SLOVENSKI STANDARD
SIST EN 60950-1:2006/A12:2011

01-april-2011

Oprema za informacijsko tehnologijo - Varnost - 1. del: Splošne zahteve - Dopolnilo A12

Information technology equipment - Safety - Part 1: General requirements

Einrichtungen der Informationstechnik - Sicherheit - Teil 1: Allgemeine Anforderungen

Matériel de traitement de l'information - Sécurité - Partie 1: Exigences générales

Ta slovenski standard je istoveten z: **EN 60950-1:2006/A12:2011**

ICS:

35.020	Informacijska tehnika in tehnologija na splošno	Information technology (IT) in general

SIST EN 60950-1:2006/A12:2011 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60950-1/A12

February 2011

ICS 35.020; 35.260

English version

Information technology equipment - Safety - Part 1: General requirements

Matériel de traitement de l'information - Sécurité - Partie 1: Exigences générales

Einrichtungen der Informationstechnik - Sicherheit - Teil 1: Allgemeine Anforderungen

This amendment A12 modifies the European Standard EN 60950-1:2006; it was approved by CENELEC on 2011-01-24. 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 Central Secretariat or to any CENELEC member.

This amendment 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60950-1:2006/A12:2011 E

Foreword

This amendment to the European Standard EN 60950-1:2006 was prepared by the Technical Committee CENELEC TC 108X, Safety of electronic equipment within the fields of audio/video, information technology and communication technology.

The text of the draft was submitted to the unique acceptance procedure and was approved by CENELEC as amendment A12 to EN 60950-1:2006 on 2011-01-24.

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

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)	2012-01-24
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2013-01-24

Sub-clauses, tables and figures which are additional to those in IEC 60950-1:2005 are prefixed “Z”.

Text of A12 to EN 60950-1:2006

Modify the following in the existing standard and amendments

1.3.Z1 in EN 60950-1:2006

Delete the addition of **1.3.Z1**

1.2.3 in EN 60950-1:2006/A1:2010

Delete the definition **1.2.3.Z1**

1.7.2.1 in EN 60950-1:2006 and EN 60950-1:2006/A1:2010

Delete NOTE Z1 and the addition for Portable Sound System

Add the following clause and annex to the existing standard and amendments

Zx. Protection against excessive sound pressure from personal music players

Zx.1 General

This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.

A personal music player is a portable equipment for personal use, that:

– is designed to allow the user to listen to recorded or broadcast sound or video; and

– primarily uses headphones or earphones that can be worn in or on or around the ears; and

– allows the user to walk around while in use.

NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.

A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.

The requirements in this sub-clause are valid for music or video mode only.

The requirements do not apply:

– while the personal music player is connected to an external amplifier; or

– while the headphones or earphones are not used.

NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.

The requirements do not apply to:

– hearing aid equipment and professional equipment;

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

– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.

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.

For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.

Zx.2 Equipment requirements

No safety provision is required for equipment that complies with the following:

– equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and

– a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.

NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.

All other equipment shall:

a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and

b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and

c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and

NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.

NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.

d) have a warning as specified in Zx.3; and

e) not exceed the following:

1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and

2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1.

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, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.

NOTE 4 Classical music 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 song 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 is below the basic limit of 85 dBA.

For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, 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 dBA.

Zx.3 Warning

The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:

– the symbol of Figure 1 with a minimum height of 5 mm; and
– the following wording, or similar:

To prevent possible hearing damage, do not listen at high volume levels for long periods.

Figure 1 – Warning label (IEC 60417-6044)

Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.

Zx.4 Requirements for listening devices (headphones and earphones)

Zx.4.1 Wired listening devices with analogue input

With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.

This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).

NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.

Zx.4.2 Wired listening devices with digital input

With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.

This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).

NOTE An example of a wired listening device with digital input is a USB headphone.

Zx.4.3 Wireless listening devices

In wireless mode:

– with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and

– respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and

– with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above-mentioned programme simulation noise,

the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.

NOTE An example of a wireless listening device is a Bluetooth headphone.

Zx.5 Measurement methods

Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.

NOTE Test method for wireless equipment provided without listening device should be defined.

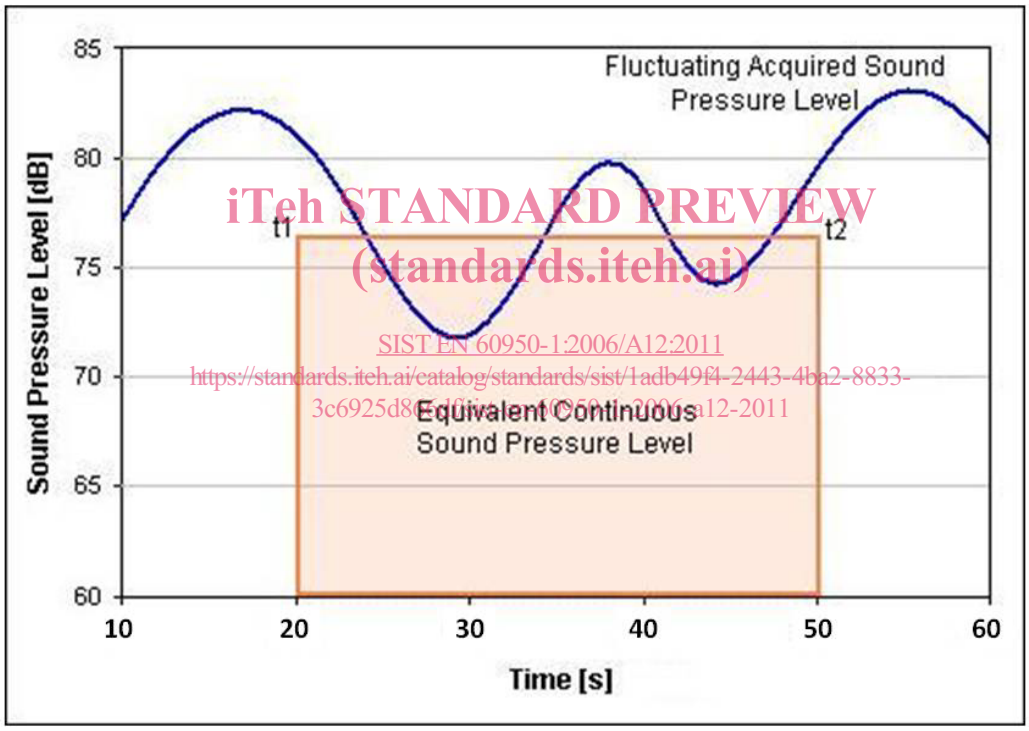
Annex Zx
(informative)

Significance of $L_{Aeq,T}$ in EN 50332-1 and additional information

$L_{Aeq,T}$ is derived from the general formula for equivalent sound pressure:

$$L_{eq} = 10\log\left[\frac{1}{t_2 - t_1}\int_{t_1}^{t_2}\frac{p_A^2}{p_0^2}dt\right]$$

This can be represented graphically as follows:



In EN 50332-1 the measurement time interval ($t_2 - t_1$) is 30 s.

In practice, and for the purposes of listening to personal music player content, $L_{Aeq,T}$ has a time interval T ($t_2 - t_1$) in the order of minutes / hours and not seconds.

6.5 (Limitation value) of EN 50332-1:2000 acknowledges this fact and states that the 100 dB limit equates to a long time average of 90 dB $L_{Aeq,T}$. By using the IEC 60268-1 “programme simulation noise” test signal, this also takes the spectral content into account.