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Edition 1.0 2016-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Digital audio interface – Part 4-1: Professional applications – Audio content

Interface audionumérique – Partie 4-1: Applications professionnelles – Contenu audio

IEC 60958-4-1:2016-03(en-fr)

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DIGITAL AUDIO INTERFACE –

Part 4-1: Professional applications – Audio content

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International Standard IEC 60958-4-1 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 60958-4-2 and IEC 60958-4-4, cancels and replaces 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.

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

CDV	Report on voting
100/2452/CDV	100/2581/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- withdrawn,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

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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.

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DIGITAL AUDIO INTERFACE –

Part 4-1: Professional applications – Audio content

1 Scope

This part of IEC 60958 specifies the format for coding audio used for the audio content. Together with IEC 60958-1, IEC 60958-4-2, and IEC 60958-4-4, it specifies an interface for serial digital transmission of two channels of periodically sampled and linearly represented digital audio data from one transmitter to one receiver.

It is expected that the audio data will have been sampled at any of the sampling frequencies recognized by AES5. The capability of the interface to indicate other sample rates does not imply that it is recommended that equipment support these rates. To eliminate doubt, equipment specifications should define supported sampling frequencies.

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 60958-1, *Digital audio interface – Part 1: General*

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

IEC 60958-4-4, *Digital audio interface – Part 4-4: Professional applications – Physical and electrical parameters*

ITU-R Recommendation BS.450-3, *Transmission standards for FM sound broadcasting at VHF*

ITU-T Recommendation J.17, *Pre-emphasis used on sound-program circuits*

AES5-2008 (r2013), *AES recommended practice for professional digital audio – Preferred sampling frequencies for applications employing pulse-code modulation* http://www.aes.org/

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
sampling frequency
frequency of the samples representing an audio signal

Note 1 to entry: See 5.2.

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