

Avdio in avdiovizualna oprema – Digitalni avdio deli – Osnovne merilne metode zvokovnih karakteristik - 1. del: Splošno (IEC 61606-1:2003)

Audio and audiovisual equipment - Digital audio parts - Basic measurement methods of audio characteristics - Part 1: General (IEC 61606-1:2003)

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EUROPEAN STANDARD

EN 61606-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2004

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Supersedes EN 61606:1997

English version

**Audio and audiovisual equipment –
Digital audio parts –
Basic measurement methods of audio characteristics
Part 1: General
(IEC 61606-1:2003)**

Equipements audio et audiovisuels -
Parties audionumériques –
Méthodes fondamentales pour la mesure
des caractéristiques audio
Partie 1 : Généralité
(CEI 61606-1:2003)

Digitale Audio- und audiovisuelle Geräte -
Grundlegende Messverfahren
der Audio-Eigenschaften
Teil 1: Allgemeines
(IEC 61606-1:2003)

STANDARD PREVIEW
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SIST EN 61606-1:2004

This European Standard was approved by CENELEC on 2003-12-01. 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, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 100/694/FDIS, future edition 1 of IEC 61606-1, prepared by 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 61606-1 on 2003-12-01.

This European Standard and EN 61606-2 supersede EN 61606:1997.

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) 2004-09-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2006-12-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61606-1:2003 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

The following referenced documents are indispensable for the application 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 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 60038 (mod)	- ¹⁾	IEC standard voltages ²⁾	HD 472 S1 + corr. February	1989 ³⁾ 2002
IEC 60107-5	- ¹⁾	Recommended methods of measurement on receivers for television broadcast transmissions Part 5: Electrical measurements on multichannel sound television receivers using the NICAM two-channel digital sound-system	EN 60107-5	1992 ³⁾
IEC 60268-2	- ¹⁾	Sound system equipment Part 2: Explanation of general terms and calculation methods	HD 483.2 S2	1993 ³⁾
IEC 60268-3	- ¹⁾	Part 3: Amplifiers	EN 60268-3 + corr. January	2000 ³⁾ 2002
IEC 60958	Series	Digital audio interface	EN 60958	Series
IEC 61079-4	- ¹⁾	Methods of measurement on receivers for satellite broadcast transmissions in the 12 GHz band Part 4: Electrical measurements on sound/data decoder units for the digital subcarrier/NTSC system	-	-
IEC 61079-5	- ¹⁾	Part 5: Electrical measurements on decoder units for MAC/Packet systems	EN 61079-5	1993 ³⁾
IEC 61883-6	- ¹⁾	Consumer audio/video equipment - Digital interface Part 6: Audio and music data transmission protocol	EN 61883-6	2002 ³⁾

1) Undated reference.

2) The title of HD 472 S1 ist "Nominal voltages for low voltage public electricity supply systems".

3) Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61938	- ¹⁾	Audio, video and audiovisual systems - Interconnections and matching values - Preferred matching values of analogue signals	EN 61938 + corr. February	1997 ³⁾ 1997
ISO 266	- ¹⁾	Acoustics - Preferred frequencies	EN ISO 266	1997 ³⁾
ITU-R BS 468-4	- ¹⁾	Measurement of audio-frequency noise voltage level in sound broadcasting	-	-
AES 17	- ¹⁾	AES standard method for digital audio engineering - Measurement of digital audio equipment	-	-

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INTERNATIONAL STANDARD

IEC 61606-1

First edition
2003-10

Audio and audiovisual equipment – Digital audio parts – Basic measurement methods of audio characteristics –

Part 1: General

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUDIO AND AUDIOVISUAL EQUIPMENT – DIGITAL AUDIO PARTS –
BASIC MEASUREMENT METHODS OF AUDIO CHARACTERISTICS –**

Part 1: General

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 61606-1 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

IEC 61606-2 and this standard cancel and replace IEC 61606 (1997). This first edition of IEC 61606-1 constitutes a technical revision.

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

FDIS	Report on voting
100/694/FDIS	100/715/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.

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

IEC 61606 consists of the following parts under the general title *Audio and audiovisual equipment – Digital audio parts – Basic measurement methods of audio characteristics*:

Part 1: General

Part 2: Consumer use

Part 3: Professional use¹

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

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

A bilingual edition may be issued at a later date.

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¹ Under consideration.

AUDIO AND AUDIOVISUAL EQUIPMENT – DIGITAL AUDIO PARTS – BASIC MEASUREMENT METHODS OF AUDIO CHARACTERISTICS –

Part 1: General

1 Scope

This part of IEC 61606 deals with the basic methods of measurement of the audio characteristics of the digital audio part of audio and audiovisual equipment for both consumer and professional use.

The common measuring conditions and methods, described in this standard, are used for the measurement of the performance characteristics of equipment having an audio bandwidth equal to approximately one-half of the sampling frequency of a system, where the audio information is processed in the form of digital data. CD players, DAT recorders, digital amplifiers, digital sound broadcast receivers and television broadcast receivers with digital sound are examples. Methods specified in this standard are not applicable to systems incorporating bit-rate reduced digital audio signals that have data loss.

This standard describes tests for equipment which has digital input with analogue output and analogue input with digital output. Future revisions of this standard will cover digital-in/digital-out and analogue-in/analogue-out tests.

This standard does not apply to power amplifiers.

NOTE 1 A digital audio system having an analogue input and an analogue output with digital signal processing may have different characteristics from those of a pure analogue audio system due to sampling of the audio signal and performance of incorporated A/D and D/A converters. Measurement methods described in IEC 60268-3 may not give correct results when applied to a digital system.

NOTE 2 The methods described are mostly based on sampling frequencies of 32 kHz and higher.

NOTE 3 For tests of those systems of digital-in – digital-out, and analogue-in – analogue-out test, refer to AES 17.

NOTE 4 This standard is planned to provide the industry with a harmonized set of methods of measurements for digital audio equipment as described in the first edition of IEC 61606 (1997), AES 17 and EIAJ CP-2i50.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60038, *IEC standard voltages*

IEC 60107-5, *Recommended methods of measurement on receivers for television broadcast transmissions – Part 5: Electrical measurements on multichannel sound television receivers using the NICAM two-channel digital sound system*

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

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

IEC 60958 (all parts), *Digital audio interface*