



SLOVENSKI STANDARD

SIST EN 60849:1999

01-april-1999

Sound systems for emergency purposes (IEC 60849:1998)

Sound systems for emergency purposes

Elektroakustische Notfallwarnsysteme

Systèmes électroacoustiques pour services de secours

Ta slovenski standard je istoveten z: EN 60849:1998

[SIST EN 60849:1999](https://standards.iteh.ai/catalog/standards/sist/884fa171-ba55-4eal-a341-34d141cdf16d/sist-en-60849-1999)

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ICS:

13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
33.160.30	Avdio sistemi	Audio systems

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en

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ICS 13.320;33.160.30

Descriptors: Electroacoustics, electroacoustic equipment, warning systems, emergency call, audible warning devices, loudspeakers, consumer information, personnel evacuation, speech recognition, intelligibility, radio disturbances, sound transmission, definitions, measurements, tests

English version

**Sound systems for emergency purposes
(IEC 60849:1998)**

Systèmes électroacoustiques pour
services de secours
(CEI 60849:1998)

Tonsysteme für Notrufzwecke
(IEC 60849:1998)

This European Standard was approved by CENELEC on 1998-04-01. 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, Czech Republic, 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

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Foreword

The text of document 100C/188/FDIS, future edition 2 of IEC 60849, prepared by SC 100C, Audio, video and multimedia subsystems and equipment, 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 EN 60849 on 1998-04-01.

The following dates were 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) 1999-01-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2001-01-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes B and ZA are normative and annexes A, C and D are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60849:1998 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60027	series	Letter symbols to be used in electrical technology	HD 245	series
IEC 60065 (mod) 1985		Safety requirements for mains operated electronic and related apparatus for household and similar general use	EN 60065 ¹⁾ + corr. November 1993 + A11 1997 + corr. September 1997	1993 1993 1997 1997
IEC 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 ²⁾	1994
IEC 60079	series	Electrical apparatus for explosive gas atmospheres	EN 50014 & related ENs EN 60079	series
IEC 60268-11	1987	Sound system equipment Part 11: Application of connectors for the interconnection of sound system components	HD 483.11 S3 ³⁾	1993
IEC 60268-12	1987	Part 12: Application of connectors for broadcast and similar use	EN 60268-12 ⁴⁾	1995
IEC 60268-16	1998	Part 16: Objective rating of speech intelligibility by speech transmission index	EN 60268-16	1998
IEC 60364 (mod) series		Electrical installations of buildings	HD 384	series
IEC 60417	1973	Graphical symbols for use on equipment	HD 243 S12 ⁵⁾	1995

1) EN 60065 includes A1:1987, A2:1989 and A3:1992 to IEC 60065.

2) EN 60068-1 includes corrigendum October 1988 and A1:1992 to IEC 60068-1.

3) HD 483.11 S3 includes A1:1989 and A2:1991 to IEC 60268-11.

4) EN 60268-12 includes A1:1991 to IEC 60268-12.

5) HD 243 S12 includes supplements A:1974 to M:1994 to IEC 60417.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61938	1996	Audio, video and audiovisual systems Interconnections and matching values Preferred matching values of analogue signals	EN 61938 + corr. February	1997 1997

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STANDARD

CEI
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Deuxième édition
Second edition
1998-02

**Systèmes électroacoustiques pour services
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Sound systems for emergency purposes
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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SOUND SYSTEMS FOR EMERGENCY PURPOSES

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 cooperation 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.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 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 60849 has been prepared by subcommittee 100C: Audio, video and multimedia subsystems and equipment, of IEC technical committee 100: Audio video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 1989 and constitutes a technical revision.

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

FDIS	Report on voting
100C/188/FDIS	100C/217/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.

Annexes A, C and D are for information only.

Annex B forms an integral part of this standard.

SOUND SYSTEMS FOR EMERGENCY PURPOSES

1 Scope and object

1.1 Scope

This International Standard applies to sound reinforcement and distribution systems to be used to effect a rapid and orderly mobilization of occupants in an indoor or outdoor area in an emergency situation.

This standard applies to systems using tone signals and to systems with voice announcements for emergency purposes.

NOTE 1 – The use of the system for normal sound reinforcement and distribution systems purposes under non-hazardous circumstances is not excluded.

NOTE 2 – It is recommended that the system, when used for emergency purposes, should form part of a complete facility (equipment, operating procedures and training programmes) for the control of emergencies.

NOTE 3 – Sound systems for emergency purposes may be the subject of approval by relevant authorities.

1.2 Object

The purpose of this standard is to specify the performance requirements for sound systems which are primarily intended to broadcast information for the protection of lives within one or more specified areas in an emergency.

The standard gives the characteristics and the methods of test necessary for the specification of the system.

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2 Normative references

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

IEC 60027: *Letter symbols to be used in electrical technology*

IEC 60065:1985, *Safety requirements for mains operated electronic and related apparatus for household and similar use*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60079: *Electrical apparatus for explosive gas atmospheres*

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

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

IEC 60268-16:—, *Sound system equipment – Part 16: Objective rating of speech intelligibility by speech transmission index*¹⁾

IEC 60364: *Electrical installations of buildings*

IEC 60417:1973, *Graphical symbols for use on equipment*

IEC 61938:1996, *Audio, video and audiovisual systems – Interconnections and matching values – Preferred matching values of analogue signals*

3 Definitions

For the purpose of this standard, the following definitions apply.

3.1

area of coverage

the area, inside and/or outside a building, where the system meets the requirements laid down in this standard

NOTE – Certain parts of an area may be excluded, see 5.1

3.2

loudspeaker zone

any part of the area of coverage to which information can be given separately

3.3

information

any speech or intended audio signal

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3.4

audibility

that property of sound which allows it to be heard among other sounds

NOTE – At present for objective analysis, for example when using the STI equation (see IEC 60268-16), the concept of audibility takes account of the relative loudness and frequency content of the sound in comparison with other sounds present at the same time.

3.5

intelligibility

a measure of the proportion of the content of a speech message that can be correctly understood

NOTE – Satisfactory intelligibility requires adequate audibility and adequate clarity.

3.6

clarity

the property of a sound which allows its information-bearing components to be distinguished by a listener. It is related to the freedom of the sound from distortion of all kinds

NOTE – There are three kinds of distortion involved in the reduction of clarity of a speech signal in an electroacoustic system:

- a) amplitude distortion, due to non-linearity in electronic equipment and transducers;
- b) frequency distortion, due to non-uniform frequency response of transducers and selective absorption of high frequencies in acoustic transmission;
- c) time domain distortion, due to reflection and reverberation in the acoustic domain.

¹⁾ To be published.