ISO/IEC 13818-1:2018-03 (E)

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

Table of Contents

1.1 Scope 1
1.2 Normative references 1
2.1 Definitions 4
2.2 Symbols and abbreviations 11
2.3 Method of describing bit stream syntax 13
2.4 Transport stream bitstream requirements 14
2.5 Program stream bitstream requirements 60
2.6 Program and program element descriptors 73
2.7 Restrictions on the multiplexed stream semantics 137
2.8 Compatibility with ISO/IEC 11172 141
2.9 Registration of copyright identifiers 141
2.10 Registration of private data format 142
2.11 Carriage of ISO/IEC 14496 data 142
2.12 Carriage of metadata 154
2.13 Carriage of ISO 15938 data 163
2.14 Carriage of Rec. ITU-T H.264 | ISO/IEC 14496-10 video 163
2.15 Carriage of ISO/IEC 14496-17 text streams 179
2.16 Carriage of auxiliary video streams 181
2.17 Carriage of HEVC 181
2.18 Carriage of green access units 190
2.19 Carriage of ISO/IEC 23008-3 MPEG-H 3D audio data 192
2.20 Carriage of Quality Access Units in MPEG-2 sections 194
Annex A – CRC decoder model 196
A.1 CRC decoder model 196
Annex B – Digital storage medium command and control (DSM-CC) 197
B.1 Introduction 197
B.2 General elements 198
B.3 Technical elements 200
Annex C – Program-specific information 206
C.1 Explanation of program-specific information in transport streams 206
C.2 Introduction 206
C.3 Functional mechanism 206
C.4 The mapping of sections into transport stream packets 207
C.5 Repetition rates and random access 207
C.6 What is a program? 208
C.7 Allocation of program_number 208
C.8 Usage of PSI in a typical system 208
C.9 The relationships of PSI structures 209
C.10 Bandwidth utilization and signal acquisition time 211
Annex D – Systems timing model and application implications of this Recommendation | International Standard 214
D.1 Introduction 214
Annex E – Data transmission applications 223
E.1 General considerations 223
E.2 Suggestion 223

Annex F – Graphics of syntax for this Recommendation | International Standard 224
F.1 Introduction 224
Annex G – General information 228
G.1 General information 228
Annex H – Private data 229
H.1 Private data 229
Annex I – Systems conformance and real-time interface 230
I.1 Systems conformance and real-time interface 230
Annex J – Interfacing jitter-inducing networks to MPEG-2 decoders 231
J.1 Introduction 231
J.2 Network compliance models 231
J.3 Network specification for jitter smoothing 232
J.4 Example decoder implementations 233
Annex K – Splicing transport streams 234
K.1 Introduction 234
K.2 The different types of splicing point 234
K.3 Decoder behaviour on splices 235
Annex L – Registration procedure (see 2.9) 237
L.1 Procedure for the request of a Registered Identifier (RID) 237
L.2 Responsibilities of the Registration Authority 237
L.3 Responsibilities of parties requesting an RID 237
L.4 Appeal procedure for denied applications 238
Annex M – Registration application form (see 2.9) 239
M.1 Contact information of organization requesting a Registered Identifier (RID) 239
M.2 Statement of an intention to apply the assigned RID 239
M.3 Date of intended implementation of the RID 239
M.4 Authorized representative 239
M.5 For official use only of the Registration Authority 239
Annex N – Registration Authority Diagram of administration structure (see 2.9) 240
Annex O – Registration procedure (see 2.10) 241
O.1 Procedure for the request of an RID 241
O.2 Responsibilities of the Registration Authority 241
O.3 Contact information for the Registration Authority 241
O.4 Responsibilities of parties requesting an RID 241
O.5 Appeal procedure for denied applications 241
Annex P – Registration application form 243
P.1 Contact information of organization requesting an RID 243
P.2 Request for a specific RID 243
P.3 Short description of RID that is in use and date system that was implemented 243
P.4 Statement of an intention to apply the assigned RID 243
P.5 Date of intended implementation of the RID 243
P.6 Authorized representative 243
P.7 For official use of the Registration Authority 243
Annex Q – T-STD and P-STD buffer models for ISO/IEC 13818-7 ADTS 244
Q.1 Introduction 244
Q.2 Leak rate from transport buffer 244
Q.3 Buffer size 244
Q.4 Conclusion 245
Annex R – Carriage of ISO/IEC 14496 scenes in Rec. ITU-T H.222.0 | ISO/IEC 13818-1 247
R.1 Content access procedure for ISO/IEC 14496 program components within a program stream 247
R.2 Content access procedure for ISO/IEC 14496 program components within a transport stream 248

Annex S – Carriage of JPEG 2000 part 1 video over MPEG-2 transport streams 252
S.1 Introduction 252
S.2 J2K video access unit, J2K video elementary stream, J2K video sequence and J2K still picture 252
S.3 Elementary stream header (elsm) and mapping to PES packets 252
S.4 J2K transport constraints 254
S.5 Interpretation of flags in adaptation and PES headers for J2K video elementary streams 254
S.6 T-STD extension for J2K video elementary streams 255
Annex T – MIME type for MPEG-2 transport streams 257
T.1 Introduction 257
T.2 MIME type and subtype 257
T.3 Security considerations 258
T.4 Parameters 258
Annex U – Carriage of timeline and external media information over MPEG-2 transport streams 260
U.1 Introduction 260
U.2 TEMI access unit and TEMI elementary stream 261
U.3 AF descriptors 262
Annex V – Transport of layered HEVC (MV-HEVC, SHVC) 271
V.1 Introduction 271
V.2 Terminology 271
V.3 Examples 272
Bibliography 273