



# SLOVENSKI STANDARD

## SIST EN 61603-1:1999

01-april-1999

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### Transmission of audio and/or video and related signals using infra-red radiation -- Part 1: General (IEC 61603-1:1997)

Transmission of audio and/or video and related signals using infra-red radiation -- Part 1: General

Übertragung von Ton- und/oder Bildsignalen und verwandten Signalen mit Infrarot-Strahlung -- Teil 1: Allgemeines

Transmission de signaux audio et/ou vidéo et de signaux similaires au moyen du rayonnement infrarouge -- Partie 1: Généralités

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Ta slovenski standard je istoveten z: EN 61603-1:1997

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#### **ICS:**

33.160.99	Druga avdio, video in avdiovizuelna oprema	Other audio, video and audiovisual equipment
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Descriptors: Sound transmission, electroacoustic equipment, infrared radiation, general, measurements, characteristics, performance evaluation, classifications, marking

English version

**Transmission of audio and/or video and related signals  
using infra-red radiation  
Part 1: General  
(IEC 61603-1:1997 + corrigendum 1997)**

Transmission de signaux audio et/ou  
vidéo et de signaux similaires au moyen  
du rayonnement infrarouge  
Partie 1: Généralités  
(CEI 61603-1:1997 +  
corrigendum 1997)

Übertragung von Ton- und/oder  
Bildsignalen und verwandten Signalen  
mit Infrarot-Strahlung  
Teil 1: Allgemeines  
(IEC 61603-1:1997 +  
Corrigendum 1997)

This European Standard was approved by CENELEC on 1997-03-11. 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, 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

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

### Foreword

The text of document 100C/31/FDIS, future edition 1 of IEC 61603-1, 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 61603-1 on 1997-03-11.

This European Standard supersedes HD 455 S1:1985.

This standard is to be used in conjunction with ENV 50185-1:1995.

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) 1997-12-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 1997-12-01

Annexes designated "normative" are part of the body of the standard.  
Annexes designated "informative" are given for information only.  
In this standard, annex ZA is normative and annex A is informative.  
Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 61603-1:1997 and its corrigendum May 1997 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 50(845)	1987	International Electrotechnical Vocabulary (IEV) Chapter 845: Lighting	-	-
IEC 65 (mod)	1985	Safety requirements for mains operated electronic and related apparatus for household and similar general use	EN 60065 <sup>1)</sup> + corr. November 1993	1993
IEC 68	series	Environmental testing	EN 60068 HD 323	series series
IEC 268-1	1985	Sound system equipment Part 1: General	HD 483.1 S2 <sup>2)</sup>	1989
IEC 268-15	1996 <sup>3)</sup>	Part 15: Preferred matching values for the interconnection of sound system components	-	-
IEC 417	1973	Graphical symbols for use on equipment - Index, survey and compilation of the single sheets	HD 243 S12 <sup>4)</sup>	1995
IEC 574-3	1983	Audiovisual, video and television equipment and systems Part 3: Connectors for the interconnection of equipment in audio-visual systems	HD 369.3 S1	1986
IEC 574-4	1982	Part 4: Preferred matching values for the interconnection of equipment in a system	HD 369.4 S2 + corr. September 1993	1993
IEC 825-1	1993	Safety of laser products Part 1: Equipment classification, requirements and user's guide	EN 60825-1 + corr. February 1995 + A11	1994 1995 1996

1) EN 60065 includes A1:1987 + A2:1989 + A3:1992 to IEC 65.

2) HD 483.1 S2 includes A1:1988 to IEC 268-1.

3) IEC 268-15:1987 + A1:1989 + A2:1990 + A3:1991 are harmonized as HD 483.15 S4:1992.

4) HD 243 S12 includes supplements A:1974 to M:1994 to IEC 417.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 1147	1993	Uses of infra-red transmission and the prevention or control of interference between systems	-	-
ISO 7000	1989	Graphical symbols for use on equipment Index and synopsis	-	-

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**Transmission de signaux audio et/ou vidéo  
et de signaux similaires au moyen  
du rayonnement infrarouge –**

**Partie 1:  
Généralités**

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**Transmission of audio and/or video and  
related signals using infra-red radiation –**

**Part 1:  
General**

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## TRANSMISSION OF AUDIO AND/OR VIDEO AND RELATED SIGNALS USING INFRA-RED RADIATION –

### Part 1: General

#### 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 co-operation 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 IEC 1603-1 has been prepared by subcommittee 100C: Equipment and systems in the field of audio, video and audiovisual engineering, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This standard should be read in conjunction with IEC 1147 (technical report).

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

FDIS	Report on voting
100C/31/FDIS	100C/58/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.

Annex A is for information only.

This standard supersedes IEC 764 and consists of six parts:

- Part 1: General
- Part 2: Transmission systems for audio wideband and related signals
- Part 3: Transmission systems for audio signals for conference and similar applications
- Part 4: Transmission systems for low-speed remote control
- Part 5: Transmission systems for high-speed data and remote control
- Part 6: Transmission systems for video and audiovisual signals of high quality

The contents of the corrigendum of May 1997 have been included in this copy.

## INTRODUCTION

This part of IEC 1603 covers the transmission of audio, video, data and control signals which use free radiation of infra-red (IR).

Transmission using infra-red radiation is in growing use for many different applications. This standard gives guidance for the generic usage of infra-red. It provides information for designers and users of infra-red systems which allow the evaluation of the operation of different systems.

IEC 764 specifies requirements for audio transmission with high quality audio transfer via two infra-red channels and for conference systems with up to nine audio channels and using frequency modulation on subcarriers which amplitude modulate the IR intensity. However, this number of channels sets limits on technical evolution. The growing use of IR transmission, such as for remote control or data transmission, and the increasing number of cases, where modulated IR is emitted as a side-effect, reveals the need for a more general concept.

Infra-red systems typically use radiation in the range of wavelengths from 830 nm to 950 nm. To take into account possible future development, this standard covers wavelengths from 700 nm to 1600 nm. A direct modulation of the frequency of the infra-red radiation is possible, but is not yet used for transmission through air. It should not be excluded in the long term.

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The prevention of interference between different applications by the use of different wavelengths is not yet economically feasible, but the situation may soon change; therefore this possibility is allowed for in this standard.

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Most of the applications in the complete standard (six parts) already exist as wired systems. In extending to wireless links using infra-red, the aim is to retain the transmission properties of the wired versions. This standard is therefore as consistent as possible with existing standards for wired systems.

This standard gives guidance only on avoiding interference from light sources. For a fully compatible system, it is necessary to set limits both for the emission from light sources and for the immunity of the infra-red transmission systems.

For ease of reference, the applications covered in the different parts of this standard are explained in more detail in annex A.

# TRANSMISSION OF AUDIO AND/OR VIDEO AND RELATED SIGNALS USING INFRA-RED RADIATION –

## Part 1: General

### Section 1: General

#### 1.1 Scope

This part of IEC 1603 gives methods of measuring and specifying the common technical features of the parts of systems which use diffusely radiated or wide beams of infra-red radiation as carriers of information, mainly representing audio and/or video signals but also control data related to audio and video apparatus.

This standard applies to signal transmission by use of freely radiated infra-red, normally used indoors in rooms and for groups of varying sizes. It does not cover security systems or other industrial applications, such as measurement and automation equipment. It also does not cover traffic systems or systems for the help of handicapped people. Narrow-beam and cable-like infra-red applications are excluded, although the former could interfere with the systems covered.

#### 1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 1603. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1603 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.

<https://standards.iteh.ai/catalog/standards/sist/52fa8063-67d1-4223-bd13-112068200000/iec-50-845-1987>  
IEC 50(845): 1987, *International Electrotechnical Vocabulary – Lighting*

IEC 65: 1985, *Safety requirements for mains operated electronic and related apparatus for household and similar general use*

IEC 68: *Environmental testing*

IEC 268-1: 1985, *Sound system equipment – Part 1: General*

IEC 268-15: 1996, *Sound system equipment – Part 15: Preferred matching values for the interconnection of sound system components*

IEC 417: *Graphical symbols for use on equipment*

IEC 574-3: 1983, *Audiovisual, video and television equipment and systems – Part 3: Connectors for the interconnection of equipment in audiovisual systems*

IEC 574-4: 1982, *Audiovisual, video and television equipment and systems – Part 4: Preferred matching values for the interconnection of equipment in a system*

IEC 825-1: 1993, *Safety of laser products – Part 1: Equipment classification, requirements and user's guide*

IEC 1147: 1993, *Uses of infra-red transmission and the prevention or control of interference between systems*

ISO 7000: 1989, *Graphical symbols for use on equipment – Index and synopsis*