BS EN 62537:2010

BSI Standards Publication

Interface for loudspeakers with digital input signals based on IEC 60958

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National foreword

This British Standard is the UK implementation of EN 62537:2010. It is identical to IEC 62537:2010.

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.

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Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 August 2010.

Amendments issued since publication

Date	Text affected

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62537

July 2010

ICS 33.160.30; 35.040

English version

Interface for loudspeakers with digital input signals based on IEC 60958
(IEC 62537:2010)

Interface pour haut-parleurs avec signaux d'entrée numériques basés sur la CEI 60958
(CEI 62537:2010)

Schnittstelle für Lautsprecher mit digitalen Eingangssignalen nach IEC 60958
(IEC 62537:2010)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document 100/1433/CDV, future edition 1 of IEC 62537, 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 62537 on 2010-07-01.

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

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)	2011-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62537:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62379 series NOTE Harmonized in EN 62379 series (not modified).

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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.

Publication	Year	Title	EN/HD	Year
IEC 60958	Series	Digital audio interface	EN 60958	Series
IEC 60958-4	-	Digital audio interface - Part 4: Professional applications (TA4)	EN 60958-4	-
-	2001	The Complete MIDI 1.0 Detailed Specification v96.1	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTERFACE FOR LOUDSPEAKERS WITH DIGITAL INPUT SIGNALS BASED ON IEC 60958

FOREWORD

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International Standard IEC 62537 has been prepared by technical area 4: Digital system interfaces and protocols, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

CDV	Report on voting
100/1433/CDV	100/1700/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.

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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 web site 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.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

The IEC 60958 interface allows transmission of 2-channel digital audio with up to 24 bit word length at 192 kHz sampling rate. This is adequate for loudspeakers, however, there are additional needs in practice that require standardisation, which go beyond what's currently defined in IEC 60958. This standard is aimed at fulfilling those needs.

IEC 60958 features a user bit that can form the basis of a control data channel that addresses those additional requirements. The format of this user bit data channel is based on the existing MIDI standard.

Beyond the needs given in IEC 60958, the following offers an exemplary, but incomplete list of of what a digital loudspeaker interface should support:

- Remote control of operating parameters of the loudspeaker.
- Remote power-on of the loudspeaker – preferably without requiring standby power in the loudspeaker.
- Remote configuration of loudspeaker, for example crossover configuration, or firmware update.
- Remote supervision of loudspeakers, for example chassis temperature or amplifier integrity.
- Remote identification of loudspeakers, to allow auto-configuration of the entire system.
- Control of individual or groups of loudspeakers through a single interface.
- Remote control of Audio System through remote control receiver mounted in loudspeaker enclosure (allowing Audio System to be placed out of sight).
- Extensions to allow for future applications.

NOTE 1 Level and mute control in the loudspeaker is preferred over digital attenuation by the signal source, as this allows the full audio data word length for the filter network; level should be controlled at the last stage in front of power amplifiers. In this case, the advantage is that the full audio word length of the given format is available at any time and at any volume setting. Especially, if a fully digitally constructed crossover network has been implemented, more precise arithmetical operations can also be made at low volumes. Volume control can thus be carried out after the crossover network or even after the relevant final amplifier. Even under the most unfavourable conditions (digital pre-attenuation and analogue gain) the filters and controllers receive the full audio word width under all operating conditions (ideal state).

NOTE 2 Not all of the listed features are required in all applications. It should therefore be up to the implementer to select from this standard the parts that are required in his application, and omit the unnecessary features. See Annex D for application examples.

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