



SLOVENSKI STANDARD
SIST EN IEC 62368-1:2024/A11:2024
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**Oprema za avdio/video, informacijsko in komunikacijsko tehnologijo - 1. del:
Varnostne zahteve - Dopolnilo A11**

Audio/video, information and communication technology equipment - Part 1: Safety requirements

Einrichtungen für Audio/Video-, Informations- und Kommunikationstechnik – Teil 1: Sicherheitsanforderungen

Équipements des technologies de l'audio/vidéo, de l'information et de la communication - Partie 1: Exigences de sécurité

Ta slovenski standard je istoveten z: EN IEC 62368-1:2024/A11:2024

[SIST EN IEC 62368-1:2024/A11:2024](https://standards.sist.si/standards/sist/703124/0170/0001/1163456654/0001/en-iec-62368-1-2024-a11-2024)

ICS:

33.160.01	Avdio, video in avdiovizualni sistemi na splošno	Audio, video and audiovisual systems in general
35.020	Informacijska tehnika in tehnologija na splošno	Information technology (IT) in general

SIST EN IEC 62368-1:2024/A11:2024 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
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English Version

Audio/video, information and communication technology equipment - Part 1: Safety requirements

Équipements des technologies de l'audio/vidéo, de
l'information et de la communication - Partie 1: Exigences
de sécurité

Einrichtungen für Audio/Video-, Informations- und
Kommunikationstechnik - Teil 1: Sicherheitsanforderungen

This amendment A11 modifies the European Standard EN IEC 62368-1:2024; it was approved by CENELEC on 2024-02-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

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

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European foreword

This document (EN IEC 62368-1:2024/A11:2024) has been prepared by CLC/TC 108X "Safety of electronic equipment within the fields of Audio/Video, Information Technology and Communication Technology".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2025-02-15
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2027-02-15

This document modifies EN IEC 62368-1:2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2023 are prefixed "Z".

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

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1 Modification to the whole document

Delete all the “country” notes in the reference document according to the following list:

0.2.1	Note 1 and Note 2	1	Note 4 and Note 5	3.3.8.1	Note 2
3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and Note 2
5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and Note 3	5.4.2.3.2.4 Table 13	Note 2
5.4.2.5	Note 2	5.4.5.1	Note	5.4.10.2.1	Note
5.4.10.2.2	Note	5.4.10.2.3	Note		
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and Note 3 and Note 4
5.6.8	Note 2	5.7.7.1	Note 1 and Note 2	8.5.4.2.3	Note
10.2.1 Table 39	Note 3 and Note 4 and Note 5	10.5.3	Note 2	10.6.1	Note 3
F.3.3.4	Note 2	F.3.3.6	Note 3	Y.4.1	Note
Y.4.5	Note				

2 Modification to Clause 1

Add the following note at the end of Clause 1:

“NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.”

Add the following paragraph and note after Note 5:

“This document is a type test standard.

NOTE Z2 **Routine tests** of complete equipment, sub-assemblies or components are covered by EN 62911.”

3 Modification to Clause 2

Add the following references:

EN 71-1:2014+A1:2018, *Safety of toys - Part 1: Mechanical and physical properties*

EN 50332-1:2013, *Sound system equipment: Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 1: General method for “one package equipment”*

EN 50332-2:2013, *Sound system equipment: Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 2: Matching of sets with headphones if either or both are offered separately, or are offered as one package equipment but with standardised connectors between the two allowing to combine components of different manufacturers or different design*

EN 50332-3:2017, *Sound system equipment: headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 3: Measurement method for sound dose management*

IEC/TR 62471-2, *Photobiological safety of lamps and lamp systems - Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety*

4 Modification to Clause 4

Add the following new subclause 4.Z1 after subclause 4.9:

“For compliance with B.3 and B.4 in circuits connected to an AC **mains**, protective **devices** shall be provided, subject to the following:

- for **pluggable equipment type A**, the protective **devices** shall be included as parts of the equipment, with the exception of components in series with the **mains** input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, for which the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet;
- for **pluggable equipment type B** or **permanently connected equipment**, the protection may be the dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, for example a fuse or circuit breaker, is fully specified in the installation instructions.

Where protective **devices** are required within the equipment, the protective **devices** within the equipment shall operate before or at the same time the expected building installation protection will operate.

For earth faults in single-phase equipment, it is not necessary to provide 2 protective **devices**. It is expected that the building installation will protect against earth faults. This applies also in countries where an IT power distribution system is used.”

5 Modification to subclause 4.1.9

Add the following paragraph at the end of this subclause:

“Products need to comply with the requirements of this document with appropriate measurement uncertainty.”

NOTE Z1 See also the ADCO RED position on ‘Measurement uncertainty in published harmonized standards’.”

6 Modification to subclause 5.4.9.1

Add the following note after the 5th paragraph:

“NOTE Z1 For guidance on the use of high voltage source, see IEC 60060-1, Clause 8 of IEC 60243-1 and IEC 61180.”

7 Modification to subclause 5.4.2.3.2.4

Add the following at the end of this subclause:

“The requirement for interconnection with **external circuit** in a HBES/BACS network is in addition given in EN IEC 63044-3:2018.”

8 Modification to subclause 5.6.6.2

Replace item d) with the following:

“d) For equipment powered from a DC **mains**, if the **protective current rating** of the circuit under test exceeds 25 A, the test current shall be minimum as required in item a), unless the manufacturer specifies a higher value.”

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9 Modification to subclause 9.3.1

Replace the second paragraph with the following:

“An **accessible** part that, while in contact with the body, is likely to drop in temperature upon touch can be evaluated under the limits of Annex A of IEC Guide 117:2010 using the test method of 4.5 of IEC Guide 117.”

10 Modification to subclause 10.2.1

Add the following to ^{c)} and ^{d)} in Table 38:

“For additional requirements, see 10.5.1.”

11 Modification to subclause 10.4.1

Replace the second paragraph of 10.4.1 with:

“Electronic light effect equipment does not have to comply with the requirements of 10.4. However, IEC/TR 62471-2 shall be considered and proper installation instructions shall be provided.”

Replace the ninth paragraph of 10.4.1 with:

“The following information shall be provided in the user manual for safe operation and installation. This information shall also be provided for safe operation by a **skilled person** who may be exposed to Risk Group 3 energy levels.

Adequate instructions for proper assembly, installation, maintenance and safe use, including clear warnings concerning precautions to avoid possible exposure to hazardous optical radiation; and

Advice on safe operating procedures and warnings concerning **reasonably foreseeable misuse**, malfunctions and hazardous failure modes. Where servicing and maintenance procedures are detailed, they shall include explicit instructions on safe procedures to be followed; and

The marking on the equipment shall be reproduced in the user manual. A yellow background is not required in the user manual.”

12 Modification to subclause 10.4.4

Replace the last paragraph of 10.4.4 with:

“Compliance against material degradation from UV radiation is checked by the applicable tests of Annex C.”

13 Modification to subclause 10.5.1

Add the following after the first paragraph:

“For RS1 compliance is checked by measurement under the following conditions:

*In addition to the **normal operating conditions**, all controls adjustable from the outside of the equipment by hand, by any object such as a **tool** or a **coin**, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.*

NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.

The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point at a distance of 10 cm from the outer surface of the equipment.

Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.

For RS1, the dose-rate shall not exceed 1 $\mu\text{Sv/h}$ taking account of the background level.

NOTE Z2 These values appear in Directive 2013/59/Euratom of 5 December 2013."

14 Modification to subclause 10.5.3

Replace the second paragraph of 10.5.3 with:

"The amount of radiation is determined by means of a radiation monitor of the ionizing chamber type with an effective area of $1\,000\text{ mm}^2 \pm 10\text{ mm}^2$ or by measuring equipment of other types giving equivalent results."

15 Modification to Clause 10

Replace 10.6 with the following:

"

10.6 Safeguards against acoustic energy sources

10.6.1 General

10.6.1.1 Introduction

Safeguard requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered.

A personal music player is a portable equipment intended for use by an **ordinary person**, that:

- is designed to allow the user to listen to audio or audiovisual content / material; and
- uses a listening **device**, such as headphones or earphones that can be worn in or on or around the ears; and
- has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.).

EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment.

Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3.

NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360.

NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible.

Listening **devices** sold separately shall comply with the requirements of 10.6.6.

These requirements are valid for music or video mode only.

The requirements do not apply to:

- **professional equipment**;

NOTE 3 **Professional equipment** is equipment sold through special sales channels. All products sold through normal electronics stores or general public sales channels are considered not to be **professional equipment**.

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- hearing aid equipment and other devices for assistive listening;
- the following type of analogue personal music players:
 - long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and
 - cassette player/recorder;

NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.

- a player while connected to an external amplifier that does not allow the user to walk around while in use;
- hearing protection devices (HPD) that comply with EN 352-8

For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply.

The relevant requirements are given in EN 71-1:2014+A1:2018, 4.20 and the related tests methods and measurement distances apply.

10.6.2 Classification of devices without the capacity to estimate sound dose**10.6.2.1 General**

This standard is transitioning from short-term based (30 s) requirements to long-term based (40 h) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3:2017.

For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period.

For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song.

NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit.

For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.

10.6.2.2 RS1 limits (to be superseded, see 10.6.3.2)

RS1 is a class 1 acoustic energy source that does not exceed the following:

- for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1:2013;
- for equipment provided with a standardized connector (for example, a 3,5 mm headphone/earphone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1:2013.

The RS1 limits will be updated for all devices as per 10.6.3.2.

10.6.2.3 RS2 limits (to be superseded, see 10.6.3.3)

RS2 is a class 2 acoustic energy source that does not exceed the following:

- for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1:2013;
- for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1:2013.

10.6.2.4 RS3 limits

RS3 is a class 3 acoustic energy source that exceeds RS2 limits.

10.6.3 Classification of devices (new)

10.6.3.1 General

Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision 2009/490/EC of 23 June 2009, are given below.

10.6.3.2 RS1 limits (new)

RS1 is a class 1 acoustic energy source that does not exceed the following:

- for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1:2013;
- for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1:2013.

10.6.3.3 RS2 limits (new)

RS2 is a class 2 acoustic energy source that does not exceed the following:

- for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly **sound exposure level**, as described in EN 50332-3:2017, shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1:2013;
- for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN 50332-3:2017, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1:2013.