

Draft **ETSI EN 300 468** V1.18.0 (2023-09)



**Digital Video Broadcasting (DVB);  
Specification for Service Information (SI) in DVB systems**  
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/6dfe45ac-03a9-4984-bf13-5c71ffdd49b3/etsi-en-300-468-v1-18-0-2023-09>

**EBU DVB<sup>®</sup>**

---

**Reference**

REN/JTC-DVB-403

---

**Keywords**broadcasting, digital, DVB, MPEG, service, TV,  
video**ETSI**650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° w061004871

---

**Important notice**The present document can be downloaded from:  
<https://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at [www.etsi.org/deliver](http://www.etsi.org/deliver).

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at <https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:  
<https://standards.iteh.ai> <https://portal.etsi.org/People/CommitteeSupportStaff.aspx> 3-5c71ffdd49b3/etsi-

If you find a security vulnerability in the present document, please report it through our Coordinated Vulnerability Disclosure Program:  
<https://www.etsi.org/standards/coordinated-vulnerability-disclosure>

---

**Notice of disclaimer & limitation of liability**

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied. In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI. The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2023.  
© European Broadcasting Union 2023.  
All rights reserved.

# Contents

Intellectual Property Rights .....	8
Foreword.....	8
Modal verbs terminology.....	9
1 Scope .....	10
2 References .....	10
2.1 Normative references .....	10
2.2 Informative references.....	13
3 Definition of terms, symbols and abbreviations.....	13
3.1 Terms.....	13
3.2 Symbols.....	17
3.3 Abbreviations .....	17
4 Service information description .....	20
5 Service information tables.....	22
5.1 Service information table mechanism .....	22
5.1.1 Use of table sections .....	22
5.1.2 Mapping of sections into DVB transport stream packets.....	23
5.1.3 Coding of PID and table_id fields .....	23
5.1.4 Repetition rates and random access .....	25
5.1.4.1 Rates for DVB PSI and SI.....	25
5.1.4.2 Rates for Satellite Access Tables .....	25
5.1.5 Scrambling.....	26
5.1.6 Bit order and transmission order.....	26
5.2 Table definitions.....	28
5.2.0 Introduction.....	28
5.2.1 Network Information Table .....	29
5.2.2 Bouquet Association Table.....	30
5.2.3 Service Description Table.....	32
5.2.4 Event Information Table.....	34
5.2.5 Time and Date Table.....	36
5.2.6 Time Offset Table.....	37
5.2.7 Running Status Table.....	37
5.2.8 Stuffing Table .....	38
5.2.9 Discontinuity Information Table.....	39
5.2.10 Selection Information Table .....	39
5.2.11 Satellite Access Tables .....	39
5.2.11.1 Definition .....	39
5.2.11.2 Satellite Position v2 info .....	40
5.2.11.3 Cell Fragment info .....	42
5.2.11.4 Time Association info .....	44
5.2.11.5 Beamhopping Time Plan info .....	45
6 Descriptors .....	48
6.0 Introduction .....	48
6.1 Descriptor identification and location .....	48
6.2 Descriptor coding .....	50
6.2.0 General principles .....	50
6.2.1 Adaptation field data descriptor.....	50
6.2.2 Ancillary data descriptor.....	51
6.2.3 Announcement support descriptor.....	51
6.2.4 Bouquet name descriptor .....	53
6.2.5 CA identifier descriptor .....	53
6.2.6 Cell frequency link descriptor.....	53
6.2.7 Cell list descriptor.....	54
6.2.8 Component descriptor.....	55

6.2.9	Content descriptor.....	63
6.2.10	Country availability descriptor .....	66
6.2.11	Data broadcast descriptor.....	67
6.2.12	Data broadcast id descriptor.....	67
6.2.13	Delivery system descriptors.....	68
6.2.13.1	Cable delivery system descriptor .....	68
6.2.13.2	Satellite delivery system descriptor.....	69
6.2.13.3	S2 satellite delivery system descriptor .....	71
6.2.13.4	Terrestrial delivery system descriptor .....	72
6.2.14	DSNG descriptor .....	74
6.2.15	Extended event descriptor.....	74
6.2.16	Extension descriptor .....	75
6.2.17	Frequency list descriptor.....	76
6.2.18	FTA content management descriptor.....	76
6.2.18.1	Semantics and syntax of the FTA content management descriptor.....	76
6.2.18.2	Scope of the FTA content management descriptor .....	79
6.2.19	Linkage descriptor .....	79
6.2.19.1	Semantics and syntax of the linkage descriptor .....	79
6.2.19.2	Mobile hand-over linkage .....	81
6.2.19.3	Event linkage.....	82
6.2.19.4	Extended event linkage .....	82
6.2.20	Local time offset descriptor .....	85
6.2.21	Mosaic descriptor.....	86
6.2.22	Multilingual bouquet name descriptor .....	89
6.2.23	Multilingual component descriptor.....	90
6.2.24	Multilingual network name descriptor.....	90
6.2.25	Multilingual service name descriptor.....	91
6.2.26	NVOD reference descriptor .....	91
6.2.27	Network name descriptor.....	92
6.2.28	Parental rating descriptor .....	92
6.2.29	Partial TS descriptor .....	93
6.2.30	PDC descriptor.....	93
6.2.31	Private data specifier descriptor.....	94
6.2.32	Scrambling descriptor.....	94
6.2.33	Service descriptor .....	95
6.2.34	Service availability descriptor.....	97
6.2.35	Service list descriptor.....	97
6.2.36	Service move descriptor.....	97
6.2.37	Short event descriptor .....	98
6.2.38	Short smoothing buffer descriptor .....	99
6.2.39	Stream identifier descriptor.....	101
6.2.40	Stuffing descriptor .....	101
6.2.41	Subtitling descriptor.....	101
6.2.42	Telephone descriptor.....	102
6.2.43	Teletext descriptor .....	104
6.2.44	Time shifted event descriptor.....	104
6.2.45	Time shifted service descriptor.....	105
6.2.46	Transport stream descriptor .....	105
6.2.47	VBI data descriptor.....	106
6.2.48	VBI teletext descriptor.....	107
6.3	Extended descriptor identification and location .....	107
6.4	Extended descriptor coding .....	108
6.4.0	General principles .....	108
6.4.1	Audio preselection descriptor .....	109
6.4.2	CID ancillary data descriptor .....	112
6.4.3	CP descriptor .....	112
6.4.4	CP identifier descriptor .....	113
6.4.5	CPCM delivery signalling descriptor.....	113
6.4.6	Delivery system descriptors.....	113
6.4.6.1	C2 delivery system descriptor .....	113
6.4.6.2	SH delivery system descriptor.....	115
6.4.6.3	T2 delivery system descriptor .....	119

6.4.6.4	C2 bundle delivery system descriptor .....	122
6.4.6.5	S2X satellite delivery system descriptors .....	123
6.4.6.5.1	Introduction .....	123
6.4.6.5.2	S2X satellite delivery system descriptor (version 1) .....	123
6.4.6.5.3	S2Xv2 satellite delivery system descriptor (version 2) .....	126
6.4.7	Image icon descriptor.....	129
6.4.8	Message descriptor .....	132
6.4.9	Network change notify descriptor.....	132
6.4.10	Service relocated descriptor .....	134
6.4.11	Supplementary audio descriptor .....	135
6.4.12	Target region descriptor.....	137
6.4.13	Target region name descriptor .....	139
6.4.14	T2-MI descriptor.....	140
6.4.15	URI linkage descriptor.....	141
6.4.16	Video depth range descriptor.....	141
6.4.16.1	Semantics and syntax of the video depth range descriptor.....	141
6.4.16.2	Production disparity hint .....	143
6.4.17	VVC subpictures descriptor .....	143
6.5	Scoping rules for scoping descriptors.....	145
7	Storage Media Interoperability measures.....	145
7.0	Introduction .....	145
7.1	SMI tables .....	145
7.1.0	General principles.....	145
7.1.1	Discontinuity Information Table.....	146
7.1.2	Selection Information Table .....	146
7.2	SMI descriptors .....	148
7.2.0	Introduction.....	148
7.2.1	Partial transport stream descriptor .....	148
<b>Annex A (normative):</b>	<b>Coding of text characters .....</b>	<b>149</b>
A.0	General principles .....	149
A.1	Control codes.....	149
A.2	Selection of character table .....	149
<b>Annex B (informative):</b>	<b>Void .....</b>	<b>163</b>
<b>Annex C (informative):</b>	<b>Conversion between time and date conventions .....</b>	<b>164</b>
<b>Annex D (normative):</b>	<b>Service information implementation of AC-3, Enhanced AC-3, and AC-4 audio in DVB systems .....</b>	<b>166</b>
D.0	Introduction .....	166
D.1	AC-3 and Enhanced AC-3 component types.....	166
D.2	AC-3 descriptor .....	167
D.3	AC-3 descriptor syntax and semantics .....	167
D.4	Enhanced AC-3 descriptor .....	168
D.5	Enhanced AC-3 descriptor syntax and semantics .....	169
D.6	AC-4 descriptor .....	171
D.7	AC-4 descriptor syntax and semantics .....	171
D.8	Use of the supplementary audio descriptor with AC-4 .....	173
<b>Annex E (normative):</b>	<b>Usage of the scrambling descriptor .....</b>	<b>174</b>
<b>Annex F (informative):</b>	<b>ISO 639 language descriptor for "original audio" soundtrack .....</b>	<b>175</b>

<b>Annex G (normative):</b>	<b>Service information implementation of DTS coded audio in DVB systems .....</b>	<b>176</b>
G.0	Introduction .....	176
G.1	DTS and DTS-HD descriptors .....	176
G.2	DTS descriptor .....	176
G.2.0	Use of the DTS descriptor .....	176
G.2.1	Syntax and semantics for the DTS descriptor .....	176
G.3	DTS-HD descriptor .....	179
G.3.1	DTS-HD descriptor syntax .....	179
G.3.2	Substream information .....	180
G.3.3	Asset information .....	182
G.3.4	Component type .....	183
G.4	Use of DTS-HD in Receiver Mixed Applications for Single PID and Multiple PID Implementations .....	184
G.5	DTS-UHD descriptors .....	185
G.5.1	DTS-UHD descriptor .....	185
G.5.2	DTS-UHD and the audio preselection descriptor .....	186
G.5.2.1	The DTS-UHD Broadcast Chunk and audio preselections .....	186
G.6	Use of the supplementary audio descriptor with DTS-UHD .....	187
<b>Annex H (normative):</b>	<b>Service information implementation of AAC coded audio in DVB systems .....</b>	<b>188</b>
H.0	Introduction .....	188
H.1	AAC Audio descriptor .....	188
H.2	AAC descriptor .....	188
H.2.0	Use of the AAC descriptor .....	188
H.2.1	Syntax and semantics for the AAC descriptor .....	188
<b>Annex I (normative):</b>	<b>Assignment and interpretation of the service_type field .....</b>	<b>190</b>
I.1	Background .....	190
I.2	Assignment of service_type .....	190
I.2.0	General principles .....	190
I.2.1	service_type "digital television service" (0x01) .....	190
I.2.2	service_type "H.264/AVC" (various) .....	191
I.2.3	service_type "H.264/AVC frame compatible stereoscopic HD" (various) .....	191
I.2.4	service_type "advanced codec digital radio sound service" (0x0A) .....	192
I.2.5	service_type "HEVC digital television service" (0x1F) .....	192
I.2.5.0	General principles .....	192
I.2.5.1	Signalling for service frame compatible plano-stereoscopic 3DTV for HEVC coded services .....	193
I.2.5.2	Signalling for HDR and/or frame rate of 100 Hz, 120 0001 001 Hz, or 120 Hz, but with a HEVC half frame rate temporal video sub-bitstream frame rate lower than or equal to 60 Hz .....	194
I.2.5.3	Spatial, temporal, and dynamic range characteristics .....	195
I.2.5.4	Summary of signalling for different bitstream profiles using service_type 0x1F .....	195
I.2.6	service_type "HEVC UHD digital television service" (0x20) .....	196
I.2.6.1	General principles .....	196
I.2.6.2	Summary of signalling for different bitstream profiles using service_type 0x20 .....	198
I.2.7	Summary of signalling for HEVC bitstream profiles using service_type 0x1F or 0x20 .....	200
I.2.8	service_type "VVC digital television service" (0x21) .....	203
I.2.8.1	General principles .....	203
I.2.8.2	Spatial, temporal and dynamic range characteristics .....	204
I.2.8.3	Examples of signalling for different bitstream profiles using service_type 0x21 .....	205
I.2.9	service_type "AVS3 digital television service" (0x22) .....	206
I.2.9.1	General principles .....	206
I.2.9.2	Spatial, temporal and dynamic range characteristics .....	207

I.2.9.3	Examples of signalling for different bitstream profiles using service_type 0x22 .....	208
<b>Annex J (normative): Signalling of supplementary audio .....</b>		<b>210</b>
J.1	Overview .....	210
J.2	Receiver-mix supplementary audio .....	210
J.2.1	Introduction .....	210
J.2.2	PSI PMT signalling .....	211
J.2.3	EIT signalling .....	211
J.2.3.1	General principles .....	211
J.2.3.2	Visually impaired audio description .....	211
J.3	Broadcast-mix supplementary audio .....	212
J.3.1	Introduction .....	212
J.3.2	PSI PMT signalling .....	212
J.3.3	EIT signalling .....	212
J.3.3.1	General principles .....	212
J.3.3.2	Visually impaired audio description .....	212
J.4	PSI signalling of audio purpose .....	213
J.5	SAOC-DE parametric data streams .....	213
J.5.1	Introduction .....	213
J.5.2	PSI PMT signalling .....	213
J.5.3	EIT signalling .....	214
<b>Annex K (normative): Use of the extended_event_linkage_info .....</b>		<b>215</b>
<b>Annex L (normative): Service information implementation of DTS Neural™ Surround coded audio in DVB systems .....</b>		<b>217</b>
L.0	Introduction .....	217
L.1	DTS Neural descriptor .....	217
<b>Annex M (normative): Signalling of next-generation audio .....</b>		<b>219</b>
M.1	Overview .....	219
M.2	PSI PMT signalling .....	219
M.3	Mapping of codec-specific values to the audio preselection descriptor (informative) .....	219
<b>Annex N (informative): Examples for using multiple component descriptors .....</b>		<b>222</b>
<b>Annex O (informative): Bibliography .....</b>		<b>223</b>
<b>Annex P (informative): Change History .....</b>		<b>224</b>
History .....		226



---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

---

# Foreword

This draft European Standard (EN) has been produced by Joint Technical Committee (JTC) Broadcast of the European Broadcasting Union (EBU), Comité Européen de Normalisation ELECTrotechnique (CENELEC) and the European Telecommunications Standards Institute (ETSI), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI standards EN Approval Procedure.

**NOTE:** The EBU/ETSI JTC Broadcast was established in 1990 to co-ordinate the drafting of standards in the specific field of broadcasting and related fields. Since 1995 the JTC Broadcast became a tripartite body by including in the Memorandum of Understanding also CENELEC, which is responsible for the standardization of radio and television receivers. The EBU is a professional association of broadcasting organizations whose work includes the co-ordination of its members' activities in the technical, legal, programme-making and programme-exchange domains. The EBU has active members in about 60 countries in the European broadcasting area; its headquarters is in Geneva.

European Broadcasting Union  
CH-1218 GRAND SACONNEX (Geneva)  
Switzerland  
Tel: +41 22 717 21 11  
Fax: +41 22 717 24 81

The DVB Project is an industry-led consortium of broadcasters, manufacturers, network operators, software developers, regulators and others from around the world committed to designing open, interoperable technical specifications for the global delivery of digital media and broadcast services. DVB specifications cover all aspects of digital television from transmission through interfacing, conditional access and interactivity for digital video, audio and data. The consortium came together in 1993.



Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

## Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"must" and "must not" are **NOT** allowed in ETSI deliverables except when used in direct citation.

i T h S T A N D A R D P R E V I E W  
( s t a n d a r d s . i t e h

E T S I E N 3 0 0 . 4 6 8 V 1 .  
h t t p s : / / s t a n d a r d s . i t e h . a i f d a  
e n - 3 0 0 - 4 6 8 - v 1 - 1 8 - 0 -

---

# 1 Scope

The present document specifies the Service Information (SI) data which forms a part of Digital Video Broadcasting (DVB) bitstreams, in order that the user can be provided with information to assist in selection of services and/or events within the bitstream, and so that the Integrated Receiver Decoder (IRD) can automatically configure itself for the selected service. SI data for automatic configuration is mostly specified within ISO/IEC 13818-1 [1] as Program Specific Information (PSI).

The present document specifies additional data which complements the PSI by providing data to aid automatic tuning of IRDs, and additional information intended for display to the user. The manner of presentation of the information is not specified in the present document, and IRD manufacturers have freedom to choose appropriate presentation methods.

It is expected that Electronic Programme Guide (EPG) will be a feature of Digital TeleVision (TV) transmissions.

The definition of an EPG is outside the scope of the present document (i.e. the SI specification), but the data contained within the SI specified in the present document may be used as the basis for an EPG.

Rules of operation for the implementation of the present document are specified in ETSI TS 101 211 [i.1].

---

## 2 References

### 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] [ISO/IEC 13818-1](#): "Information technology - Generic coding of moving pictures and associated audio information - Part 1: Systems".
- [2] [ETSI EN 300 743](#): "Digital Video Broadcasting (DVB); Subtitling systems".
- [3] [ETSI EN 301 192](#): "Digital Video Broadcasting (DVB); DVB specification for data broadcasting".
- [4] [ETSI EN 301 210](#): "Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for Digital Satellite News Gathering (DSNG) and other contribution applications by satellite".
- [5] [ETSI EN 301 775](#): "Digital Video Broadcasting (DVB); Specification for the carriage of Vertical Blanking Information (VBI) data in DVB bitstreams".
- [6] [ETSI EN 301 790](#): "Digital Video Broadcasting (DVB); Interaction channel for satellite distribution systems".
- [7] [ETSI EN 302 307-1](#): "Digital Video Broadcasting (DVB); Second generation framing structure, channel coding and modulation systems for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications; Part 1: DVB-S2".
- [8] [ETSI EN 302 307-2](#): "Digital Video Broadcasting (DVB); Second generation framing structure, channel coding and modulation systems for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications; Part 2: DVB-S2 Extensions (DVB-S2X)".

- [9] [ETSI EN 302 769](#): "Digital Video Broadcasting (DVB); Frame structure channel coding and modulation for a second generation digital transmission system for cable systems (DVB-C2)".
- [10] [ETSI EN 302 583](#): "Digital Video Broadcasting (DVB); Framing Structure, channel coding and modulation for Satellite Services to Handheld devices (SH) below 3 GHz".
- [11] [ETSI EN 302 755](#): "Digital Video Broadcasting (DVB); Frame structure channel coding and modulation for a second generation digital terrestrial television broadcasting system (DVB-T2)".
- [12] [ETSI EN 303 560](#): "Digital Video Broadcasting (DVB); TTML subtitling systems".
- [13] [ETSI ES 201 812](#): "Digital Video Broadcasting (DVB); Multimedia Home Platform (MHP) Specification 1.0.3".
- [14] [ETSI TS 101 154](#): "Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in Broadcast and Broadband Applications".
- [15] [ETSI TS 101 162](#): "Digital Video Broadcasting (DVB); Allocation of identifiers and codes for Digital Video Broadcasting (DVB) systems".
- [16] [ETSI TS 101 547-2](#): "Digital Video Broadcasting (DVB); Plano-stereoscopic 3DTV; Part 2: Frame Compatible Plano-stereoscopic 3DTV".
- [17] [ETSI TS 101 547-3](#): "Digital Video Broadcasting (DVB); Plano-stereoscopic 3DTV; Part 3: HDTV Service Compatible Plano-stereoscopic 3DTV".
- [18] [ETSI TS 101 547-4](#): "Digital Video Broadcasting (DVB); Plano-stereoscopic 3DTV; Part 4: Service frame compatible Plano-stereoscopic 3DTV for HEVC coded services".
- [19] [ETSI TS 102 005](#): "Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in DVB services delivered directly over IP protocols".
- [20] [ETSI TS 102 006](#): "Digital Video Broadcasting (DVB); Specification for System Software Update in DVB Systems".
- [21] [ETSI TS 102 323](#): "Digital Video Broadcasting (DVB); Carriage and signalling of TV-Anytime information in DVB transport streams".
- [22] [ETSI TS 102 770](#): "Digital Video Broadcasting (DVB); System Renewability Messages (SRM) in DVB Systems".
- [23] [ETSI TS 102 772](#): "Digital Video Broadcasting (DVB); Specification of Multi-Protocol Encapsulation - inter-burst Forward Error Correction (MPE-iFEC)".
- [24] [ETSI TS 102 773](#): "Digital Video Broadcasting (DVB); Modulator Interface (T2-MI) for a second generation digital terrestrial television broadcasting system (DVB-T2)".
- [25] [ETSI TS 102 809](#): "Digital Video Broadcasting (DVB); Signalling and carriage of interactive applications and services in Hybrid Broadcast/Broadband environments".
- [26] [ETSI TS 102 812](#): "Digital Video Broadcasting (DVB); Multimedia Home Platform (MHP) Specification 1.1.3".
- [27] [ETSI TS 102 825](#) (parts 1 to 5, 7, 9 and 10): "Digital Video Broadcasting (DVB); Content Protection and Copy Management (DVB-CPCM)".
- [28] [ETSI EN 300 231](#): "Television systems; Specification of the domestic video Programme Delivery Control system (PDC)".
- [29] [ETSI EN 300 401](#): "Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers".
- [30] [ETSI EN 300 706](#): "Enhanced Teletext specification".
- [31] [EN 50221](#): "Common interface specification for conditional access and other digital video broadcasting decoder applications", (produced by CENELEC).

- [32] [IETF RFC 2045](#): "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies".
- [33] [IETF RFC 3986](#): "Uniform Resource Identifiers (URI): Generic Syntax".
- [34] [ISO 3166 \(all parts\)](#): "Codes for the representation of names of countries and their subdivisions".
- [35] [ISO 639-2](#): "Codes for the representation of names of languages - Part 2: Alpha-3 code".
- [36] [ISO 8601-1](#): "Date and time -- Representations for information interchange -- Part 1: Basic rules".
- [37] [ISO/IEC 6937](#): "Information technology - Coded graphic character set for text communication - Latin alphabet".
- [38] [ISO/IEC 8859-1](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No. 1".
- [39] [ISO/IEC 8859-2](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 2: Latin alphabet No. 2".
- [40] [ISO/IEC 8859-3](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 3: Latin alphabet No. 3".
- [41] [ISO/IEC 8859-4](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 4: Latin alphabet No. 4".
- [42] [ISO/IEC 8859-5](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 5: Latin/Cyrillic alphabet".
- [43] [ISO/IEC 8859-6](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 6: Latin/Arabic alphabet".
- [44] [ISO/IEC 8859-7](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 7: Latin/Greek alphabet".
- [45] [ISO/IEC 8859-8](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 8: Latin/Hebrew alphabet".
- [46] [ISO/IEC 8859-9](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 9: Latin alphabet No. 5".
- [47] [ISO/IEC 8859-10](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 10: Latin alphabet No. 6".
- [48] [ISO/IEC 8859-11](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 11: Latin/Thai alphabet".
- [49] [ISO/IEC 8859-13](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 13: Latin alphabet No. 7".
- [50] [ISO/IEC 8859-14](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 14: Latin alphabet No. 8 (Celtic)".
- [51] [ISO/IEC 8859-15](#): "Information technology - 8-bit single-byte coded graphic character sets - Part 15: Latin alphabet No. 9".
- [52] [ISO/IEC 10646](#): "Information technology - Universal Coded Character Set (UCS)".
- [53] [GB-2312-1980](#): "Code of Chinese graphic character set for information interchange, primary set".
- [54] KS X 1001-2014: "Code for Information Interchange (Hangeul and Hanja)", Korean Agency for Technology and Standards, 2014.

NOTE: Available at <https://kssn.net/en/search/std/detail.do?itemNo=K001010102764>. Also see <https://standard.go.kr/KSCI/standardIntro/getStandardSearchView.do?ksNo=KSX1001>. This document has been published in Korean only.

- [55] [IEEE 754](#): "Standard for Floating-Point, 2019.
- [56] [ETSI EN 301 545-2](#): "Digital Video Broadcasting (DVB); Second Generation DVB Interactive Satellite System (DVB-RCS2); Part 2: Lower Layers for Satellite standard".
- [57] DVB BlueBook A180: "[Native IP Broadcasting](#)".

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE 1: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI TS 101 211: "Digital Video Broadcasting (DVB); Implementation and usage of Service Information (SI)".
- [i.2] ETSI TS 102 727: "Digital Video Broadcasting (DVB); Multimedia Home Platform (MHP) Specification 1.2.2".
- [i.3] ETSI TS 103 205: "Digital Video Broadcasting (DVB); Extensions to the CI Plus™ Specification".
- [i.4] ETSI TS 103 286-2: "Digital Video Broadcasting (DVB); Companion Screens and Streams; Part 2: Content Identification and Media Synchronization".
- [i.5] ETSI TR 102 825 (parts 6, 8, 11 to 13): "Digital Video Broadcasting (DVB); Content Protection and Copy Management (DVB-CPCM)".
- [i.6] ATIS 0800006: "IIF Default Scrambling Algorithm (IDSA) IPTV Interoperability Specification".
- [i.7] IEC 61883 (parts 1 and 4): "Consumer audio/video equipment - Digital interface".
- [i.8] IEEE™ 1394.1: "IEEE Standard for High Performance Serial Bus Bridges".
- [i.9] American Institute of Aeronautics and Astronautics, AIAA 2006-6753-Rev1 "[Revisiting Space track Report #3](#): Rev 1".
- [i.10] NGA.STND.0036-1.0.0-WGS84 Department of Defense World Geodetic System 1984: "Its Definition and Relationships with Local Geodetic Systems"; Version 1.0.0, 8 July 2014.

---

## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the following terms apply:

**AC-3**: coding of audio using the Dolby AC-3 audio compression method as defined in ETSI TS 101 154 [14], clause 6.2

NOTE: The service information requirements for AC-3 streams carried in DVB systems are described in annex D. The carriage of AC-3 elementary streams as private data within MPEG systems is described in ETSI TS 101 154 [14], clause 6.2.

**AC-4:** coding of audio using the Dolby AC-4 audio compression method as defined in clause 6.6 and clause 6.7 of ETSI TS 101 154 [14]

**NOTE:** The Service Information requirements for AC-4 streams carried in DVB systems are described in annex D. The carriage of AC-4 elementary streams as private data within MPEG systems is described in clause 6.6 and clause 6.7 of ETSI TS 101 154 [14].

**audio preselection:** set of audio programme components representing a version of the audio programme that may be selected by a user for simultaneous decoding

**NOTE:** An audio preselection is a sub-selection from all available audio programme components of one audio programme. An audio preselection can be considered the NGA equivalent of audio services in predecessor systems, which each utilized complete mixes.

**audio programme:** complete collection of all audio programme components and a set of accompanying audio preselections

**NOTE:** Not all audio programme components of an audio programme are necessarily meant to be presented at the same time. An audio programme may contain audio programme components that are always presented, and it may include optional audio programme components.

**audio programme component:** the smallest addressable unit of an audio programme

**auxiliary NGA stream:** NGA stream delivered using NGA multi-stream delivery, and containing additional audio programme components not contained in the main NGA stream

**bouquet:** collection of services marketed as a single entity

**broadcaster:** organization which assembles a sequence of events or data streams to be delivered to the viewer; the delivery can be based upon a schedule

**cell:** geographical area that is covered with DVB signals delivering one or more particular transport or other DVB streams throughout the area by means of one or more transmitters

**NOTE:** The cell may in addition contain repeaters. Two neighbouring cells may be intersecting, or fully overlapping. The *cell\_id* that is used to uniquely identify a cell is unique within each *original\_network\_id*. For hand-over purposes it is more convenient if the transport streams associated with the cell cover exactly the same area, or only one transport stream per cell is used.

**component:** one or more entities which together make up an event

**EXAMPLE:** Video, audio, teletext.

**conditional access system:** system to control subscriber access to services, data streams and events

**EXAMPLE:** Videoguard, Eurocrypt.

**delivery system:** physical medium by which one or more DVB transport streams are transmitted

**EXAMPLE:** Satellite system, wide-band coaxial cable, fibre optics, terrestrial channel of one emitting point.

**dependent stream:** stream or component which relies on another stream or component in order to be rendered as intended

**EXAMPLE:** A dependent view of a 3D video, or a receiver-mix audio description stream.

**DTS:** coding of audio using the DTS audio compression method as defined in ETSI TS 101 154 [14], clause 6.3

**NOTE:** The service information requirements for DTS are found in annex G.

**DTS-HD:** coding of audio using the DTS-HD audio compression method as defined in ETSI TS 101 154 [14], clause 6.3

**NOTE:** The service information requirements for DTS-HD are found in annex G. Note that DTS-HD is a superset of DTS.

**DTS-UHD:** coding of audio using the DTS-UHD audio compression method as defined in ETSI TS 101 154 [14], clause 6.9

NOTE: The service information requirements for DTS-UHD are found in annex G.

**DVB transport stream:** MPEG-2 transport stream (ISO/IEC 13818-1 [1]) containing the mandatory service information signalling as defined in the present document

NOTE: It is recommended that the service information implementation specification ETSI TS 101 211 [i.1] is additionally followed. It defines further requirements for the signalling to help improve the quality of experience for viewers.

**event:** grouping of elementary broadcast data streams with a defined start time and duration belonging to a common service

EXAMPLE: First half of a football match, News Flash, first part of an entertainment show.

**HEVC\_UHDTV\_IRD:** initial ultra high definition IRD profile defined in ETSI TS 101 154 [14]

**main NGA stream:** NGA stream delivered using NGA multi-stream delivery, and containing at least all the audio programme components corresponding to at least one audio preselection

**MPEG-2:** ISO/IEC 13818 set of standards

NOTE: Systems coding is defined in part 1, video coding is defined in part 2, and audio coding is defined in part 3 of ISO/IEC 13818.

**MPEG-4:** coding of video using the H.264/AVC video compression method as defined in clause 5.6 and clause 5.7 of ETSI TS 101 154 [14], or coding of audio using the AAC, HE-AAC, and HE-AAC v2 audio compression methods as defined in clause 6.4 and clause 6.5 of ETSI TS 101 154 [14]

NOTE: The service information requirements for MPEG-4 streams carried in DVB systems are described in annex H.

**MPEG-H:** coding of audio using the audio compression method as defined in clause 6.8 of ETSI TS 101 154 [14]

**multi-stream delivery:** method for carrying audio programme components in several NGA streams

NOTE: E.g. when audio programme components offering additional languages are carried in separate elementary streams to facilitate remultiplexing or service aggregation.

**network:** managed and navigable collection of DVB transport streams transmitted on one or more delivery systems generally based on the same physical medium

NOTE 1: It is possible to operate both, first and second generation delivery systems in the same network (e.g. DVB-T and DVB-T2).

NOTE 2: A network is identified by its *network\_id*. It might be composed of one or more emitting sites.

**NGA stream:** audio elementary stream containing one or more audio programme components of one audio programme

**original\_network\_id:** unique identifier of a broadcast platform operator

NOTE: This value is assigned by DVB.

**repeater:** special type of transmitter which receives a terrestrial DVB signal and re-transmits it unchanged

NOTE: Hence it does not support changing of the *cell\_id*.

**reserved:** When used in the clause defining the coded bit stream, indicates that the value may be used in the future for ISO defined extensions. Unless otherwise specified within the present document all reserved bits are set to 0b1.

**reserved\_future\_use:** When used in the clause defining the coded bit stream, indicates that the value may be used in the future for ETSI defined extensions. Unless otherwise specified within the present document all reserved\_future\_use bits are set to 0b1.