

**Digital Video Broadcasting (DVB);
Specification for Service Information (SI) in
DVB systems**

(ETSI EN 300 468 V1.15.1 (2016-03))

Medieninhaber und Hersteller:

OVE Österreichischer Verband für Elektrotechnik
Austrian Standards Institute

Copyright © OVE/Austrian Standards Institute – 2016.

Alle Rechte vorbehalten! Nachdruck oder
Vervielfältigung, Aufnahme auf oder in sonstige Medien
oder Datenträger nur mit Zustimmung gestattet!

**Verkauf von in- und ausländischen Normen und
technischen Regelwerken durch**

Austrian Standards Institute
Heinestraße 38, 1020 Wien
E-Mail: sales@austrian-standards.at
Internet: www.austrian-standards.at
Webshop: www.austrian-standards.at/webshop
Tel.: +43 1 213 00-300
Fax: +43 1 213 00-818

Alle Regelwerke für die Elektrotechnik auch erhältlich bei

OVE Österreichischer Verband für Elektrotechnik

Eschenbachgasse 9, 1010 Wien

E-Mail: verkauf@ove.at

Internet: www.ove.at

Webshop: www.ove.at/webshop

Tel.: +43 1 587 63 73

Fax: +43 1 587 63 73 - 99

ICS 33.170

Ident (IDT) mit ETSI EN 300 468 V1.15.1 (2016-03)

Ersatz für siehe nationales Vorwort

zuständig OVE/Komitee
TK IT-EG
Informationstechnologie, Telekommunikation und
Elektronik

Nationales Vorwort

Diese Europäische Norm EN 300 468 V1.15.1:2016 hat sowohl den Status von ÖSTERREICHISCHEN BESTIMMUNGEN FÜR DIE ELEKTROTECHNIK gemäß ETG 1992 als auch den einer ÖNORM gemäß NG 1971. Bei ihrer Anwendung ist dieses Nationale Vorwort zu berücksichtigen.

Für den Fall einer undatierten normativen Verweisung (Verweisung auf einen Standard ohne Angabe des Ausgabedatums und ohne Hinweis auf eine Abschnittsnummer, eine Tabelle, ein Bild usw.) bezieht sich die Verweisung auf die jeweils neueste Ausgabe dieses Standards.

Für den Fall einer datierten normativen Verweisung bezieht sich die Verweisung immer auf die in Bezug genommene Ausgabe des Standards.

Der Rechtsstatus dieser ÖSTERREICHISCHEN BESTIMMUNGEN FÜR DIE ELEKTROTECHNIK/ÖNORM ist den jeweils geltenden Verordnungen zum Elektrotechnikgesetz zu entnehmen.

Bei mittels Verordnungen zum Elektrotechnikgesetz verbindlich erklärten ÖSTERREICHISCHEN BESTIMMUNGEN FÜR DIE ELEKTROTECHNIK/ÖNORMEN ist zu beachten:

- Hinweise auf Veröffentlichungen beziehen sich, sofern nicht anders angegeben, auf den Stand zum Zeitpunkt der Herausgabe dieser ÖSTERREICHISCHEN BESTIMMUNGEN FÜR DIE ELEKTROTECHNIK/ÖNORM. Zum Zeitpunkt der Anwendung dieser ÖSTERREICHISCHEN BESTIMMUNGEN FÜR DIE ELEKTROTECHNIK/ÖNORM ist der durch die Verordnungen zum Elektrotechnikgesetz oder gegebenenfalls auf andere Weise festgelegte aktuelle Stand zu berücksichtigen.
- Informative Anhänge und Fußnoten sowie normative Verweise und Hinweise auf Fundstellen in anderen, nicht verbindlichen Texten werden von der Verbindlicherklärung nicht erfasst.

Europäische Normen (EN) werden durch Veröffentlichung eines identen Titels und Textes in das Gesamtwerk der ÖSTERREICHISCHEN BESTIMMUNGEN FÜR DIE ELEKTROTECHNIK/ÖNORMEN übernommen, wobei der Nummerierung der Zusatz ÖVE/ÖNORM bzw. ÖNORM vorangestellt wird.

Der von ETSI übermittelte Normentext wird in englischer Sprache veröffentlicht, da davon ausgegangen werden kann, dass die Anwender der Norm über ausreichende englische Sprachkenntnisse verfügen.

Erläuterung zum Ersatzvermerk

Gemäß Vorwort zur EN wird das späteste Datum, zu dem nationale Normen, die der vorliegenden Norm entgegenstehen, zurückgezogen werden müssen, mit dow (date of withdrawal) festgelegt. Bis zum Zurückziehungsdatum (dow) 2016-12-31 ist somit die Anwendung folgender Norm(en) noch erlaubt:

ÖVE/ÖNORM EN 300 468 V1.14.1:2014-08-01.

ETSI EN 300 468 V1.15.1 (2016-03)



**Digital Video Broadcasting (DVB);
Specification for Service Information (SI) in DVB systems**

EBU
OPERATING EUROVISION

DVB[®]
Digital Video
Broadcasting

Reference

REN/JTC-DVB-348

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 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
<http://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 only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

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://portal.etsi.org/People/CommitteeSupportStaff.aspx>

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.

© European Telecommunications Standards Institute 2016.

© European Broadcasting Union 2016.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and
of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	7
Foreword.....	7
Modal verbs terminology.....	7
1 Scope	8
2 References	8
2.1 Normative references	8
2.2 Informative references	11
3 Definitions and abbreviations.....	12
3.1 Definitions.....	12
3.2 Abbreviations	14
4 Service Information (SI) description	18
5 Service Information (SI) tables	20
5.1 SI table mechanism	20
5.1.1 Use of table sections	20
5.1.2 Mapping of sections into Transport Stream (TS) packets.....	21
5.1.3 Coding of PID and table_id fields	22
5.1.4 Repetition rates and random access	23
5.1.5 Scrambling.....	23
5.2 Table definitions.....	23
5.2.0 Introduction.....	23
5.2.1 Network Information Table (NIT)	23
5.2.2 Bouquet Association Table (BAT)	25
5.2.3 Service Description Table (SDT).....	26
5.2.4 Event Information Table (EIT)	28
5.2.5 Time and Date Table (TDT)	30
5.2.6 Time Offset Table (TOT)	31
5.2.7 Running Status Table (RST).....	32
5.2.8 Stuffing Table (ST).....	32
5.2.9 Discontinuity Information Table (DIT)	33
5.2.10 Selection Information Table (SIT).....	33
6 Descriptors	33
6.0 Introduction	33
6.1 Descriptor identification and location	33
6.2 Descriptor coding	35
6.2.0 General principles	35
6.2.1 Adaptation field data descriptor.....	35
6.2.2 Ancillary data descriptor.....	36
6.2.3 Announcement support descriptor	36
6.2.4 Bouquet name descriptor	38
6.2.5 CA identifier descriptor	38
6.2.6 Cell frequency link descriptor.....	39
6.2.7 Cell list descriptor.....	39
6.2.8 Component descriptor.....	41
6.2.9 Content descriptor.....	46
6.2.10 Country availability descriptor	49
6.2.11 Data broadcast descriptor.....	49
6.2.12 Data broadcast id descriptor.....	50
6.2.13 Delivery system descriptors.....	51
6.2.13.1 Cable delivery system descriptor	51
6.2.13.2 Satellite delivery system descriptor.....	52
6.2.13.3 S2 satellite delivery system descriptor	53
6.2.13.4 Terrestrial delivery system descriptor	54
6.2.14 DSNG descriptor	57
6.2.15 Extended event descriptor.....	57

6.2.16	Extension descriptor	58
6.2.17	Frequency list descriptor.....	58
6.2.18	FTA content management descriptor.....	59
6.2.18.0	Semantics and syntax of the FTA content management descriptor.....	59
6.2.18.1	Scope of the FTA content management descriptor	61
6.2.19	Linkage descriptor	62
6.2.19.0	Semantics and syntax of the linkage descriptor	62
6.2.19.1	Mobile hand-over linkage	63
6.2.19.2	Event linkage.....	64
6.2.19.3	Extended event linkage	65
6.2.20	Local time offset descriptor	67
6.2.21	Mosaic descriptor.....	68
6.2.22	Multilingual bouquet name descriptor	71
6.2.23	Multilingual component descriptor.....	71
6.2.24	Multilingual network name descriptor.....	72
6.2.25	Multilingual service name descriptor.....	73
6.2.26	Near Video On Demand (NVOD) reference descriptor.....	73
6.2.27	Network name descriptor.....	74
6.2.28	Parental rating descriptor	74
6.2.29	Partial Transport Stream (TS) descriptor	75
6.2.30	PDC descriptor.....	75
6.2.31	Private data specifier descriptor.....	75
6.2.32	Scrambling descriptor	76
6.2.33	Service descriptor	76
6.2.34	Service availability descriptor.....	78
6.2.35	Service list descriptor.....	78
6.2.36	Service move descriptor.....	79
6.2.37	Short event descriptor	79
6.2.38	Short smoothing buffer descriptor	80
6.2.39	Stream identifier descriptor.....	81
6.2.40	Stuffing descriptor	82
6.2.41	Subtitling descriptor.....	82
6.2.42	Telephone descriptor.....	83
6.2.43	Teletext descriptor	84
6.2.44	Time shifted event descriptor.....	85
6.2.45	Time shifted service descriptor.....	85
6.2.46	Transport stream descriptor	86
6.2.47	VBI data descriptor.....	86
6.2.48	VBI teletext descriptor.....	87
6.3	Extended descriptor identification and location	88
6.4	Extended descriptor coding	88
6.4.0	Introduction.....	88
6.4.1	CI ancillary data descriptor.....	88
6.4.2	CP descriptor	89
6.4.3	CP identifier descriptor	89
6.4.4	CPCM delivery signalling descriptor.....	90
6.4.5	Delivery system descriptors.....	90
6.4.5.1	C2 delivery system descriptor	90
6.4.5.2	SH delivery system descriptor.....	92
6.4.5.3	T2 delivery system descriptor	96
6.4.5.4	C2 bundle delivery system descriptor	98
6.4.6	Image icon descriptor.....	99
6.4.7	Message descriptor	101
6.4.8	Network change notify descriptor.....	102
6.4.9	Service relocated descriptor	104
6.4.10	Supplementary audio descriptor	104
6.4.11	Target region descriptor.....	106
6.4.12	Target region name descriptor	108
6.4.13	T2-MI descriptor.....	109
6.4.14	URI linkage descriptor.....	110
6.4.15	Video depth range descriptor	111
6.4.15.0	Semantics and syntax of the video depth range descriptor.....	111

6.4.15.1	Production disparity hint	112
6.5	Scoping rules for scoping descriptors.....	112
7	Storage Media Interoperability (SMI) measures	113
7.0	Introduction	113
7.1	SMI tables	113
7.1.0	General principles.....	113
7.1.1	Discontinuity Information Table (DIT)	113
7.1.2	Selection Information Table (SIT).....	114
7.2	SMI descriptors	115
7.2.0	Introduction.....	115
7.2.1	Partial Transport Stream (TS) descriptor	115
Annex A (normative):	Coding of text characters	116
A.0	General principles	116
A.1	Control codes.....	116
A.2	Selection of character table	116
Annex B (normative):	CRC decoder model.....	130
Annex C (informative):	Conversion between time and date conventions	131
Annex D (normative):	Service information implementation of AC-3, Enhanced AC-3, and AC-4 audio in DVB systems.....	133
D.0	Introduction	133
D.1	AC-3 and Enhanced AC-3 component types.....	133
D.2	AC-3 descriptor	134
D.3	AC-3 descriptor syntax and semantics	134
D.4	Enhanced_AC-3 descriptor	136
D.5	Enhanced_AC-3 descriptor syntax and semantics	136
D.6	AC-4 descriptor	138
D.7	AC-4 descriptor syntax and semantics	138
Annex E (normative):	Usage of the Scrambling_descriptor	140
Annex F (informative):	ISO 639 Language Descriptor for "original audio" Soundtrack	141
Annex G (normative):	Service information implementation of DTS® coded audio in DVB systems	142
G.0	Introduction	142
G.1	DTS® and DTS-HD® Audio descriptors.....	142
G.2	DTS® Descriptor	142
G.2.0	Use of the DTS® descriptor	142
G.2.1	Syntax and semantics for the DTS® descriptor.....	142
G.3	DTS-HD® descriptor	145
G.3.1	DTS-HD® descriptor syntax	145
G.3.2	Substream information	146
G.3.3	Asset information	148
G.3.4	Component type	150
G.4	Use of DTS-HD® in Receiver Mixed Applications for Single PID and Multiple PID Implementations	151

Annex H (normative):	Service information implementation of AAC coded audio in DVB systems	152
H.0	Introduction	152
H.1	AAC Audio descriptor.....	152
H.2	AAC descriptor	152
H.2.0	Use of the AAC descriptor	152
H.2.1	Syntax and semantics for the AAC descriptor.....	152
Annex I (normative):	Assignment and interpretation of the service_type field.....	154
I.1	Background	154
I.2	Assignment of service_type	154
I.2.0	Introduction	154
I.2.1	service_type "digital television service" (0x01).....	154
I.2.2	service_type "H.264/AVC" (various).....	155
I.2.3	service_type "H.264/AVC frame compatible stereoscopic HD" (various).....	155
I.2.4	service_type "advanced codec digital radio sound service" (0x0A).....	155
I.2.5	service_type "HEVC digital television service" (0x1F).....	156
I.2.5.0	General principles.....	156
I.2.5.1	Signalling for service frame compatible plano-stereoscopic 3DTV for HEVC coded services.....	156
Annex J (normative):	Signalling of Supplementary Audio	158
J.1	Overview	158
J.2	Receiver-mix supplementary audio.....	158
J.2.1	Introduction	158
J.2.2	PSI PMT signalling	159
J.2.3	EIT signalling.....	159
J.2.3.0	General principles.....	159
J.2.3.1	Visually impaired audio description	159
J.3	Broadcast-mix supplementary audio.....	159
J.3.1	Introduction	159
J.3.2	PSI PMT signalling	160
J.3.3	EIT signalling.....	160
J.3.3.0	General principles.....	160
J.3.3.1	Visually impaired audio description	160
J.4	PSI signalling of audio purpose.....	160
J.5	SAOC-DE parametric data streams.....	161
J.5.1	Introduction	161
J.5.2	PSI PMT signalling	161
J.5.3	EIT signalling.....	162
Annex K (normative):	Extended event linkage descriptor usage.....	163
Annex L (normative):	Service information implementation of DTS Neural Surround™ coded audio in DVB systems	165
L.0	Introduction	165
L.1	DTS® Neural Descriptor.....	165
Annex M (informative):	Bibliography.....	167
Annex N (informative):	Change History	168
History		169

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is 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 IPR Policy, no investigation, 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.

Foreword

This 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).

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 Digital Video Broadcasting Project (DVB) is an industry-led consortium of broadcasters, manufacturers, network operators, software developers, regulatory bodies, content owners and others committed to designing global standards for the delivery of digital television and data services. DVB fosters market driven solutions that meet the needs and economic circumstances of broadcast industry stakeholders and consumers. DVB standards 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 to provide global standardization, interoperability and future proof specifications.

National transposition dates	
Date of adoption of this EN:	15 March 2016
Date of latest announcement of this EN (doa):	30 June 2016
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2016
Date of withdrawal of any conflicting National Standard (dow):	31 December 2016

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.

1 Scope

The present document specifies the Service Information (SI) data which forms a part of 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 [18] 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 Guides (EPGs) will be a feature of Digital 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.2].

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 <http://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] ETSI EN 300 231: "Television systems; Specification of the domestic video Programme Delivery Control system (PDC)".
- [2] ETSI EN 300 401: "Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers".
- [3] ETSI EN 300 706: "Enhanced Teletext specification".
- [4] ETSI EN 301 192: "Digital Video Broadcasting (DVB); DVB specification for data broadcasting".
- [5] 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".
- [6] ETSI EN 301 775: "Digital Video Broadcasting (DVB); Specification for the carriage of Vertical Blanking Information (VBI) data in DVB bitstreams".
- [7] ETSI EN 301 790: "Digital Video Broadcasting (DVB); Interaction channel for satellite distribution systems".
- [8] 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".
- [9] ETSI TS 101 154: "Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in Broadcasting Applications based on the MPEG-2 Transport Stream".
- [10] 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".