

ISO/IEC 13818-1:2015-07 (E)

Information technology - Generic coding of moving pictures and associated audio information - Part 1: Systems

| Contents | Page |
|---|------|
| 1.1 Scope..... | 1 |
| 1.2 Normative references | 1 |
| 2.1 Definitions..... | 3 |
| 2.2 Symbols and abbreviations..... | 9 |
| 2.3 Method of describing bit stream syntax | 11 |
| 2.4 Transport stream bitstream requirements | 12 |
| 2.5 Program stream bitstream requirements..... | 57 |
| 2.6 Program and program element descriptors..... | 70 |
| 2.7 Restrictions on the multiplexed stream semantics..... | 115 |
| 2.8 Compatibility with ISO/IEC 11172..... | 119 |
| 2.9 Registration of copyright identifiers..... | 119 |
| 2.10 Registration of private data format..... | 120 |
| 2.11 Carriage of ISO/IEC 14496 data | 120 |
| 2.12 Carriage of metadata | 132 |
| 2.13 Carriage of ISO 15938 data..... | 140 |
| 2.14 Carriage of Rec. ITU-T H.264 ISO/IEC 14496-10 video..... | 140 |
| 2.15 Carriage of ISO/IEC 14496-17 text streams | 157 |
| 2.16 Carriage of auxiliary video streams..... | 158 |
| 2.17 Carriage of HEVC..... | 158 |
| Annex A – CRC decoder model | 164 |
| A.1 CRC decoder model | 164 |
| Annex B – Digital Storage Medium Command and Control (DSM-CC) | 165 |
| B.1 Introduction..... | 165 |
| B.2 General elements..... | 166 |
| B.3 Technical elements..... | 168 |
| Annex C – Program-specific information..... | 174 |
| C.1 Explanation of program-specific information in transport streams | 174 |
| C.2 Introduction | 174 |
| C.3 Functional mechanism..... | 174 |
| C.4 The mapping of sections into transport stream packets..... | 175 |
| C.5 Repetition rates and random access..... | 175 |
| C.6 What is a program? | 176 |
| C.7 Allocation of program_number..... | 176 |
| C.8 Usage of PSI in a typical system | 176 |
| C.9 The relationships of PSI structures..... | 177 |
| C.10 Bandwidth utilization and signal acquisition time | 179 |
| Annex D – Systems timing model and application implications of this Recommendation International Standard | 182 |
| D.1 Introduction | 182 |
| Annex E – Data transmission applications | 191 |
| E.1 General considerations | 191 |
| E.2 Suggestion | 191 |
| Annex F – Graphics of syntax for this Recommendation International Standard..... | 192 |
| F.1 Introduction | 192 |
| Annex G – General information | 196 |
| G.1 General information | 196 |
| Annex H – Private data..... | 197 |
| H.1 Private data..... | 197 |
| Annex I – Systems conformance and real-time interface | 198 |
| I.1 Systems conformance and real-time interface..... | 198 |
| Annex J – Interfacing jitter-inducing networks to MPEG-2 decoders..... | 199 |

| | <i>Page</i> |
|--|-------------|
| J.1 Introduction | 199 |
| J.2 Network compliance models | 199 |
| J.3 Network specification for jitter smoothing..... | 200 |
| J.4 Example decoder implementations | 201 |
| Annex K – Splicing transport streams | 202 |
| K.1 Introduction | 202 |
| K.2 The different types of splicing point | 202 |
| K.3 Decoder behaviour on splices..... | 203 |
| Annex L – Registration procedure (see 2.9) | 205 |
| L.1 Procedure for the request of a Registered Identifier (RID) | 205 |
| L.2 Responsibilities of the Registration Authority | 205 |
| L.3 Responsibilities of parties requesting an RID | 205 |
| L.4 Appeal procedure for denied applications..... | 206 |
| Annex M – Registration application form (see 2.9)..... | 207 |
| M.1 Contact information of organization requesting a Registered Identifier (RID) | 207 |
| M.2 Statement of an intention to apply the assigned RID | 207 |
| M.3 Date of intended implementation of the RID | 207 |
| M.4 Authorized representative | 207 |
| M.5 For official use only of the Registration Authority | 207 |
| Annex N – Registration Authority diagram of administration structure (see 2.9) | 208 |
| Annex O – Registration procedure (see 2.10)..... | 209 |
| O.1 Procedure for the request of an RID..... | 209 |
| O.2 Responsibilities of the Registration Authority | 209 |
| O.3 Contact information for the Registration Authority | 209 |
| O.4 Responsibilities of parties requesting an RID | 209 |
| O.5 Appeal procedure for denied applications..... | 209 |
| Annex P – Registration application form..... | 211 |
| P.1 Contact information of organization requesting an RID | 211 |
| P.2 Request for a specific RID | 211 |
| P.3 Short description of RID that is in use and date system that was implemented | 211 |
| P.4 Statement of an intention to apply the assigned RID | 211 |
| P.5 Date of intended implementation of the RID | 211 |
| P.6 Authorized representative | 211 |
| P.7 For official use of the Registration Authority | 211 |
| Annex Q – T-STD and P-STD buffer models for ISO/IEC 13818-7 ADTS | 212 |
| Q.1 Introduction | 212 |
| Q.2 Leak rate from Transport Buffer | 212 |
| Q.3 Buffer size | 212 |
| Q.4 Conclusion | 213 |
| Annex R – Carriage of ISO/IEC 14496 scenes in Rec. ITU-T H.222.0 ISO/IEC 13818-1..... | 215 |
| R.1 Content access procedure for ISO/IEC 14496 program components within a program stream | 215 |
| R.2 Content access procedure for ISO/IEC 14496 program components within a transport stream | 216 |
| Annex S – Carriage of JPEG 2000 part 1 video over MPEG-2 transport streams..... | 220 |
| S.1 Introduction | 220 |
| S.2 J2K video access unit, J2K video elementary stream, J2K video sequence and J2K still picture | 220 |
| S.3 Elementary stream header (elsm) and mapping to PES packets..... | 220 |
| S.4 J2K transport constraints..... | 222 |
| S.5 Interpretation of flags in adaptation and PES headers for J2K video elementary streams | 222 |
| S.6 T-STD extension for J2K video elementary streams..... | 222 |
| Annex T – MIME type for MPEG-2 transport streams | 225 |
| T.1 Introduction | 225 |
| T.2 MIME type and subtype | 225 |

| | |
|-----------------------------------|-------------|
| | <i>Page</i> |
| T.3 Security considerations | 226 |
| T.4 Parameters | 226 |
| Bibliography | 228 |