

**SLOVENSKI STANDARD  
SIST-TP ETR 211 E1:2005**

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**Sistemi digitalne radiodifuzije za televizijo – Smernice za uvajanje uporabe sistemov MPEG-2 – Smernice za uvedbo in uporabo servisnih informacij**

Digital broadcasting systems for television – Implementation guidelines for the use of MPEG-2 systems – Guidelines on implementation and usage of service information

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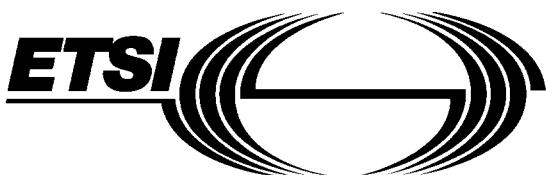
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**Digital broadcasting systems for television;  
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 Guidelines on implementation and usage of service information**

**ETSI**

European Telecommunications Standards Institute

**ETSI Secretariat**

**Postal address:** F-06921 Sophia Antipolis CEDEX - FRANCE

**Office address:** 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

**X.400:** c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

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

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## Foreword

This ETSI Technical Report (ETR) has been produced under the authority of the Joint Technical Committee (JTC) of the European Broadcasting Union (EBU), Comité Européen de Normalisation ELECtrotechnique (CENELEC) and the European Telecommunications Standards Institute (ETSI).

This ETR is based on the DVB document TM1324, rev. 2 / 162 rev. 8 dated 22 September 1995, and it may be converted into an ETS after market feedback. For this purpose, the wording of an ETS rather than of an ETR is used.

ETRs are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim European Telecommunication Standard (I-ETS) status. An ETR may be used to publish material which is either of an informative nature, relating to the use or the application of ETSs or I-ETSs, or which is immature and not yet suitable for formal adoption as an ETS or an I-ETS.

NOTE: The EBU/ETSI JTC was established in 1990 to co-ordinate the drafting of ETSs in the specific field of broadcasting and related fields. Since 1995 the JTC 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 organisations 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  
Case Postale 67  
CH-1218 GRAND SACONNEX (Geneva)  
Switzerland

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## 1 Scope

This ETR provides implementation guidelines for the use and implementation of the Digital Video Broadcasting (DVB) Service Information (SI) coding in a DVB digital TV environment including satellite-and cable-networks. It does not cover the broadcasting of terrestrial digital TV, which may be included in future versions of this document.

The guidelines are intended to be highly recommended rules for the usage of the DVB SI syntax specified in ETS 300 468 [1]. As such, they facilitate the efficient and reliable implementation of basic user-interaction functions in Integrated Receiver-Decoders (IRDs). The rules apply to broadcasters, network operators as well as manufacturers.

The rules are specified in the form of constraints on the DVB SI streams or in terms of intended interpretation by IRDs.

The specification of these functions in no way prohibits IRD manufacturers from including additional features, and should not be interpreted as stipulating any form of upper limit to the performance. The guidelines do not cover features related to user-interface details or advanced Electronic Program Guides (EPG). Such issues are left to the marketplace.

**NOTE:** It is highly recommended that the IRD should be designed to allow for future compatible extensions to the DVB SI syntax. All the fields "reserved" (for ISO), "reserved\_future\_use" (for ETSI), and "user defined" in the ETS 300 468 [1] should be ignored by IRDs designed not to make use of them. The "reserved" and "reserved\_future\_use" fields may be specified in the future by the respective bodies, whereas the "user defined" fields will not be standardized.

This guidelines document uses the terminology defined in ETS 300 468 [1] and should be read in conjunction with that ETS.

## 2 References

For the purposes of this ETR, the following references apply:

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- [1] ETS 300 468: "Digital broadcasting systems for television, sound and data services; specification for Service Information (SI) in Digital Video Broadcasting (DVB) systems".
- [2] ISO/IEC DIS 13818-1 (1994): "Information Technology - Generic Coding of Moving Pictures and Associated Audio Recommendation H.222.0 (systems)".
- [3] ETS 300 472: "Digital broadcasting systems for television, sound and data services; Specification for conveying ITU-R System B Teletext in Digital Video Broadcasting (DVB) bitstreams".
- [4] ETR 162: "Digital broadcasting systems for television, sound and data services; Allocation of Service Information (SI) codes for Digital Video Broadcasting (DVB) systems".

### **3 Definitions and abbreviations**

#### **3.1 Definitions**

For the purposes of this ETR, the following definitions apply:

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

**Broadcaster (SERVICE Provider):** An organisation which assembles a sequence of events or programmes to be delivered to the viewer based upon a schedule.

**Component (ELEMENTARY Stream):** One or more entities which together make up an event, e.g. video, audio, teletext.

**Conditional Access (CA) system:** A system to control subscriber access to services, programmes and events e.g. Videoguard, Eurocrypt.

**delivery system:** The physical medium by which one or more multiplexes are transmitted e.g. satellite transponder, wide-band coaxial cable, fibre optics.

**event:** A grouping of elementary broadcast data streams with a defined start and end time belonging to a common service, e.g. first half of a football match, News Flash, first part of an entertainment show.

**MPEG-2:** Refers to the standard ISO/IEC 13818-1 [2]. Systems coding is defined in part 1. Video coding is defined in part 2. Audio coding is defined in part 3.

**multiplex:** A stream of all the digital data carrying one or more services within a single physical channel.

**network:** A collection of MPEG-2 Transport Stream multiplexes transmitted on a single delivery system, e.g. all digital channels on a specific cable system.

**section:** A section is a syntactic structure used for mapping all service information into ISO/IEC 13818-1 [2] Transport Stream packets. <http://www.sist-europe.org/standards/sist/eafebdbc-b794-4835-9c5c-dc4c1721689c/sist-tp-etr-211-e1-2005>

**programme:** A concatenation of one or more events under the control of a broadcaster e.g. news show, entertainment show.

**service:** A sequence of programmes under the control of a broadcaster which can be broadcast as part of a schedule.

**Service Information (SI):** Digital data describing the delivery system, content and scheduling/timing of broadcast data streams etc. It includes MPEG-2 Program Specific Information (PSI) together with independently defined extensions.

**sub-table:** A sub-table is comprised of a number of sections with the same value of table\_id, table\_id\_extension and version\_number. The table\_id\_extension field is equivalent to the fourth and fifth byte of a section when the section\_syntax\_indicator is set to a value of "1".

**table:** A table is comprised of a number of sections with the same value of table\_id.

**transport stream:** A data structure defined in ISO 13818-1 [2]. It is the basis of the Digital Video Broadcasting (DVB) standards.

### 3.2 Abbreviations

For the purposes of this ETR, the following abbreviations apply:

BAT	Bouquet Association Table
bslbf	bit string, left bit first
CA	Conditional Access
DVB	Digital Video Broadcasting
EIT	Event Information Table
EPG	Electronic Program Guide
IRD	Integrated Receiver-Decoder
MJD	Modified Julian Date
MPEG	Moving Pictures Expert Group
NIT	Network Information Table
NVOD	Near Video On Demand
PAT	Program Association Table
PCR_PID	Program Clock Reference_ Packet IDentifier
PID	Packet IDentifier
PMT	Program Map Table
PSI	Program Specific Information
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
RST	Running Status Table
SDT	Service Description Table
SHY	Soft HYphen
SI	Service Information
SMATV	Satellite Master Antenna TeleVision
ST	Stuffing Table
TDT	Time and Date Table
TOT	Time Offset Table
TS	Transport Stream
uimsbf	unsigned integer, most significant bit first
UTC	Universal Time Coordinated
VCR	Video Cassette Recorder

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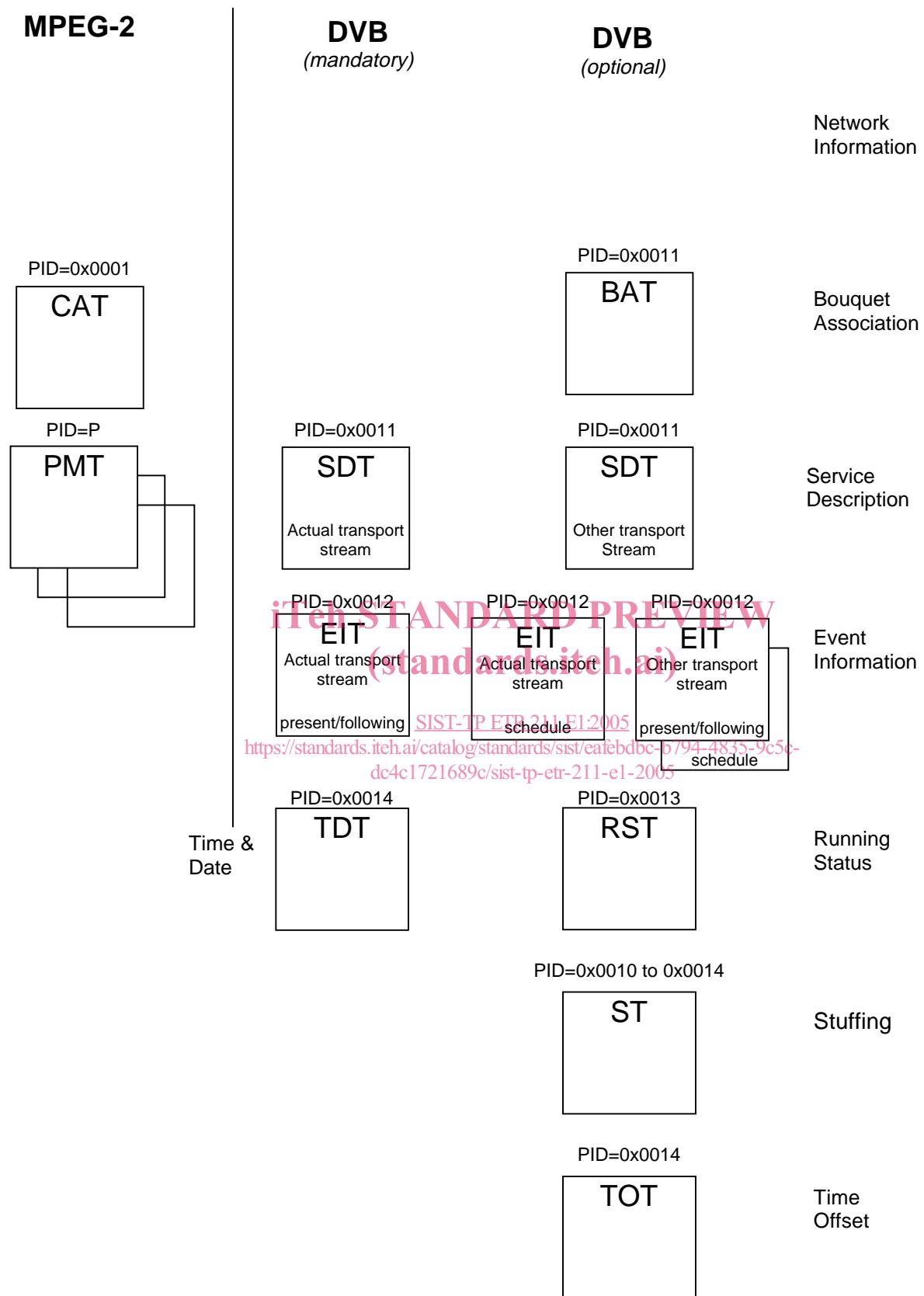
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### 4 Rules of operation

This clause contains some recommendations on the usage of the Digital Video Broadcasting (DVB) Service Information (SI) syntax.

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#### 4.1 Service Information (SI) table information



**Figure 1: SI table information**