 MHz to 3 GHz frequency range - Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	EN 300 422-2 V1.3.1	2011



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INTERNATIONAL STANDARD

Sound system equipment –
Part 4: Microphones

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CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references.....	8
3 Terms and definitions	9
4 General conditions.....	10
4.1 General.....	10
4.2 Measurement conditions.....	10
4.2.1 General	10
4.2.2 Rated conditions	11
5 Particular conditions	12
5.1 Pre-conditioning.....	12
5.2 Sound source.....	12
5.3 Measurement of sound pressure.....	12
5.4 Voltage measuring system.....	12
5.5 Acoustical environment	12
5.5.1 General	12
5.5.2 Free-field conditions.....	13
5.5.3 Diffuse field conditions.....	14
5.5.4 Microphone coupled to a sound source by means of a small cavity coupler	15
5.6 Methods of measuring frequency response.....	15
5.6.1 Point-by-point and continuous sweep frequency methods.....	15
5.6.2 Calibration methods.....	16
5.7 Overall accuracy	16
5.8 Graphical presentation of results	16
6 Type description (acoustical behaviour)	17
6.1 Principle of the transducer.....	17
6.2 Type of microphone.....	17
6.3 Type of directional response characteristics.....	17
6.4 Application.....	17
7 Terminals and controls.....	17
7.1 Marking.....	17
7.2 Connectors and electrical interface values	17
8 Reference point and axis	18
8.1 Reference point.....	18
8.2 Reference axis	18
9 Rated power supply	18
9.1 Characteristics to be specified.....	18
9.2 Method of measurement.....	18
10 Electrical impedance.....	18
10.1 Internal impedance.....	18
10.1.1 Characteristic to be specified	18
10.1.2 Methods of measurement	18
10.2 Rated impedance	19
10.3 Rated minimum permitted load impedance.....	19

11	Sensitivity.....	19
11.1	General.....	19
11.2	Sensitivities with respect to acoustical environment	20
11.2.1	Free-field sensitivity	20
11.2.2	Diffuse-field sensitivity	21
11.2.3	Close-talking and near-field sensitivity	21
11.2.4	Pressure sensitivity	22
11.3	Rated sensitivity.....	22
12	Response	22
12.1	Frequency response.....	22
12.1.1	Characteristic to be specified	22
12.1.2	Method of measurement.....	23
12.1.3	Graphical presentation of results	23
12.2	Effective frequency range.....	23
12.2.1	Characteristic to be specified	23
12.2.2	Method of measurement.....	23
13	Directional characteristics	23
13.1	Directional pattern.....	23
13.1.1	Characteristic to be specified	23
13.1.2	Methods of measurement.....	24
13.1.3	Graphical presentation of results	25
13.2	Directivity index	25
13.2.1	Characteristic to be specified	25
13.2.2	Method of measurement.....	25
14	Amplitude non-linearity.....	25
14.1	General.....	25
14.2	Total harmonic distortion	25
14.2.1	Characteristic to be specified	25
14.2.2	Method of measurement.....	26
14.3	Harmonic distortion of the n^{th} order ($n = 2, 3, \dots$)	26
14.3.1	Characteristic to be specified	26
14.3.2	Method of measurement.....	26
14.4	Difference frequency distortion of second order	27
14.4.1	Characteristic to be specified	27
14.4.2	Method of measurement.....	27
15	Limiting characteristics	28
15.1	Rated maximum permissible peak sound pressure	28
15.2	Overload sound pressure	28
15.2.1	Characteristic to be specified	28
15.2.2	Method of measurement.....	28
16	Balance	28
16.1	Balance of the microphone output.....	28
16.2	Balance under working conditions.....	29
17	Equivalent sound pressure level due to inherent noise.....	29
17.1	Characteristic to be specified	29
17.2	Method of measurement.....	29
18	Ambient conditions	30
18.1	General.....	30

18.2	Pressure range	30
18.3	Temperature range.....	30
18.4	Relative humidity range.....	30
19	External influences	30
19.1	General.....	30
19.1.1	Specification and methods of measurement.....	30
19.1.2	Other external interferences	31
19.2	Equivalent sound pressure due to mechanical vibration.....	31
19.2.1	Characteristic to be specified	31
19.2.2	Method of measurement.....	31
19.3	Equivalent sound pressure due to wind.....	31
19.3.1	Characteristic to be specified	31
19.3.2	Method of measurement.....	32
19.4	Transient equivalent sound pressure due to "pop" effect	35
19.4.1	General	35
19.4.2	Characteristic to be specified	35
19.4.3	Method of measurement.....	36
20	Electromagnetic compatibility (EMC)	37
20.1	Regulatory requirements	37
20.2	Requirements for preserving programme quality	37
20.3	Performance criteria.....	38
20.3.1	Criterion A	38
20.3.2	Criterion B	38
20.4	Testing for immunity to disturbances in the presence of acoustical noise	39
20.5	Immunity to frequency-modulated radiated disturbances.....	39
20.6	Immunity to magnetic fields.....	39
20.7	Immunity to ripple on d.c. power supply	39
20.8	Permanent magnetic field	40
20.9	Evaluation and reporting of the test results	40
21	Physical characteristics	40
21.1	Dimensions	40
21.2	Weight	40
21.3	Cables and connectors	40
22	Classification of the characteristics to be specified	40
Annex A	(normative) Additional characteristics	43
A.1	Characteristic sensitivity for speech.....	43
A.1.1	Characteristic to be specified	43
A.1.2	Method of measurement.....	43
A.2	Front-to-rear sensitivity index (0° – 180°).....	44
A.2.1	Characteristic to be specified	44
A.2.2	Method of measurement.....	44
A.3	Noise-cancelling index	44
A.3.1	Characteristic to be specified	44
A.3.2	Method of measurement.....	44
A.4	Special characteristics for stereo microphones.....	45
A.4.1	General	45
A.4.2	Included angle of an XY (left-right) microphone.....	45
A.4.3	Acceptance angle	45

Annex B (informative) Sound insulation device	46
Annex C (informative) Recommendations for professional digital microphones	47
C.1 General.....	47
C.2 Data sheets for digital microphones	47
Annex D (informative) Recommended method for measuring noise levels according to ITU-R BS.468-4 in the digital domain	50
D.1 General.....	50
D.2 Recommended method.....	50
D.3 Matlab code	51
Bibliography	54
 Figure 1 – Balance of the output	28
Figure 2 – Balance under working conditions.....	29
Figure 3 – Measurement set-up for wind influence	32
Figure 4 – Wind generators, type 1 (Figure 4a) and type 2 (Figure 4b)	34
Figure 5 – Electrical and mechanical setup for the measuring of the "pop" effect.....	36
Figure B.1 – Sound insulation device	46
Figure D.1 – ITU weighting filter for weighted and unweighted measurements	50
Figure D.2 – Peak value rectifier scheme	51
 Table 1 – Reverberation time of the empty room.....	15
Table 2 – Examples of EMC regulations and standards.....	37
Table 3 – Basic EMC standards and their application to microphones	38
Table 4 – Classification of characteristics	41
Table A.1 – Speech power weighting factor at octave-band centre frequencies	43
Table C.1 – Classification of the characteristics recommended to be specified	47
Table C.2 – Additional digital characteristics to be specified	49
Table D.1 – Time constants for the two PVRs	51

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SOUND SYSTEM EQUIPMENT –

Part 4: Microphones

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 60268-4 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

This sixth edition cancels and replaces the fifth edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Subclause 19.4 on "pop" measurement replaces Annex C;
- b) new Annex D for noise measurements in the digital domain.

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/2992/CDV	100/3109/RVC

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

A list of all parts of the IEC 60268 series, under the general title *Sound system equipment*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

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

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SOUND SYSTEM EQUIPMENT –

Part 4: Microphones

1 Scope

This part of IEC 60268 specifies methods of measurement for the electrical impedance, sensitivity, directional response pattern, dynamic range and external influences of sound system microphones, and also details the characteristics to be specified by the manufacturer.

It applies to sound system microphones for all applications for speech and music. It does not apply to measurement microphones, but it does apply to each audio channel of microphones having more than one channel, for example for stereo or similar use. It is also applicable to flush-mounted microphones and to the analogue characteristics of microphones with digital audio output.

For the purposes of this International Standard, a microphone includes all such devices as transformers, pre-amplifiers, or other elements that form an integral part of the microphone, up to the output terminals specified by the manufacturer.

The major characteristics of a microphone are considered in Clauses 6 to 21. Additional characteristics are considered in Annex A and Annex C.

NOTE The characteristics specified in this document do not describe the subjective response of the microphone. Further work is necessary to find new definitions and measurement procedures for a later introduction of objective characteristics for at least some of the subjective descriptions used to describe microphone performance.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

CISPR 35:2016, *Electromagnetic compatibility of multimedia equipment – Immunity requirements*

IEC 60268-1:1985, *Sound system equipment – Part 1: General*
IEC 60268-1:1985/AMD1:1988
IEC 60268-1:1985/AMD2:1988

IEC 60268-2:1987, *Sound system equipment – Part 2: Explanation of general terms and calculation methods*
IEC 60268-2:1987/AMD1:1991

IEC 60268-3:2013, *Sound system equipment – Part 3: Amplifiers*

IEC 60268-5:2003, *Sound system equipment – Part 5: Loudspeakers*
IEC 60268-5:2003/AMD1:2007

IEC 60268-11:1987, *Sound system equipment – Part 11: Application of connectors for the interconnection of sound system components*
IEC 60268-11:1987/AMD1:1989
IEC 60268-11:1987/AMD2:1991

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

IEC 60268-12:1987/AMD1:1991

IEC 60268-12:1987/AMD2:1994

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3:2006, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-3:2006/AMD1:2007

IEC 61000-4-3:2006/AMD2:2010

IEC 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-6:2013, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-8:2009, *Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test*

IEC 61000-4-16:2015, *Electromagnetic compatibility (EMC) – Part 4-16: Testing and measurement techniques – Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz*

IEC 61000-4-17:1999, *Electromagnetic compatibility (EMC) – Part 4-17: Testing and measurement techniques – Ripple on d.c. input power port immunity test*

61000-4-17:1999/AMD1:2001

61000-4-17:1999/AMD2:2008

IEC 61260-1:2014, *Electroacoustics – Octave-band and fractional-octave-band filters – Part 1: Specifications*

IEC 61938:2013, *Multimedia systems – Guide to the recommended characteristics of analogue interfaces to achieve interoperability*

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

EN 55103-2:2009, *Electromagnetic compatibility – Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use – Part 2: Immunity*

EN 300 422-2 V1.3.1:2011, *Electromagnetic compatibility and radio spectrum matters (ERM) – Wireless microphones in the 25 MHz to 3 GHz frequency range – Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60268-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>