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Standards

Irish Standard
I.S. EN 61938:2013

Multimedia systems - Guide to the recommended characteristics of analogue interfaces to achieve interoperability (IEC 61938:2013 (EQV))

I.S. EN 61938:2013

Incorporating amendments/corrigenda issued since publication:

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English version

**Multimedia systems -
Guide to the recommended characteristics
of analogue interfaces to achieve interoperability
(IEC 61938:2013)**

Systemes multimédia -
Guide des caractéristiques
recommandées des interfaces
analogiques permettant d'obtenir
l'interopérabilité
(CEI 61938:2013)

Multimedia Systeme -
Leitfaden für empfohlene Charakteristiken
analoger Schnittstellen zur Erreichung von
Kompatibilität
(IEC 61938:2013)

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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

Foreword

The text of document 100/2130/FDIS, future edition 2 of IEC 61938, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61938:2013.

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) 2014-05-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-08-01

This document supersedes EN 61938:1997.

EN 61938:2013 includes the following significant technical changes with respect to EN 61938:1997:

- the main title was changed to: Multimedia systems - Guide to the recommended characteristics of analogue interfaces to achieve interoperability;
- the scope was adapted to the title;
- a new introduction has been added. The necessity of the above revisions is mentioned in this introduction;
- the values in each table were chosen with respect to the state of the art and representative of best practice in industry;
- plug-in power systems and soundcard power systems are added;
- a new Subclause 12.3 has been created: Interoperability of portable audio headphones /earphones and portable audio equipment;
- a new Annex A describing pairing and screening of conductors is added;
- a new Annex B describing phantom power variants for specialized applications is also added.

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 61938:2013 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 60027 Series	NOTE	Harmonised as EN 60027 Series (not modified).
IEC 61293:1994	NOTE	Harmonised as EN 61293:1994 (not modified).

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 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 60038 (mod)	2009	IEC standard voltages	EN 60038	2011
IEC 60094-2 + corr. March	1994 1995	Magnetic tape sound recording and reproducing systems - Part 2: Calibration tapes	EN 60094-2	1995
IEC 60107-6	1989	Recommended methods of measurement on receivers for television broadcast transmissions - Part 6: Measurements under conditions different from broadcast signal standards	HD 567.6 S1	1990
IEC 60130-9	2011	Connectors for frequencies below 3 MHz - Part 9: Circular connectors for radio and associated sound equipment	EN 60130-9	2011
IEC 60268-1 + A1 + A2	1985 1988 1988	Sound system equipment - Part 1: General	HD 483.1 S2 - ¹⁾ -	1989 - -
IEC 60268-3	2000	Sound system equipment - Part 3: Amplifiers	EN 60268-3 + corr. January ²⁾	2000 2002
IEC 60268-5 + A1	2003 2007	Sound system equipment - Part 5: Loudspeakers	EN 60268-5 + A1	2003 2009
IEC 60268-7	2010	Sound system equipment - Part 7: Headphones and earphones	EN 60268-7	2011
IEC 60268-11 + A1 + A2	1987 1989 1991	Sound system equipment - Part 11: Application of connectors for the interconnection of sound system components	HD 483.11 S3 - - ³⁾	1993 - -
IEC 60268-12 + A1 + A2	1987 1991 1994	Sound system equipment - Part 12: Application of connectors for broadcast and similar use	EN 60268-12 - ⁴⁾ + A2	1995 - 1995
IEC 60603-11	1992	Connectors for frequencies below 3 MHz for use with printed boards - Part 11: Detail specification for concentric connectors (dimensions for free connectors and fixed connectors)	-	-

¹⁾ HD 483.1 S2 includes A1 to IEC 60268-1.

²⁾ EN 60268-3 is superseded by EN 60268-3:2013, which is based on IEC 60268-3:2013.

³⁾ HD 483.11 S3 includes A1 + A2 to IEC 60268-11.

⁴⁾ EN 60268-12 includes A1 to IEC 60268-12.

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EN 61938:2013

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60958	Series	Digital audio interface	EN 60958	Series
ITU-R BT.1700	2005	Characteristics of composite video signals for conventional analogue television systems	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MULTIMEDIA SYSTEMS – GUIDE TO THE RECOMMENDED CHARACTERISTICS OF ANALOGUE INTERFACES TO ACHIEVE INTEROPERABILITY

FOREWORD

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International Standard IEC 61938 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 1996 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- the main title was changed to: Multimedia systems – Guide to the recommended characteristics of analogue interfaces to achieve interoperability;
- the scope was adapted to the title;
- a new introduction has been added. The necessity of the above revisions is mentioned in this introduction;
- the values in each table were chosen with respect to the state of the art and representative of best practice in industry;

- plug-in power systems and soundcard power systems are added;
- a new subclause 12.3 has been created: Interoperability of portable audio headphones / earphones and portable audio equipment;
- a new Annex A describing pairing and screening of conductors is added;
- a new Annex B describing phantom power variants for specialized applications is also added.

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

FDIS	Report on voting
100/2130/FDIS	100/2155/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.

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.

INTRODUCTION

The first edition of IEC 61938 was derived from IEC 60268-15, IEC 60574-4 and IEC 60933-1 and also from related proposals which had been submitted up until the date of this revision. IEC 60268-15 was the first standard to address 'interoperability' – the ability of equipment from different manufacturers to be assembled into a system with full compatibility at every 'interface'. However, the purpose, terminology and implications of IEC 61938 are now widely misunderstood because the words 'matching' and 'preferred' used in IEC 61938, are frequently misinterpreted, resulting in IEC 61938 being regarded as a performance standard, which was never its intention. The aim of this revision is to make the intention of this standard easily comprehensible by using widely used terminology in the title and text of the standard.

The features of the revision are the following.

- a) Unification and arrangement of existing related standards, including effective proposals which have been submitted.
- b) The concept of "general purpose input/output".

NOTE The standard numbers mentioned above correspond to the revised numbers, if applicable.

**MULTIMEDIA SYSTEMS –
GUIDE TO THE RECOMMENDED CHARACTERISTICS
OF ANALOGUE INTERFACES TO ACHIEVE INTEROPERABILITY**

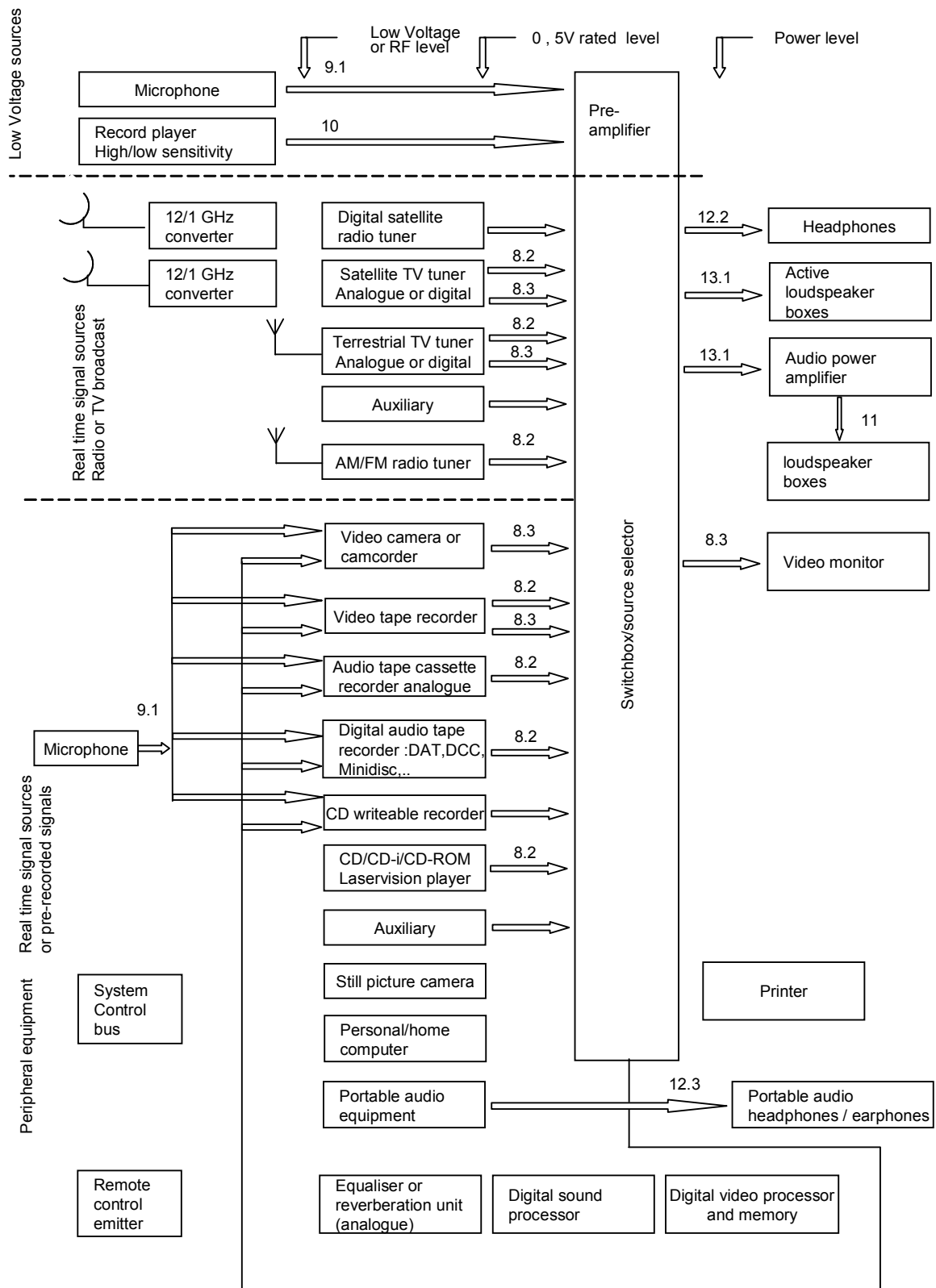
1 Scope

This International Standard gives guidance on current practice for the characteristics of multimedia analogue interfaces to achieve interoperability between equipment from different manufacturers. It is not a performance standard.

Recommendations for interfaces for equipment used in vehicles, and for analogue video interfaces for broadcast and similar equipment, are not given.

Refer to IEC 60958 for the interconnection of digital signals.

Figure 1 shows in a diagram the possible interfaces of the audio and video sources and destinations.



IEC 1298/13

NOTE The numbers indicated above the arrows refer to the appropriate clause or subclauses of this standard.

Figure 1 – Audio and video sources and destinations

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 60038:2009, *IEC standard voltages*

IEC 60094-2:1994, *Magnetic tape recording and reproducing systems – Part 2: Calibration tapes*

IEC 60107-6:1989, *Recommended methods of measurement on receivers for television broadcast transmissions – Part 6: Measurements under conditions different from broadcast signal standards*

IEC 60130-9:2011, *Connectors for frequencies below 3 MHz – Part 9: Circular connectors for radio and associated sound equipment*

IEC 60268-1:1985, *Sound system equipment – Part 1: General*
Amendment 1:1988
Amendment 2:1988

IEC 60268-3:2000, *Sound system equipment – Part 3: Amplifiers*

IEC 60268-5:2003, *Sound system equipment – Part 5: Loudspeakers*
Amendment 1:2007

IEC 60268-7:2010, *Sound system equipment – Part 7: Headphones and earphones*

IEC 60268-11:1987, *Sound system equipment – Part 11: Application of connectors for the interconnection of sound system components*
Amendment 1:1989
Amendment 2:1991

IEC 60268-12:1987, *Sound system equipment – Part 12: Application of connectors for broadcast and similar use*
Amendment 1:1991
Amendment 2:1994

IEC 60603-11:1992, *Connectors for frequencies below 3 MHz for use with printed boards – Part 11: Detail specification for concentric connectors (dimensions for free connectors and fixed connectors)*

IEC 60958 (all parts), *Digital audio interface*

ITU-R BT.1700:2005, *Characteristics of composite video signals for conventional analogue television systems*

3 Terms and definitions

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

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