

Digital audio interface —

Part 4: Professional applications (TA4)

ICS 33.160.30

National foreword

This British Standard is the UK implementation of EN 60958-4:2003 +A1:2008. It is identical with IEC 60958-4:2003, incorporating amendment 1:2008. It supersedes BS EN 60958-4:2003, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

The UK participation in its preparation was entrusted to Technical Committee EPL/100, Audio, video and multimedia systems and equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Part 4: Professional applications (TA4)
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(TA4)
(CEI 60958-4:2003)

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(IEC 60958-4:2003)

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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.

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CENELEC

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

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Foreword

The text of document 100/643/FDIS, future edition 2 of IEC 60958-4, 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 60958-4 on 2003-10-01.

This European Standard supersedes EN 60958-4:2000.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
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- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-10-01

The main changes with respect to EN 60958-4:2000 are:

- The scope specifies the professional application of EN 60958-1 (generalities have been removed to an introduction).
- A clause on terms and definitions has been added.
- In Table 1, expanded channel status assignments have been added and channel status definitions expanded to accommodate extended sampling frequencies, indication of alignment level and multi-channel options.
- Figure 1 and associated text has been revised to be more generalized. Three notes on cable performance factors have been added.
- The impedance specification is now dependent on maximum frame rate.
- The common-mode balance specification is now dependent on maximum frame rate.

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60958-4:2003 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document 100/1330/FDIS, future amendment 1 to IEC 60958-4:2003, 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 was approved by CENELEC as amendment A1 to EN 60958-4:2003 on 2008-04-01.

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- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-01-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2011-04-01

Endorsement notice

The text of amendment 1:2008 to the International Standard IEC 60958-4:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

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INTRODUCTION

The interface specified in this standard is primarily intended to carry monophonic or stereophonic programmes at a 48 kHz sampling frequency and with a resolution of up to 24 bits per sample. It may alternatively be used to carry signals sampled at other rates such as 32 kHz, 44,1 kHz, or 96 kHz. Note that conformity to this interface specification does not require equipment to utilize these rates and also that the capability of the interface to indicate other sample rates does not imply that it is recommended that equipment supports these rates. To eliminate doubt, equipment specifications should define the supported sampling frequencies.

The format is intended for use with shielded twisted-pair cables 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 with cables better matched for data transmission, or with receiver equalization, or both.

In both cases, the clock references and auxiliary information are transmitted along with the audio data. Provision is also made to allow the interface to carry non-audio data.

DIGITAL AUDIO INTERFACE –

Part 4: Professional applications

1 Scope

This International Standard specifies the professional application of the interface for the interconnection of digital audio equipment defined in IEC 60958-1.

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 60268-12:1987, *Sound system equipment – Part 12: Application of connectors for broadcast and similar use*

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

IEC 60958-3, *Digital audio interface – Part 3: Consumer applications*

ISO/IEC 646:1991, *Information technology – ISO 7-bit coded character set for information interchange*

ITU-T Recommendation J.17:1988, *Pre-emphasis used on sound-programme circuits*

ITU-T Recommendation V.11:1996, *Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbit/s*

3 Terms and definitions

The terms and definitions given in IEC 60958-1 apply to this part of IEC 60958.

4 Interface format

4.1 General

The interface format as defined in IEC 60958-1 shall be used.

For historical reasons, preambles “B”, “M” and “W”, as defined in 4.3 of IEC 60958-1, shall, for use in professional applications, be referred to as “Z”, “X” and “Y”, respectively.

4.2 Validity bit

For this standard, the validity bit shall be used to indicate whether the main data field bits in the sub-frame are suitable for conversion to an analogue audio signal using linear PCM coding.