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CONTENTS

FOREWORD 14
1 Scope 16
2 Normative references 16
3 Terms, definitions and abbreviations 18
3.1 Terms and definitions 18
3.2 Symbols 23
3.3 Abbreviations 24
3.4 Identifiers assigned by external entities 28
4 General 28
4.1 Overview 28
4.2 General description of the system and elements 29
4.2.1 General 29
4.2.2 Selected technologies 30
4.2.3 Overview of four-layer model for service protection 31
4.3 End-to-end system 33
4.4 Supported systems and device types 33
4.5 Service protection versus content protection 35
5 General specifications 36
5.1 End-to-end architecture 36
5.2 Special cases 38
5.2.1 Free-to-air services 38
5.2.2 Free-to-view services 38
5.3 Service guide and purchase 38
5.4 Four-layer model – Key hierarchy 39
5.4.1 General 39
5.4.2 Keys on the traffic layer 40
5.4.3 Keys on the key stream layer 40
5.4.4 Keys on the rights management layer (interactive mode) 43
5.4.5 Keys on the rights management layer (broadcast mode) 43
5.4.6 Keys on the registration layer (interactive mode) 43
5.4.7 Keys on the registration layer (broadcast mode) 43
5.4.8 Authentication overview 46
5.5 Deployment for broadcast mode of operation 47
5.5.1 Concept of Domains –Interactive and broadcast domains 47
5.5.2 Addressing (group/subset/device/domain) 48
5.5.3 Zero message broadcast encryption scheme 51
6 Traffic layer 53
6.1 General 53
6.2 IPsec 53
6.2.1 General 53
6.2.2 Selectors 54
6.2.3 Encapsulation protocol and mode 54
6.2.4 Encryption algorithm 55
6.2.5 Authentication algorithm 55
6.2.6 Security association management 55
6.3 ISMACryp 55

6.3.1 Streamed content 55
6.3.2 Downloadable audio/visual content (stored in MP4 files) 56
6.3.3 Use of ISMACryp with the rights management and key stream layers 57
6.4 SRTP 57
6.4.1 General 57
6.4.2 Key management 59
6.4.3 Encryption algorithm 60
6.4.4 Authentication algorithm 60
6.5 MPEG2 TS crypt 60
6.5.1 General 60
6.5.2 Transport stream level scrambling 62
6.5.3 PES level scrambling 62
6.5.4 Descrambling MPEG2 content 63
6.5.5 Supported ciphers 64
6.5.6 Key management 64
7 Key stream layer 65
7.1 General 65
7.2 Format of the key stream message (KSM) 65
7.2.1 Format 65
7.2.2 Descriptors for access_criteria_descriptor_loop 68
7.2.3 Constants 75
7.2.4 Coding and semantics of attributes 75
8 Rights management layer 83
8.1 General 83
8.2 Identification of rights objects 83
8.3 Requirements for rights objects 84
8.3.1 Requirements for service ROs 84
8.3.2 Requirements for programme ROs 84
8.4 Format of rights objects 85
8.4.1 Format of an Interactivity channel rights object (ICRO) 85
8.4.2 Format of a broadcast rights object (BCRO) 85
8.4.3 Format of the asset object 89
8.4.4 Format of the permission object 92
8.4.5 Format of the action object 93
8.4.6 Format of the constraint object 94
9 Registration layer 100
9.1 General 100
9.2 RI context 100
9.3 Registration layer protocols and message specification 101
9.3.1 Interactivity channel registration layer specification 101
9.3.2 Broadcast channel registration layer specification 101
9.3.3 Domain joining and leaving 136
9.3.4 Token handling 151
9.3.5 Mixed-mode registration for interactive and broadcast modes of operation 158
10 Signalling and service guide 159
10.1 General 159
10.2 Signalling requirements 160
10.2.1 Signalling information 160

10.2.2 Requirements for signalling the KSM 160
10.2.3 Requirements for signalling of services 160
10.3 Service guide requirements 160
10.4 Service guide recommendations 160
11 Rights issuer services and rights issuer streams 161
11.1 General 161
11.2 Rights issuer services 161
11.2.1 Requirements for rights issuer services in IPDC over DVB-H systems 161
11.2.2 Requirements for rights issuer services in DVB-T/C/S systems 162
11.2.3 Requirements for the support of rights issuer services and streams in IPTV systems 162
11.3 Usage of rights issuer streams and services 162
11.3.1 General 162
11.3.2 Scheduled RI stream 163
11.3.3 *Ad hoc* RI stream 163
11.3.4 In-band RI streams within a media service 163
12 Service subscription and purchase 165
12.1 General 165
12.2 Purchase over an interactivity channel 166
12.2.1 General 166
12.2.2 Typical purchase sequences 167
12.2.3 Protocol 188
12.2.4 XML schemas for request and response messages 189
12.2.5 XML schema definition for request and response related XML elements 203
12.3 Purchase for mixed-mode devices 207
12.4 Out-of-band purchase 208
12.4.1 Means of purchase – Introduction 208
12.4.2 Out-of-band purchase from service guide data 208
12.5 Required service guide Information 210
12.5.1 General 210
12.5.2 Service operation centre (including service distribution management) 211
12.5.3 Customer operation centre (including service subscription management) 211
12.5.4 Service 212
12.5.5 ScheduleItem 213
12.5.6 ContentItem 213
12.5.7 Purchase item 214
12.5.8 Purchase data 214
13 Protection of IPDC over DVB-H systems 214
13.1 General 214
13.2 Delivery of traffic layer data in IPDC over DVB-H systems 215
13.3 Delivery of key stream data in IPDC over DVB-H systems 215
13.4 Delivery of rights management data in IPDC over DVB-H systems 215
13.4.1 General 215
13.4.2 Delivery of ICROs in IPDC over DVB-H systems over interactivity channel 215
13.4.3 Delivery of BCROs in IPDC over DVB-H systems over broadcast channel 215
13.5 Delivery of registration data in IPDC over DVB-H systems 215

13.5.1 General ... 215
13.5.2 Delivery of registration data in IPDC over DVB-H systems over an interactivity channel ... 216
13.5.3 Delivery of registration data in IPDC over DVB-H systems over a broadcast channel ... 216
13.6 Signalling and service guides in IPDC over DVB-H systems ... 216
13.6.1 General ... 216
13.6.2 Signalling of KSM in IPDC over DVB-H systems ... 216
13.6.3 The service guide for IPDC over DVB-H systems ... 217
13.7 Format and use of RI streams over IPDC over DVB-H systems ... 217
13.7.1 General ... 217
13.7.2 IP characteristics ... 218
13.7.3 RI stream packet format ... 218
13.7.4 Implementation notes ... 220
13.7.5 Mapping of messages to RI services and streams ... 221
13.7.6 Discovery of RI services, streams and schedule Information ... 221
13.7.7 Certificate chain updates ... 222
13.7.8 Resending of BCROs ... 222
13.7.9 Summary of requirements for rights issuers ... 223
13.7.10 Summary of requirements for devices ... 223
13.7.11 Mapping of messages to DVB-H time sliced bursts ... 224
14 Protection of DVB T/C/S systems ... 224
14.1 General ... 224
14.2 Delivery of traffic layer data in DVB T/C/S systems ... 225
14.3 Delivery of key stream data in DVB T/C/S systems ... 225
14.4 Delivery of rights management data in DVB T/C/S systems ... 226
14.4.1 General ... 226
14.4.2 Delivery of ICROs in DVB T/C/S systems over interactivity channel ... 226
14.4.3 Delivery of BCROs in DVB T/C/S systems over broadcast channel ... 226
14.5 Delivery of registration data in DVB T/C/S systems ... 227
14.5.1 General ... 227
14.5.2 Delivery of registration data in DVB T/C/S systems over an interactivity channel ... 227
14.5.3 Delivery of registration data in DVB T/C/S systems over a broadcast channel ... 227
14.5.4 Registration message table ... 228
14.6 Signalling and service guide in DVB T/C/S systems ... 230
14.6.1 General ... 230
14.6.2 Signalling of encrypted services in DVB T/C/S systems ... 231
14.6.3 SI tables ... 239
14.6.4 SI descriptors ... 248
14.7 User-defined identifiers used in DVB-SI tables ... 262
14.8 Scope of identifiers used in DVB-SI tables ... 262
14.9 Format of RI services over DVB-T/C/S systems ... 263
14.9.1 General ... 263
14.9.2 RI stream packet format ... 263
14.9.3 Addressing of objects ... 263
14.9.4 Mapping of messages to RI services and streams ... 263
15 Protection of MPEG2 TS-based IP systems ... 263
15.1 General ... 263

15.2 Encapsulation of an MPEG2 TS in IP 264
15.3 Delivery of traffic layer data in MPEG2 TS-based IP systems..... 264
15.4 Delivery of key stream data in MPEG2 TS-based IP systems..... 264
15.5 Delivery of rights management data in MPEG2 TS-based IP systems 264
15.6 Delivery of registration data in MPEG2 TS-based IP systems 264
15.7 Signalling and service guides in MPEG2 TS-based IP systems..... 264
15.7.1 General..... 264
15.7.2 Signalling and the service guide in DVB-IPI systems..... 264
15.7.3 Signalling and service guides in non-DVB-IPI systems 267
15.8 Format of RI services over MPEG2 TS-based IP systems..... 267
15.9 Content-on-demand support..... 267
15.9.1 General..... 267
15.9.2 Content-on-demand trick play support 268
15.10 Use of server-side purchase interfaces 268
15.10.1 General..... 268
15.10.2 Example showing registration via a web interface..... 269
15.10.3 Example showing purchase via a web interface..... 269
16 Protection of non-MPEG2 TS-based IP systems 269
16.1 General..... 269
16.2 Delivery of traffic layer data in non-MPEG2 TS-based IP systems 269
16.3 Delivery of key stream data in non-MPEG2 TS-based IP systems 270
16.4 Delivery of rights management data in non-MPEG2 TS-based IP systems..... 270
16.5 Delivery of registration data in non-MPEG2 TS-based IP systems 270
16.6 Signalling and service guides in non-MPEG2 TS-based IP systems..... 270
16.7 Format of RI services over non-MPEG2 TS-based IP systems 270
16.8 Content-on-demand support..... 270
Annex A (normative) Supporting specifications 271
Annex B (informative) Deployment considerations..... 354
Bibliography..... 407

Figure 1 – System overview..... 29
Figure 2 – Service protection via four-layer model..... 31
Figure 3 – Highly simplified view of the end-to-end system 33
Figure 4 – Service protection versus content protection..... 35
Figure 5 – Service protection and purchase entities and names (broadcast architecture) 36
Figure 6 – Public key infrastructure 37
Figure 7 – Overview of service guide and purchase 39
Figure 8 – 4-layer key hierarchy – Use of SEK only..... 41
Figure 9 – 4-layer key hierarchy – Use of PEK and SEK 42
Figure 10 – Authentication hierarchy 46
Figure 11 – Explaining the concept of addressing 48
Figure 12 – (Oversimplified) group BCRO 49
Figure 13 – (Oversimplified) subscriber group BCRO 49
Figure 14 – (Oversimplified) unique device BCRO..... 50
Figure 15 – (Oversimplified) broadcast domain BCRO 50
Figure 16 – Example of a zero message tree with three nodes (keys) 51

Figure 17 – IPsec security association elements 54
Figure 18 – ISMACryp Key Management 57
Figure 19 – SRTP cryptographic context management 59
Figure 20 – MPEG2 transport stream cryptographic context management 61
Figure 21 – Single-key versus dual-key TS over time 63
Figure 22 – Registration for broadcast mode of operation with one ROT 102
Figure 23 – Offline NDD protocol 103
Figure 24 – Samples of notification displays 104
Figure 25 – Off-line NSD protocol 104
Figure 26 – Action request code (ARC) 104
Figure 27 – Samples of notification displays showing an ARC message 106
Figure 28 – Sample of token consumption reporting notification display 107
Figure 29 – Sample of TAA report display 108
Figure 30 – 1-pass PDR protocol – (first) device registration 109
Figure 31 – 1-pass IRD protocol – RI initiated message to device (here re-registration) 109
Figure 32 – Unique device number 112
Figure 33 – Device_registration_response() message 122
Figure 34 – Structure of device_registration_response() message 123
Figure 35 – Domain_registration_response() message 142
Figure 36 – Structure of domain_registration_response() message 143
Figure 37 – Registration for mixed-mode operation with one ROT 159
Figure 38 – Relationship between RI service and RI streams and other services and RI Streams 163
Figure 39 – Message flows for service subscription and purchase for the connected mode of operation 165
Figure 40 – Message flows for service subscription and purchase for the unconnected mode of operation 166
Figure 41 – Interactions for bulk download of service and programme keys 168
Figure 42 – Interactions for bulk download of purchase information 169
Figure 43 – Interactions for announcement of purchase items in service guide 170
Figure 44 – Interactions for pricing inquiry 171
Figure 45 – Interactions for unsuccessful purchase 175
Figure 46 – Interactions for successful purchase 179
Figure 47 – Interactions for subscription RO renewal and asynchronous charging 183
Figure 48 – Interactions for asynchronous charging and cancellation of open-ended subscriptions 184
Figure 49 – Interactions for acquisition and charging of tokens 188
Figure 50 – Samples of out-of-band purchase information displays for a registered device 209
Figure 51 – Sample of out-of-band purchase information displays for an unregistered device 210
Figure 52 – Example mapping of objects to RI stream packets 218
Figure 53 – Signalling of encrypted services and their associated key streams 232
Figure 54 – Signalling of encrypted services in the SDT 233
Figure 55 – Signalling of the rights issuer service in the SDT 234

Figure 56 – Addressing of a rights issuer service 234
Figure 57 – Signalling of purchase information via the SDT 235
Figure 58 – Signalling of purchase information via the CA_descriptor in the CAT 236
Figure 59 – Signalling of purchase information via the private data block of the CA_descriptor in the CAT 237
Figure 60 – Relationship between PCT, PIT, SBT and SDT 238
Figure 61 – Alternative usage of the purchase_item_descriptor in the SDT and EIT 239
Figure A.1 – Sample notification display 272
Figure A.2 – Conversion routes between modified julian date (MJD) and coordinated universal time (UTC) 275
Figure A.3 – Node numbering 280
Figure A.4 – AES for key derivation 281
Figure A.5 – Sample tree with correct node and device numbering 283
Figure A.6 – Computation of the TAA_report_code 288
Figure A.7 – Node numbering 293
Figure A.8 – Computation of the report_authentication_code 299
Figure A.9 – Relationship between DVB-T/C/S PSI/SI tables 312
Figure A.10 – Relationships between the defined types 314
Figure A.11 – XML fragment for SOC identifier 316
Figure A.12 – XML fragment for serviceBaseCID 316
Figure A.13 – Definition of UniversalPurchaseItemType 317
Figure A.14 – Definition of the ServiceBundleType 317
Figure A.15 – Definition of UniversalServiceInformationType 318
Figure A.16 – Definition of UniversalOnDemandServiceType 318
Figure A.17 – Definition of UniversalPurchaseType 319
Figure A.18 – Recording and super-distributing the recorded asset 329
Figure A.19 – Format of the OMADRMRecordingTimestamp. 332
Figure A.20 – Format of the OMADRMRecordingInformationBlock 333
Figure A.21 – 18Crypt namespace declaration 334
Figure B.1 – Rights issuer communication with various types of devices in IPDC over DVB-H systems 356
Figure B.2 – Rights issuer communication with various types of devices in DVB-T/C/S systems 359
Figure B.3 – Rights issuer communication with various types of devices in IP systems 361
Figure B.4 – Purchase steps in case of an interactive device 362
Figure B.5 – Purchase steps in case of a broadcast device 364
Figure B.6 – Consumption steps from the broadcaster point of view 366
Figure B.7 – Consumption steps from the device point of view 367
Figure B.8 – Function blocks of service protection head-end 376
Figure B.9 – Systems and network elements of service protection head-end 378
Figure B.10 – IEC T/C/S components integrated into DVB SimulCrypt head-end. 380
Figure B.11 – Locating 18Crypt KSM & BCRO as well as EMM & ECM 382
Figure B.12 – Carrying messages over the network 384
Figure B.13 – Sample network set-ups using the location descriptors 384

Figure B.14 – Expanding the IEC T/C/S head-end components 385
Figure B.15 – Deployment option A (combining DIST Mgmt and RI in SOC) – Local scenario 389
Figure B.16 – Deployment option A (combining DIST Mgmt and RI in SOC) – Roaming scenario 391
Figure B.17 – Deployment option B (combining SUB Mgmt and RI in COC) – Local scenario 393
Figure B.18 – Deployment option B (combining SUB Mgmt and RI in COC) – Roaming scenario 394
Figure B.19 – Scenarios 1 and 2 for bosb_masks 398
Figure B.20 – Scenarios 3 and 4 for bosb_masks 400
Figure B.21 – Scenarios 5 and 6 for bosb_masks 401
Figure B.22 – Scenarios 7 and 8 for bosb_masks 402
Figure B.23 – Scenarios 9 and 10 for bosb_masks (precedence) 403
Figure B.24 – Diagram of keyset_block, sessionkey_block and surplus_block 405

Table 1 – Supported systems and device types 34
Table 2 – Keyset in the registration data 44
Table 3 – Definition of transport_scrambling_control bits 62
Table 4 – Definition of pes_scrambling_control field bits 62
Table 5 – Descrambling possibility matrix 64
Table 6 – Supported ciphers for MPEG2 TS Crypt 64
Table 7 – Format of key stream message 66
Table 8 – Descriptors for access_criteria_descriptor_loop 68
Table 9 – Access_criteria_descriptors 68
Table 10 – Parental_rating access criteria descriptor 68
Table 11 – Parental rating values for each parental rating type 69
Table 12 – Copy_control_information access criteria descriptor 70
Table 13 – Bit assignments of copy_control_information_byte 71
Table 14 – CCI bit assignments 71
Table 15 – EMI values and content 71
Table 16 – APS value definitions 71
Table 17 – CIT values and application 72
Table 18 – RCT values and application 72
Table 19 – Blackout_spotbeam access criteria descriptor 73
Table 20 – Operator field values and their meaning 73
Table 21 – Constants in key stream message 75
Table 22 – Content_key_index options 77
Table 23 – cipher_mode options 78
Table 24 – Obtaining the content key 79
Table 25 – Traffic key lifetime 80
Table 26 – Values of permissions_category and their meaning 81
Table 27 – Format of BCRO 85
Table 28 – Address_mode 87

Table 29 – Asset format 89
Table 30 – Asset_type 90
Table 31 – Mapping of address_mode to keys 90
Table 32 – Mapping of address_mode to keys 91
Table 33 – Mapping of address_mode to keys 91
Table 34 – Permission format 92
Table 35 – Action format 93
Table 36 – Action_type 93
Table 37 – Constraint format 94
Table 38 – Format of constraint_descriptor 94
Table 39 – Constraint_tag 95
Table 40 – Format of count_constraint_descriptor 95
Table 41 – Format of timed_count_constraint_descriptor 95
Table 42 – Format of datetime_constraint_descriptor 96
Table 43 – Format of interval_constraint_descriptor 97
Table 44 – Format of accumulated_constraint_descriptor 97
Table 45 – Format of individual_constraint_descriptor 98
Table 46 – Id_type 98
Table 47 – Format of system_constraint_descriptor 98
Table 48 – Format of token_management_constraint_descriptor 99
Table 49 – Registration types 101
Table 50 – NSD action request code fields 104
Table 51 – NSD action types 105
Table 52 – Token consumption data 107
Table 53 – TAA report data 108
Table 54 – Messages of the 1-pass IRD protocol 110
Table 55 – UDN explanation 112
Table 56 – Major industry identifier 113
Table 57 – longform_udn 113
Table 58 – Notify device data message parameters 114
Table 59 – Device data 114
Table 60 – Message fields 115
Table 61 – Status values 116
Table 62 – Fields of certificate_version parameter 116
Table 63 – Allowed values for ri_certificate_counter 117
Table 64 – Allowed values for ocsp_response_counter 118
Table 65 – Values for flags signalling data absent/data present 118
Table 66 – Allowed values for subscriber_group_key_flag 119
Table 67 – Values and their meaning for signature_type_flag 119
Table 68 – Message syntax 124
Table 69 – Message fields 126
Table 70 – Status values 127
Table 71 – Fields of certificate_version parameter 127

Table 72 – Message syntax 129
Table 73 – Message fields 130
Table 74 – Status values 130
Table 75 – Message syntax 131
Table 76 – Message fields 132
Table 77 – Status values 132
Table 78 – Fields of certificate_version parameter 133
Table 79 – Message syntax 134
Table 80 – Format of contact object 135
Table 81 – Contact_type 135
Table 82 – Encoding rules for contactdata 136
Table 83 – Off-line protocols (from device to RI) 137
Table 84 – 1-pass protocols (from RI to device) 137
Table 85 – Protocol interrelation 137
Table 86 – Message fields 138
Table 87 – Status values 139
Table 88 – Fields of certificate_version parameter 139
Table 89 – Message syntax 144
Table 90 – Message fields 145
Table 91 – Status values 146
Table 92 – Fields of certificate_version parameter 146
Table 93 – Message syntax 148
Table 94 – Message syntax 150
Table 95 – Offline protocols (from device to RI) 151
Table 96 – 1-pass protocols (from RI to device) 151
Table 97 – Protocol interrelation 151
Table 98 – Fields of token delivery response message 152
Table 99 – Address_mode for token delivery response message 153
Table 100 – Message error codes 154
Table 101 – Mapping of address_mode to keys for the token delivery response message 156
Table 102 – Mapping of address_mode to keys for the token delivery response message 156
Table 103 – Syntax of token delivery response message 157
Table 104 – Requirements for the support of RI services and streams by IPDC over DVB-H devices 161
Table 105 – Requirements for the support of rights issuer services and streams by service providers in IPDC over DVB-H systems 162
Table 106 – Definition of mandatory SOC attributes in request/response messages 190
Table 107 – Occurrence of error codes in response messages 192
Table 108 – Data to be provided to the customer operation centre 209
Table 109 – Traffic layer options for transmission over IPDC over DVB-H 215
Table 110 – Format of the rights issuer stream 219
Table 111 – Traffic layer options for transmission over MPEG2 TS-based networks 225

Table 112 – KSM table 225
Table 113 – BCRO table 227
Table 114 – Carrying registration layer messages via MPEG sections in T/C/S system 228
Table 115 – Syntax of registration message table (RMT) 229
Table 116 – Purchase channel table 240
Table 117 – Service bundle table 244
Table 118 – Purchase item table 247
Table 119 – Private descriptor tags used for 18Crypt 248
Table 120 – Possible locations of descriptors 249
Table 121 – Service_ID_descriptor 249
Table 122 – Right issuer ID descriptor 250
Table 123 – Purchase info location descriptor 251
Table 124 – Purchase item descriptor 253
Table 125 – Subscription_type values 254
Table 126 – Example price with different decimal point location values 255
Table 127 – Provider name descriptor 256
Table 128 – Eurocrypt addressing descriptor 256
Table 129 – Address_mode 257
Table 130 – Info URL descriptor 258
Table 131 – Key URL descriptor 258
Table 132 – Linkage descriptor 259
Table 133 – Linkage type coding 260
Table 134 – IP linkage descriptor 260
Table 135 – User defined IDs 262
Table 136 – Additions to the broadcast discovery record 265
Table 137 – Additions to the content-on-demand discovery record 266
Table 138 – Sequence of events for purchase and supply of a content-on-demand item 268
Table 139 – Traffic layer options for transmission over non-MPEG2 TS based IP networks 269
Table A.1 – Status/error codes 273
Table A.2 – Local time offset coding 277
Table A.3 – Standard keyset with RSA block size 1024 278
Table A.4 – Standard keyset with other RSA block sizes 279
Table A.5 – Extended keyset with RSA block size 1024 279
Table A.6 – Extended keyset with other RSA block sizes 280
Table A.7 – Error likelihood in human communication 288
Table A.8 – Defined tag values 292
Table A.9 – Defined length values 294
Table A.10 – Correct usage of length values 294
Table A.11 – TAA descriptor syntax 296
Table A.12 – TAA algorithm values 296
Table A.13 – Message_tag overview 297
Table A.14 – Table ID overview 297

Table A.15 – Multilingual text structure 298
Table A.16 – Mapping of required service guide data to the IPDC ESG 309
Table A.17 – Mapping of required service guide data to DVB PSI/SI tables 311
Table A.18 – Mapping of required service guide data to IPI BCG/TV anytime 314
Table A.19 – Updated permission element 326
Table A.20 – Access element 328
Table A.21 – Semantics of the save element 330
Table A.22 – Use of programme and service keys 330
Table A.23 – Fields in the GroupID box 331
Table A.24 – CommonHeaders box fields 331
Table A.25 – Conformance table for IPDC over DVB-H systems 343
Table A.26 – Conformance table for DVB-T/C/S systems 347
Table A.27 – Conformance table for IPTV systems 350
Table B.1 – Messages involved in IEC T/C/S systems 379
Table B.2 – Reference overview information 383
Table B.3 – Example 1: CGF with cities and regions 397
Table B.4 – Example 2: CGF with sports and regions (independent) 397
Table B.5 – Example 3: CGF with sports and regions (overlapping) 399
Table B.6 – Category of references 405

INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTERNET PROTOCOL (IP) AND TRANSPORT STREAM (TS) BASED SERVICE ACCESS

FOREWORD

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International Standard IEC 62455 has been prepared by technical area 1: Terminals for audio, video and data services and content, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition, published in 2007, and constitutes a technical revision.

The main changes with respect to the previous edition are listed below.

- Recent developments in DVB and OMA standards caused some incompatibilities, which have been solved in the second edition.
- Technical errors have been corrected, missing details added.
- References have been updated to the newest available ones.
- In addition, a number of editorial corrections and readability improvements have been made, where the original text could have lead to misunderstanding due to unclear wording or the use of slightly different spellings for the same item.

The text of this standard is based on the following documents:

CDV	Report on voting
100/1551/CDV	100/1627/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTERNET PROTOCOL (IP) AND TRANSPORT STREAM (TS) BASED SERVICE ACCESS

1 Scope

This International Standard specifies the terminal for a service purchase and protection system for digital broadcasts, called the 18Crypt system. It is applicable in all countries and regions with suitably compliant broadcasting and multimedia distribution systems. Guidelines for compatible broadcast services are given in this standard. The service purchase and protection functions operate in a pure broadcast environment that may be combined with a bi-directional interactivity channel.

This standard is applicable to the following broadcast systems.

a) IP datacast over DVB-H systems

IP datacast over DVB-H is an end-to-end broadcast system for delivery of any type of digital content and services using IP-based mechanisms optimized for devices with limitations on computational resources and battery. An inherent part of the IP datacast system is that it comprises a unidirectional DVB broadcast path that may be combined with a bi-directional mobile/cellular interactivity path. IP datacast is thus a platform that can be used for enabling the convergence of services from broadcast/media and telecommunications domains (for example, mobile/cellular). This standard specifies service purchase and protection for IP datacast over DVB-H systems (see Table B.6 for an overview of references to one such system).

b) DVB T/C/S systems

DVB T/C/S systems are end-to-end broadcast systems for audio/video data that employ an MPEG2 transport stream and use terrestrial, cable or satellite broadcast networks. This standard specifies a system for the protection of these broadcasts in a pure broadcast environment. In addition, this standard specifies how purchasing, key management and registration may be carried out over an optional interactivity channel. The protection technologies offered by this standard are designed to operate within an existing DVB SimulCrypt environment (see Table B.6 for an overview of references).

c) MPEG2 TS-based IP systems

MPEG2 TS-based IP systems employ bi-directional IP networks for the (broadcast) delivery of MPEG2 transport streams. This standard specifies a system for the purchase and protection of services and content delivered via these networks. This standard is applicable to, for example, DVB-IPI systems (see Table B.6 for an overview of references).

d) Non-MPEG2 TS-based IP systems

Non-MPEG2 TS-based IP systems employ bi-directional IP networks for the (broadcast) delivery of audio/video or other data using IP protocols instead of an MPEG2 transport stream. This standard specifies a system for the purchase and protection of services and content delivered via these networks (see Table B.6 for an overview of references).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 8859-1:1998, *Information technnology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 1*

ISO/IEC 13818-1:2007, *Information technology – Generic coding of moving pictures and associated audio information: Systems*

ISO/IEC 14496-12:2008, *Information technology – Coding of audio-visual objects – Part 12: ISO base media file format*

ISO/IEC 15938-5:2003, *Information technology – Multimedia content description interface – Part 5: Multimedia description schemes*

ISO 639-1:2002, *Codes for the representation of names of languages – Part 1: Alpha-2 code*

ISO 639-2:1998, *Codes for the representation of names of languages – Part 2: Alpha-3 code*

ISO 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*

ISO 4217, *Codes for the representation of currencies and funds*

ISO 8601:2004, *Data elements and interchange formats – Information interchange – Representation of dates and times*

ETSI EN 102 034, *Digital Video Broadcasting (DVB) – Transport of MPEG-2-based DVB services over I- based networks*

ETSI EN 300 468, *Digital Video Broadcasting (DVB) – Specification for Service Information (SI) in DVB systems*

ETSI EN 301 192, *Digital Video Broadcasting (DVB) – DVB specification for data broadcasting*

ETSI EN 302 304, *Digital Video Broadcasting (DVB) – Transmission system for handheld terminals (DVB-H)*

ETSI TS 102 539, *Digital Video Broadcasting (DVB) – Carriage of broadband content guide (BCG) information over internet protocol (IP)*

ETSI ETR 162, *http://www.dvb.org/products_registration/dvb_identifiers/*(this website replaces ETR 162)

ETSI ETR 289, *Digital Video Broadcasting (DVB) – Support for use of scrambling and conditional sccess (CA) within digital broadcasting systems*

ETSI TS 102 471, *Digital Video Broadcasting (DVB) – IP datacast over DVB-H: Electronic service guide (ESG)*

ETSI TS 102 472, *Digital Video Broadcasting (DVB) – IP datacast over DVB-H: Content delivery protocols*

ETSI TS 102 822-3-1, *Broadcast and on-line services: Search, select, and rightful use of content on personal storage systems (TV-anytime) – Part 3: Metadata – Sub-part 1: Phase 1 – Metadata schemas*

ETSI TS 103 197, *Digital Video Broadcasting (DVB) – SimulCrypt Head-end implementation of DVB SimulCrypt*, v1.4.1