ICS 33.160.30 SLOVENSKÁ TECHNICKÁ NORMA November 2016

STN	**Digitálne zvukové rozhranie. Časť 4-4: Profesionálne účely. Fyzikálne a elektrické parametre.**	**STN EN 60958-4-4** 36 8303

Digital audio interface - Part 4-4: Professional applications - Physical and electrical parameters

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/16

Obsahuje: EN 60958-4-4:2016, IEC 60958-4-4:2016

Spolu s STN EN 60958-4-1 a STN EN 60958-4-2 od 28.04.2019 ruší
STN EN 60958-4 (36 8303) z júna 2004

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60958-4-4

July 2016

ICS 33.160.30

Supersedes EN 60958-4:2003 (partially)

English Version

Digital audio interface - Part 4-4: Professional applications - Physical and electrical parameters (IEC 60958-4-4:2016)

Interface audionumérique - Partie 4-4: Applications professionnelles - Paramètres physiques et électriques (IEC 60958-4-4:2016)

Digitalton-Schnittstelle - Teil 4-4: Professioneller Gebrauch - Physikalische und elektrische Eigenschaften (IEC 60958-4-4:2016)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 100/2454/CDV, future edition 1 of IEC 60958-4-4, prepared by Technical Area 4 "Digital system interfaces and protocols", of IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60958-4-4:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-01-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-04-28

This document, together with EN 60958-4-1:2016 and EN 60958-4-2:2016, supersedes EN 60958-4:2003.

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

Endorsement notice

The text of the International Standard IEC 60958-4-4:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60958	NOTE	Harmonized in EN 60958 series.
IEC 60958-3	NOTE	Harmonized as EN 60958-3.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60268-12	-	Sound system equipment - Part 12: Application of connectors for broadcast and similar use	EN 60268-12	-
IEC 60603-7	series	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	EN 60603-7	series
IEC 60958-1	2008	Digital audio interface - Part 1: General	EN 60958-1	2008
+ A1	2014		+A1	2014
IEC 60958-4-1	-	Digital audio interface - Part 4-1: Professional applications - Audio content	EN 60958-4-1	-
IEC 60958-4-2	-	Digital audio interface - Part 4-2: Professional applications - Metadata and subcode	EN 60958-4-2	-
IEC 61169-8	-	Radio-frequency connectors - Part 8: Sectional specification - RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock - Characteristics impedance 50 ohms (type BNC)	EN 61169-8	-
ISO/IEC 11801	-	Information technology - Generic cabling for customer premises	-	-

IEC 60958-4-4

Edition 1.0 2016-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Digital audio interface – Part 4-4: Professional applications – Physical and electrical parameters

Interface audionumérique – Partie 4-4: Applications professionnelles – Paramètres physiques et électriques

IEC 60958-4-4:2016-03(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DIGITAL AUDIO INTERFACE –

Part 4-4: Professional applications – Physical and electrical parameters

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 60958-4-4 has been prepared by technical area 4: Digital system interfaces and protocols, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This first edition, together with IEC 60958-4-1 and IEC 60958-4-2, cancels and replaces the IEC 60958-4 published in 2003 and its Amendment 1:2008 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 60958-4:2003 with its Amendment 1:2008:

a) support for a wider range of physical media;
b) support for a wider range of audio sampling frequencies;
c) deprecation of "minimum implementation" of channel status data.

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

CDV	Report on voting
100/2454/CDV	100/2583/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

A list of all parts in the IEC 60958 series, published under the general title *Digital audio interface*, can be found on the IEC website.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

INTRODUCTION

The two-channel digital audio interface has been widely used in a variety of professional audio applications that have reached beyond the vision of the original standard. In particular, applications using increased sampling frequencies and alternative physical media.

Separating the standard into independently-maintainable parts allows, for example, additional transmission media to be introduced in the future by revising IEC 60958-4-4 without affecting the other parts of the IEC 60958-4 series. The parts comprise:

Part 4-1: Audio content: defines the format for coding audio used for the audio content. It specifies the semantics of the audio data, including the "validity" flag. It also specifies the sampling frequency by reference to AES5.

Part 4-2: Metadata and subcode: specifies the format for information, metadata, or subcode transmitted with the audio data: principally the channel status but also user data and the auxiliary bits. Implementors will note that the current implementation options ("Standard" and "Enhanced") both require that status data be implemented correctly in compliant equipment.

Part 4-4: Physical and electrical parameters: specifies the physical signals that convey the bit stream specified in IEC 60958-1. The transport format is intended for use with shielded twisted-pair cable of conventional design over distances of up to 100 m at frame rates of up to 50 kHz. Longer cable lengths and higher frame rates may be used, but with a rapidly increasing requirement for care in cable selection and possible receiver equalization, or the use of active repeaters. Provision is made in this standard for adapting the balanced terminals to use 75 Ω coaxial cable. Transmission by fibre-optic cable is under consideration.

DIGITAL AUDIO INTERFACE –

Part 4-4: Professional applications – Physical and electrical parameters

1 Scope

This part of IEC 60958 specifies the physical and electrical parameters for different media. This part together with IEC 60958-1, IEC 60958-4-1, and IEC 60958-4-2 specify an interface for the serial digital transmission of two channels of periodically sampled and linearly represented digital audio data from one transmitter to one receiver.

The transport format defined in IEC 60958-1 is intended for use with shielded twisted-pair cable of conventional design over distances of up to 100 m without transmission equalization or any special equalization at the receiver and at frame rates of up to 50 kHz. Longer cable lengths and higher frame rates may be used, but with a rapidly increasing requirement for care in cable selection and possible receiver equalization or the use of active repeaters, or both. Provision is made in this standard for adapting the balanced terminals to use 75 Ω coaxial cable, and transmission by fibre-optic cable is under consideration. This standard does not cover connection to any common carrier equipment. In this interface specification, an interface for consumer use is also mentioned. The two interfaces are not identical.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

IEC 60603-7 (all parts), *Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

IEC 60958-1:2008, *Digital audio interface – Part 1: General*
IEC 60958-1:2008/AMD1:2014

IEC 60958-4-1, *Digital audio interface – Part 4-1: Professional applications – Audio content*

IEC 60958-4-2, *Digital audio interface – Part 4-2: Professional applications – Metadata and subcode*

IEC 61169-8, *Radio-frequency connectors – Part 8: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic impedance 50 Ω (type BNC)*

ISO/IEC 11801, *Information technology – Generic cabling for customer premises*