

Interfaces for DVB-IRD

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Summary of pages

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English version

Interfaces for DVB-IRD

Interfaces pour décodeur DVB intégré

Schnittstellen für DVB-IRD

This European Standard was approved by CENELEC on 1998-08-01.

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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

This European Standard was prepared by the DVB-TM ad hoc group on Physical Interfaces, together with the former Technical Committee CENELEC TC 203, Electronic entertainment and educational systems for household and similar use (in July 1998 TC 203 has become part of TC 206, Consumer equipment for entertainment and information and related sub-systems).

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50201 on 1998-08-01.

The following dates were fixed:

Annexes designated “informative” are given for information only.

In this standard annexes A and B are informative.

— latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-08-01

— latest date by which national standards conflicting with the EN have to be withdrawn (dow)1999-08-01

Annexes designated “informative” are given for information only.

In this standard annexes A and B are informative.

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1 Scope

This specification is an application standard, identifying recommended interfaces for connections of digital video broadcast integrated receiver decoder (DVB-IRD) equipment. If a recommended interface is supported, then the full specification of that interface, which may include options, applies. Interfaces not mentioned in this document are not excluded, and especially interfaces which are under development at the time of writing of this document may be added at a later stage. For mechanical and electrical details of the interfaces, reference is made to existing standards of IEC or CENELEC wherever possible, or standards which are known to be in an advanced state of development.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

2.1 IEC Publications

IEC 60807-9, *Rectangular connectors for frequencies below 3 Mhz — Part 9: Detail specification for a range of peritelevision connectors.*

IEC 60933-1, *Audio, video and audio-visual systems, interconnections and matching values — Part 1: 21 contact connector for video systems, application No. 1.*

IEC 61883, *Connectors used in the field of audio, video and audio-visual engineering.*

IEC 61937, *Interface for multichannel non-PCM encoded audio bitstreams.*

NOTE This standard is being developed within the Program of Work of WG11 of IEC/SC100C. At the time of this writing the latest version is the first draft attached to 100C/196/CDV.

2.2 CENELEC Publications

EN 50049-1, *Domestic and similar electronic equipment interconnection requirements: Peritelevision connector.*

EN 50157-1, *Domestic and similar electronic equipment interconnection requirements: AV link — Part 1: General.*

EN 50157-2-1, *Part 2-1: Signal quality matching and automatic selection of source devices.*

EN 50221, *Common interface specification for conditional access and other digital video broadcasting decoder applications.*

EN 60169-24, *Radio-frequency connectors — Part 24: Radio frequency coaxial connectors with screw coupling, typically for use in 75 Ohm cable distribution systems (type F).*
(IEC 60169-24)

EN 60933-5, *Audio, video and audio-visual systems, interconnections and matching values — Part 5: Y/C connector for video systems.*
(IEC 60933-5)

EN 60958, *Digital audio interface.*
(IEC 60958)

EN 61030, *Audio, video and audio-visual systems — Domestic digital bus (D2B).*
(IEC 61030)

EN 61319-1, *Interfaces for satellite receiving equipment — Part 1: Europe.*
(IEC 61319-1)

HD 134.2, *Radio frequency connectors — Part 2: coaxial unmatched connector.*
(IEC 60169-2)

2.3 Publications by ETSI

ETS 300 158, *Satellite Earth Stations; television receive-only, FSS.*

ETS 300 249, *Satellite Earth Stations; television receive-only, BSS.*

ETS 300 784, *Satellite Earth Stations; television receive only FSS and BSS.*

ETS 300 421, *Digital broadcasting systems for television, sound and data services; Framing structure, channel coding and modulation for 11/12 GHz satellite services.*

ETS 300 429, *Digital broadcasting systems for television sound and data services; Framing structure, channel coding and modulation for cable systems.*

ETS 300473, *Digital broadcasting systems for television sound and data services; Satellite Master Antenna Television (SMATV) distribution systems.*

ETR 154, *Third edition: Digital Video Broadcasting (DVB); implementation guidelines for the use MPEG-2 Systems, Video and Audio in satellite, cable and terrestrial broadcasting applications.*

2.4 Industrial publications

PCMCIA, *PC Card Standard, release 3, Personal Computer Memory Card International Association, Sunnyvale, Cal.*

IEEE 1394, *Standard for a high performance serial bus.*

IEEE 1284, (1994), *Signalling method for a bi-directional parallel peripheral interface for personal computers.*

ANSI/EIA, RS232, *Interface between data terminal equipment and data-circuit terminating equipment employing serial binary data interchange.*

NOTE The latest version of this standard is published as RS232E (1991).

3 Explanation of terms and definitions

The following special terms and abbreviations are used in this Standard:

DVB	Digital video broadcast
IRD	Integrated receiver decoder
LNB	Low noise block converter
CATV	Community Antenna Television system: A system designed primarily to provide sound and television signals to communities
SMATV	Satellite Master Antenna Television system: A system designed to provide sound and television signals to the households of a building or group of buildings. Two system configurations are defined in ETS 300 473 as follows: — SMATV system A, based on transparent transmodulation of QPSK satellite signals into QAM signals to be distributed to user; — SMATV system B, based on direct distribution of QPSK signals to the user, with two options: — SMATV-IF distribution on the satellite IF band (above 950 Mhz); — SMATV-S distribution on the VHF/UHF band, for example the extended S-band (230-470 MHz).
IEC	International Electrotechnical Commission
CENELEC	Commission Européenne de Normalisation Electrotechnique
ETSI	European Telecommunication Standardisation Institution
CVBS	Composite Video, Blanking and Sync
VPS	Video Programming System
DTE/DCE	Data Terminal Equipment/Data Communication Equipment
ADSL	Asymmetric Digital Subscriber Loop
PSTN	Public Switched Telephone Network
GSTN	General Switched Telephone Network
QPSK	Quadruple Phase Shift Keying
PCM	Pulse Code Modulation
QAM	Quadrature Amplitude Modulation
RTS	Request To Send
CTS	Clear To Send
DVC	Digital Video Cassette
BSS	Broadcast Satellite Services
FSS	Fixed Satellite Services
ECP	Enhanced Capability Port
EPP	Enhanced Parallel Port
OSD	On Screen Display
VBI	Vertical Blanking Interval

4 Interface requirements for DVB-IRDs

4.1 RF input in the satellite IF range

This clause specifies the interface in case of individual dish antenna or SMATV-IF (analogue and digital) installations.

4.1.1 The control signal to switch the polarization, the control signal to select the upper or lower band of the LNB, and the 1st IF input from the LNB to the DVB-IRD shall be as specified in EN 61319-1, clause 5. The connector is specified in EN 60169-24 (also known as the F-connector), the impedance is 75 Ohm, and output return losses are specified in ETS 300 784.

4.1.2 The control signal for the azimuth control of a polar mount dish antenna shall be as specified in EN 61319-1, clause 6.

4.2 RF i/o in the vhf/uhf range

4.2.1 RF input in the case of CATV installations, SMATV System A or SMATV-S installations, or in the case of terrestrial reception.

RF input shall be as follows:

- covers the vhf/uhf frequency bands (47-862 MHz);
- 75 Ohm coaxial;
- connector HD 134.2 (IEC 60169-2), female connector on the DVB-IRD.

4.2.2 RF output

The interface for RF output signals shall be as specified in **4.2.1** except for the connector which is HD 134.2 (IEC 60169-2) male version. RF output shall support either loop through only, RF modulated output from the DVB-IRD, or both. In case of loop through the modulator should output the vhf/uhf frequency bands as specified in **4.2.1**. The channel to be used for RF modulated output depends on local circumstances, i.e. occupation of available channels by either terrestrial or cable programmes (see informative Annex B). It is recommended to support the channel range 21 to 69 in UHF.