

ISO/TS 18234-2:2013-10 (E)

Intelligent transport systems - Traffic and travel information via transport protocol experts group, generation 1 (TPEG1) binary data format - Part 2: Syntax, semantics and framing structure (TPEG1-SSF)

Contents		Page
Foreword		v
Introduction		v
1	Scope	1
2	Normative references	1
3	Abbreviated terms	2
4	Design principles	3
4.1	TPEG transmission	3
4.2	TPEG layer model	4
5	Conventions and symbols	6
5.1	Conventions	6
5.1.1	Byte ordering	6
5.1.2	Method of describing the byte-oriented protocol	6
5.1.3	Reserved data fields	6
5.2	Symbols	6
5.2.1	Literal numbers	6
5.2.2	Variable numbers	6
5.2.3	Implicit numbers	7
6	Representation of syntax	7
6.1	General	7
6.2	Data type notation	7
6.2.1	Rules for data type definition representation	7
6.2.2	Description of data type definition syntax	9
6.3	Application dependent data types	10
6.3.1	Data structures	11
6.3.2	Using templates as interfaces	12
6.3.3	Components	13
6.4	Toolkits and external definition	15
6.5	Application design principles	15
6.5.1	Variable data structures	15
6.5.2	Re-usable and extendable structures	15
6.5.3	Validity of declarative structures	15
7	TPEG data stream description	16
7.1	Diagrammatic hierarchy representation of frame structure	16
7.2	Syntactical Representation of the TPEG Stream	16
7.2.1	TPEG transport frame structure	16
7.2.2	TPEG service frame template structure	17
7.2.3	Service frame of frame type = 0	17
7.2.4	Service frame of frame type = 1	17
7.2.5	TPEG service component frame multiplex	18
7.2.6	Interface to application specific frames	18
7.3	Description of data on Transport level	21

7.3.1	Syncword	21
7.3.2	Field length	21
7.3.3	Header CRC	21
7.3.4	Frame type	21
7.3.5	Synchronization method	22
7.3.6	Error detection	22
7.4	Description of data on Service level	22
7.4.1	Encryption indicator	22
7.4.2	Service identification	22
7.5	Description of data on Service component level	23
7.5.1	Service component identifier	23
7.5.2	Field length	23
7.5.3	Service component frame header CRC	23
7.5.4	Service component frame data CRC	23
Annex A (normative) Character tables		24
A.1	Character tables	24
A.2	Reference character table index	24
Annex B (normative) Method for coding quantities of objects		25
B.1	Numag derivation	25
B.2	Numag table	26
Annex C (normative) CRC calculation		27
C.1	CRC calculation	27
C.2	ITU-T (formerly CCITT) CRC calculation in PASCAL	27
C.3	ITU-T (formerly CCITT) CRC calculation in C notation	28
Annex D (normative) Time calculation		29
D.1	Time calculation	29
D.2	Time calculation in C notation	29
Annex E (informative) A description of the TPEG byte-stream using C-type notation		32
E.1	Explanation	32
E.2	Definition of data elements	32
E.3	Definition of conditional expressions	33
E.4	Byte-stream representation of the TPEG hierarchy	33
E.4.1	Definition of nextbyte function	33
E.4.2	Definition of next_start_code function	33
E.4.3	Definition of tpeg_stream function	34