Telecommunication Standardisation Sector
Study Group 15
Experts Group for Video Coding and Systems in
ATM and Other Network Environments

Document AVC-709

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SOURCE   :   Stuart Dunstan, Siemens Ltd
TITLE   :   Response to Draft ITU-T Rec. H.222.0 | ISO/IEC 13818-1 comments
PURPOSE   :   Report

1.   Introduction

At the Singapore meeting, ITU-T comments on Draft International Standard ISO/IEC 13818-1: Systems were submitted to MPEG as document number AVC-688 (MPEG94/331) [1]. Responses to points in AVC-688 are reported here.

The responses here are based upon the IS document WG11/N0801 dated "1540 Sun 13 Nov 1994" [2].

The point numbers in the following refer to AVC-688. The paragraph and page numbers are those of the IS, unless otherwise stated.

The IS contains a number of editorial errors that should be addressed. Annex A lists these errors.

2.   Response to comments with some possible normative change or clarification

No.	description	result and comments
T1.	Multiprogram VBR Transport Streams	Accepted with modifications. It was agreed that multiprogram VBR TS may be difficult to construct. Clause 0.1 on page xii states this. Clause 2.4.2 on page 11 gives an explanation as to why.
T2.	TS packet length	Accepted. Semantics for the TS packet data_byte field now infer that the TS packet length is 188 bytes in length.
T3.	TS packet header definition.	Accepted. A definition, being the first 4 bytes of the TS packet, is included as clause 2.1.58 on page 6. transport_scrambling_control and adaptation_field_control semantics align with this definition.
T4.	PES packet header definition.	Accepted. A definition, being all bytes up to and not including the PES packet payload, is included in clause 2.1.38.
T5.	Access unit definition	Accepted. For purposes of the STDs, a video access unit is now defined as being the coded bits of a picture, including the leading sequence start code, group of pictures start code, or trailing stuffing bytes, if any of these exist for that picture. PTS/DTS semantics still use the term "access unit", but are qualified in the case of video to explicitly refer to picture start codes.
T6.	System clock frequency accuracy and RTI.	Rejected. Accuracy requirements remain normative at the encoder in 13818-1. No RTI specification is available at this time.
T7.	System clock frequency accuracy value	Accepted. The accuracy has been changed from +-20 ppm to is +-30 ppm.
T8.	PCR fields and values	Rejected. The proposed text in the 2nd paragraph in 2.4.2.2 was not adopted. *Comment:* further editing is required. See point 1 Annex A.

T9.	Statement on PCR and PCR_PID	Accepted.
T10.	PCR tolerance errors	Rejected. It was however agreed that it is impossible to test whether the constraint had been met.
T11.	Timing model description	Rejected.
T12.	MPEG-1 video	Accepted. Numbers were added for MPEG-1 constrained bitstreams.
T13.	R/P problem	Accepted.
T14.	Discontinuity and byte delivery times	Accepted.
T15.	Discontinuity indicator	Accepted. The discontinuity semantics have been improved.
T16.	Number of PCRs that can be discontinuous.	Accepted. Text placed in 2.7.2.
T17.	PTS/DTS confusion	Accepted. Random access indicator semantics have been improved. *Comment:* The random_access_indicator semantics are garbled, and need further editing. See point 2 in Annex A.
T18.	OPCR semantics	Rejected. The OPCR is private, but the large amount of semantic definition was considered sufficiently informative to be retained.
T19.	OPCR in repeated packets	Rejected
T20.	3 buffer T-STD	Accepted. The middle multiplex buffer is defined as either a leaky bucket, or using VBV delay.
T21.	pack_header_field_flag, program_packet_sequence_counter_flag, pack_field_length, and program_packet_sequence_counter syntax and semantics	Accepted with modification. The semantics of the above fields are correct, however the method describing the transport of Program Streams and MPEG-1 Systems streams in the Transport Stream was not. New text has been added in clause 2.4.3.8 describing how this is to be done. *Comment:* See point 3 in Annex A.
T22.	ITU-T stream_id	Accepted. A total of five stream_ids were allocated. They are labelled "ITU-T Rec. H.222.1 type A" to "ITU-T Rec. H.222.1 type E". PES packets with stream_id values of type A to D include the "long" PES packet header, while type E specifies the "short" PES packet header.
T23.	Audio stream_ids and ITU-T audio	Rejected. stream_id 110x xxxx remains only for ISO/IEC 13818-3 or ISO/IEC 11172-3 audio.
T24.	Video stream_ids and ITU-T video	Rejected. stream_id 1110 xxxx remains only for ISO/IEC 13818-2 or ISO/IEC 11172-2 video.
T25.	data_alignment_indicator and access unit data type	Accepted. Text now refers to video start code or audio sync word.
T26.	PTS/DTS semantics	Accepted. PTS/DTS semantics improved. The MPEG-1 definition is used.
T27.	PAT and when it becomes valid	Accepted. New text describing when the PAT becomes valid is included in clause 2.4.4.
T28.	PCR_PID values	Rejected. The clarification was made, but the de-coupling proposal was rejected as it was considered an unnecessary normative change.
T29.	PSI coding should not be mandatory	Rejected. At least one occurrence of PSI must be included
T30.	Program Stream start and system header	Rejected. The text in clause 2.5.1 remains unchanged.

T31.	T-STD issues in relation to P-STD and PES-STD	Accepted. The P-STD and PES-STD text were modified with respect to access unit issues. It was decided not to solve the R/P problem for Program Streams as this could be done in application standards. *Comment:* Should H.222.1 say something about this?
T32.	SCR fields and values	Rejected. The proposed text in the 2nd paragraph in 2.5.2.2 was not adopted. *Comment:* further editing is required. See point 4 Annex A.
T33.	P-STD and PES-STD and trick modes	Rejected. The trick mode constraints were not added to the P-STD. *Comment:* Should H.222.1 say something about this?
T34.	PES streams	Rejected. It was already stated that PES streams are not for interchange; and it was considered too risky, and there to be insufficient time, to remove the PES-STD without making unintentional normative changes.
T35.	program_stream_info_length and marker_bit order	Rejected. The order is unchanged.
T36.	ITU-T auxiliary stream_type	Accepted. stream_type 0x09 is labelled ITU-T Rec. H.222.1.
T37.	Stream descriptors	Rejected. No explicit statement exists in clause 2.6 stating that descriptors are used in PS PSM or TS PSI.
T38.	Program and elementary stream descriptors and table 2-39	Rejected. While a table is a useful way to express descriptor application, there was disagreement about where to place the 'X's for each of the currently defined descriptors. Descriptor usage should be defined in descriptor semantics. *Comment:* Program/elementary stream descriptor applicability and precedence rules should be clearly defined for any new descriptors.
T39.	system clock descriptor and recorded bitstreams	Not addressed.
T40.	still picture video	Partly accepted. In clause 2.4.2.6 delay through the STD is required to be less than 1 second, except in the case of "still picture video data". In this case the delay must be less than 60 seconds. There is no reference to still pictures in the T-STD section on trick modes, other than "all other constraints from normal streams are retained when trick mode status is true".
T41.	Decoding discontinuities and discontinuity_indicator	Rejected. Decoding discontinuity is unrelated to the discontinuity_indicator.
T42.	The words "playback" and "retrieve" in Annex A.	Partially accepted. The names of syntactic elements in Table A-5 have been aligned with the names in clause A.2.7. However the term playback is still used in Annex A.
T43.	Simultaneous setting of flags	Rejected. No such statement as requested appears.
T44.	RTI specification	Rejected. There was insufficient time to work on the RTI specification to make it possible to include.

3.   Response to comments requiring only editorial change

No.	description	result and comments
E1.	Page references	Rejected. Page references remain in relation to clauses, figure, table, and equations.
E2	Additional references	Accepted.

E3	2.4.3 and 2.5.3 entries in contents	Accepted.
E4.	Transport Stream adaptation field	Rejected.
E5	List of syntax tables	Accepted.
E6	"equation", "calculation", and "expression"	Accepted. All references removed.
E7.	elementary stream clock reference base	Accepted.
E8	Labels for equation 2-22 and 2-27	Rejected.
E9.	dataaccording	Accepted.
E10	an	Accepted.
E11.	possible and reasonable	Accepted.
E12	PES packet order identification	Partially accepted.
E13.	"... shall be available ..."	Accepted.
E14	"... they shall ..."	Rejected.
E15.	delay	Accepted.
E16	PES packet length	Accepted.
E17	Part 1 of ISO/IEC 13818	Rejected.
E18	ISO/IEC 13818-1	Rejected.
E19	STD constraints	Accepted
E20	plays properly	Rejected
E21	-2 video and -3 audio	Rejected.
E22	This part of ISO/IEC 13818	Rejected.
E23	parts 2 and 3	Rejected.
E24	ISO/IEC 13818	Rejected.
E25	ISO/IEC 13818	Rejected.
E26	of this part	Accepted with modifications.
E27	ISO registers	Accepted.
E28	Part 1	Accepted with modifications.
E29	and and	Accepted.
E30	2.1.28 title	Rejected.
E31	2.1.28 ... part 1	Partially accepted. *Comment:* Current text is incorrect and needs repair. See point 5 in Annex A.
E32	2.1.28 ... parts 1 and 2	Rejected.
E33	"ch", "switch_point_s", and "window"	Rejected.
E34	part 2	Partially accepted.
E35	Remove heading	Accepted.
E36	Table reference	Rejected. *Comment:* The table reference remains incorrect. See point 6 in Annex A.
E37	PCR_base	Accepted.
E38	numerical values	Accepted
E39	Order	Rejected.
E40	Rxn and Rxsys	Accepted.
E41	two successive PCR fields	Rejected. *Comment:* The current text is incorrect and needs repair. See point 7 in Annex A.
E42	add underscore	Rejected. *Comment:* Repair is required. See point 8 in Annex A.
E43	remove underscores	Accepted
E44	equation 2-4 and 2-5	Rejected.
E45	program_clock_reference base	Accepted. *Comment:* Text does not read well. See point 9 in Annex A.

E46	comma	Accepted.
E47	[p.l.]	New nomenclature adopted.
E48	[p.l.]	Accepted. Use Rmax[profile,level]. *Comment:* Current nomenclature is inconsistent. See points 10 and 11 in Annex A.
E49	part 2	Accepted
E50	part 2	Accepted
E51	removal of access units	Rejected. *Comment:* Should this issue still be addressed?
E52	part 2	Accepted
E53	slow reverse	Accepted.
E54	part 2	Rejected
E55	presentation units and access units	Rejected. *Comment:* Should this issue still be addressed?
E56	PID values	Rejected. The table of PID values does however help to clarify the text.
E57	Bold text	Accepted
E58	hte	Accepted. *Comment:* the random_access_indicator semantics are garbled. See point 2 in Annex A.
E59	program clock reference semantics	Accepted. *Comment:* the last paragraph is garbled, and needs editing. See point 12 in Annex A.
E60	seamless_splice_flag	Accepted
E61	seamless_splice_flag	Accepted
E62	page break	Partially accepted. A number of tables contain page breaks.
E63	PTS	Accepted
E64	PTS	Accepted
E65	Note 2	Rejected. *Comment:* This should be repaired. See point 13 in Annex A.
E66	page reference	No longer relevant
E67	bracketed terms	Accepted.
E68	ESCR semantics	Accepted
E69	trick_mode_control	Accepted
E70	underscores	Partially accepted. *Comment:* the underscore should be removed from "slow_reverse". See point 14 in Annex A.
E71	part 2	Rejected. *Comment:* See point 5 in Annex A.
E72	PES_extension_flag_2	Accepted. *Comment:* the current text is still incorrect. See point 15 in Annex A.
E73	reserved PID	Rejected. *Comment:* the current text is still incorrect. See point 16 in Annex A.
E74	pointer_field	Rejected
E75	PAT, CAT, PMT, and private_section	Rejected
E76	current_next_indicator	Accepted - at least in principle.
E77	program_number	Rejected
E78	clause 2.5.4 on page 54	Rejected. *Comment:* this reference should be repaired. See point 17 in Annex A.
E79	SCR_base	Accepted
E80	underscore	Accepted
E81	underscores	Accepted
E82	clause 2.5.3.3	Rejected
E83	elementary system clock reference	Rejected. *Comment:* this should be repaired. See point 18 in Annex A.

E84	part 2	Rejected. *Comment:* this paragraph contains multiple errors and should be repaired. See point 19 in Annex A.
E85	decoding and presentation	Accepted
E86	SCR semantics	Accepted *Comment:* see point 20 in Annex A.
E87	program_mux_rate	Rejected
E88	rate_bound	Accepted
E89	system_audio_lock_flag	Rejected. *Comment:* see point 21 in Annex A.
E90	system_video_lock_flag	Rejected. *Comment:* see point 22 in Annex A.
E91	stream_id	Accepted. "stream_id" is used in the PES packet header and the system_header(). It has been changed to "directory_stream_id" in the Program Stream Directory.
E92	Pack Header Field	Accepted, however no longer relevant. This section has been rewritten as clause 2.4.3.8.
E93	pack_header field	Accepted, however no longer relevant. This section has been rewritten as clause 2.4.3.8.
E94	pack_header and system_header	Accepted, however no longer relevant. This section has been rewritten as clause 2.4.3.8.
E95	"access unit" and Program Stream Directory	Rejected. The text is considered to be satisfactory.
E96	directory_stream_id	Accepted.
E97	part 2	Rejected. The text remains unchanged. *Comment:* see point 5 in Annex A.
E98	PES terminology	Rejected. The text is considered to be satisfactory.
E99	Program Stream Directory semantics	Rejected. The text is considered to be satisfactory.
E100	word order	Rejected. The text is considered to be satisfactory.
E101	Table 2-39 position	Accepted. Table 2-40 (previously table 2-39) is now part of the descriptor_tag semantics.
E102	Description	Rejected. *Comment:* see point 23 in Annex A.
E103	part 2	Rejected. The text remains unchanged. *Comment:* see point 5 in Annex A.
E104	multiplex_delay variation	Not relevant. The semantics in this clause have been rewritten.
E105	copyright_identifier	Rejected. *Comment:* see point 24 in Annex A.
E106	skipped picture clause number reference	Not relevant. The clause has been rewritten as part of the STD.
E107	skipped picture clause number reference	Not relevant. The clause has been rewritten as part of the STD.
E108	" i " and "system_clock_reference"	Accepted.
E109	" i " and "program_clock_reference"	Accepted.
E110	"i" and "elementary stream clock reference"	Accepted
E111	part 2	Accepted
E112	Equation 2-25	Accepted
E113	system_clock_reference	Accepted
E114	Rvmax	Accepted
E115	Clause 2.7.10 title	Rejected. *Comment:* see point 25 in Annex A.
E116	part 2	Rejected. *Comment:* see point 5 in Annex A.
E117	"a"	Rejected. *Comment:* see point 26 in Annex A.
E118	4. It is independent ...	Rejected. *Comment:* see point 27 in Annex A.
E119	"a"	Rejected. *Comment:* see point 26 in Annex A.
E120	figure	Rejected. *Comment:* see point 28 in Annex A.
E121	System Target Decoder	Rejected. *Comment:* see point 29 in Annex A.

E122	"a"	Rejected. *Comment:* see point 26 in Annex A.
E123	figure	Rejected. *Comment:* see point 28 in Annex A.
E124	packet element stream	Rejected. *Comment:* see point 30 in Annex A.
E125	Recommendation ‖ International Standard	Rejected. *Comment:* see point 31 in Annex A.
E126	figure	Accepted
E127	IS	Rejected *Comment:* see point 31 in Annex A.
E128	International Standard	Rejected *Comment:* see point 31 in Annex A.
E129	Program Stream or Transport Stream	Rejected *Comment:* see point 32 in Annex A.
E130	DSM_start_code	Not relevant. Syntax element names have been changed here.
E131	Annex D.	Clarification is required *Comment:* see point 33 in Annex A.
E132	defined by ISO	Rejected *Comment:* see point 34 in Annex A.
E133	figure	Accepted
E134	Annex D clause numbering	Rejected *Comment:* see point 35 in Annex A.
E135	13818-2 Systems	Rejected *Comment:* see point 36 in Annex A.
E136, E137	International Standard	Rejected *Comment:* see point 31 in Annex A.
E138	System_Clock_Frequency	Rejected *Comment:* see point 37 in Annex A.
E139	44,100	Rejected *Comment:* see point 38 in Annex A.
E140	International Standard	Rejected *Comment:* see point 31 in Annex A.
E141	27,000,000	Rejected *Comment:* see point 38 in Annex A.
E142	SCR_base	Accepted
E143, E144	International Standard	Rejected *Comment:* see point 31 in Annex A.
E145	International Standard	Accepted

References

[1] Rapporteur for Q.2/15 in ITU-T SG15 (Sakae Okubo), "Comments on Draft ITU-T Rec. H.222.0 I ISO/IEC 13818-1", AVC-688 (MPEG94/331), 25 October 1994.

[2] "Information Technology - Generic Coding of Moving Pictures and Associated Audio: Systems, ISO/IEC 13818-1, International Standard", ISO/IEC JTC1/SC29/WG11/N0801, 13 November 1994, Draft of 1540 Sun 13 Nov 1994.

Annex A: Comments on IS 13818-1: Systems

1.   **T-STD input**
Reference: page 14, clause 2.4.2.2, 2nd par.
Type: E
Problem: i) There is no syntactical element called "program_clock_reference_ext".
          ii) The paragraph does not clearly distinguish between the PCR fields and the variables which generate the values that these may fields take.
Proposal: i)   Change   "program_clock_reference_ext"   to "program_clock_reference_extension".

ii) The following text better expresses what is required,

Data from the Transport Stream enters the T-STD at a piece-wise constant rate. The time t(i) at which the ith byte enters the T-STD is defined by decoding the program clock reference (PCR) fields in the input stream, encoded in the Transport Stream packet adaptation field of the program to be decoded, and by counting the bytes in the complete Transport Stream between successive PCRs of that program. The PCR field is encoded in two parts; one, in units of 1/300 times the system clock frequency, called program_clock_reference_base, and one in units of the system clock frequency, called program_clock_reference_extension. The values encoded in these fields are computed by PCR_base(i) (equation 2-1) and PCR_ext(i) (equation 2-2) respectively. The value encoded in the PCR field indicates time t(i), where i is the index of the byte containing the last bit of the program_clock_reference_base field.

2.   **random_access_indicator semantics**
Reference: page 27, clause 2.4.3.5.
Type: E
Problem: The semantics are poorly written. There is a "that" missing in the first sentence. The term "transport packet" is usually written as "Transport Stream packet". The text implies that for audio PTS may occur in a subsequent PES packet. The reference to the stream_type table is incorrectly placed.
Proposal: The following text better expresses what is required.

random_access_indicator -- The random_access_indicator is a 1 bit field that indicates that the current Transport Stream packet, and possibly subsequent Transport Stream packets with the same PID, contain some information to aid random access at this point. Specifically, when the bit is set to '1', the next PES packet to start in the payload of Transport Stream packets with the current PID shall contain the first byte of a video sequence header if the PES stream type (refer to table 2-36 on page 64) is 1 or 2, or shall contain the first byte of an audio frame if the PES stream type is 3 or 4. In addition, in the case of video, a presentation timestamp shall be present in the PES packet containing the first picture following the sequence header. In the case of audio, the presentation timestamp shall be present in the PES packet, containing the first byte of the audio frame. In the PCR_PID the random_access_indicator may only be set to '1' in the Transport Stream packet containing the PCR fields.

3.   **Carriage of PS and ISO/IEC 11172-1 Systems in the TS**
Reference: page 44, clause 2.4.3.8
Type: E
Problem: The text does not specify how packets with stream_id values of ISO/IEC_13522_stream, ITU-T Rec. H.222.1 type A-E, and ancillary_stream should be handled.
Proposal: Determine if anything needs to be said, and amend text if appropriate.

4.   **P-STD input**
Reference: page 55, clause 2.5.2.2, 1st par.
Type: E
Problem: i) There is no syntactical element called "system_clock_reference_ext".
          ii) The paragraph does not clearly distinguish between the SCR fields and the variables which generate the values that these may fields take.

Proposal: i) Change "system_clock_reference_ext" to "program_clock_reference_extension".

ii) The following text better expresses what is required,

Data from the Program Stream enters the P-STD. The time t(i) at which the ith byte enters the P-STD can be recovered from the input stream by decoding the system clock reference (SCR) fields, and the program_mux_rate field, encoded in the pack header. The SCR field is encoded in two parts; one, in units of 1/300 times the system clock frequency, called system_clock_reference_base, and one in units of the system clock frequency, called system_clock_reference_extension. The values encoded in these fields are computed by SCR_base(i) (equation 2-17) and SCR_ext(i) (equation 2-18) respectively. The value encoded in the SCR field indicates time t(i), where i refers to the byte containing the last bit of the system_clock_reference_base field.

5. **Part 1, and ITU-T Rec. H.222.0 | ISO/IEC 13818**
Reference: Numerous locations
Type: E
Problem: The terms "part 1 of this Recommendation | International Standard" and ITU-T Rec. H.222.0 | ISO/IEC 13818" are incorrect terms.
Proposal: They should be corrected throughout the document. Remove all references to "part 1" and "part 2". The former should always be "ITU-T Rec. H.222.0 | ISO/IEC 13818-1", while the later should always be "ITU-T Rec. H.262 | ISO/IEC 13818-2".

6. **table 2-28 on page 50**
Reference: Page 11, 3rd last par, clause 2.4.1.
Type: E
Problem: The reference to table 2-28 is incorrect.
Proposal: Correct the reference to table 2-29.

7. **two successive program_clock_reference fields**
Reference: clause 2.4.2.2, 1st line, page 15
Type: E
Problem: The phrase "two successive program_clock_reference fields" is incorrect.
Proposal: Correct the phrase to read "two successive program_clock_reference_base fields".

8. **program_clock_reference base**
Reference: page 15, definition of i" following equation 2-4
Type: E
Problem: The term "program_clock_reference base" is incorrect.
Proposal: Correct to "program_clock_reference_base".

9. **program_clock_reference_base**
Reference: page 15, definition of i' following equation 2-5
Type: E
Problem: The word "field" is missing from "... following program_clock_reference_base applicable ..."
Proposal: Correct to "... following program_clock_reference_base field applicable ..."

10. **Rmax[profile, level] and related terms**
Reference: clause 2.4.2.3
Type: E
Problem: Rmax and VBVmax are written inconsistently e.g. Rmax(profile, level) and Rmax[profile,level]. The significance of the square brackets is difficult to understand.
Proposal: Use Rmax(profile,level) and VBVmax(profile,level) throughout.

11. **Rmax(profile, level) and VBV$_{max}$(profile, level) tables**
Reference: clause 2.4.2.3, pages 16, 17
Type: E

Problem: The Rmax and VBVmax table references to ISO/IEC 13818-2 are incorrect. Rmax relates to "Table 8-13 Upper bounds for bit rates" in ISO/IEC 13818-2, and VBVmax relates to "Table 8-14. VBV Buffer size requirements (bits)" in ISO/IEC 13818-2.
Proposal: Correct as shown above.

12.   program clock reference semantics

Reference: clause 2.4.3.5, page 27
Type: E
Problem: The 2nd paragraph is garbled and requires rewriting. "for" is spelt "fo".
Proposal: Remove the 1st and 3rd sentences. It is arguable whether the 2nd sentence (the first sentence in the following paragraph) is required. Correct the spelling mistake. The paragraph becomes,

If a PCR field is present in a Transport Stream packet containing data from a video or audio elementary stream, it shall be valid for that elementary stream. Refer to clause 2.7.2 on page 81 for frequency of coding requirements.

13.   H.220.0

Reference: note 2, table 2-19, page 36
Type: E
Problem: The text incorrectly reads "ITU-T Rec. H.220.0 I ISO/IEC 13818-2"
Proposal: Correct to "ITU-T Rec. H.262 I ISO/IEC 13818-2"

14.   slow_reverse

Reference: page 41
Type: E
Problem: There should be no underscore on "slow_reverse".
Proposal: Remove the underscore

15.   PES_extension_field length

Reference: page 42
Type: E
Problem: There should be an underscore on "PES_extension_field length".
Proposal: Correct to "PES_extension_field_length"

16.   Reserved PID £

Reference: page 42, table 2-23
Type: E
Problem: The 3rd column is incorrectly labelled "Reserved PID £". "assigned in the PAT" does not convey the correct information.
Proposal: Change label to "PID £" and later phrase to "Assigned by the user".

17.   clause 2.5.4

Reference: page 53, clause 2.5.2
Type: E
Problem: The clause and page reference of "clause 2.5.4 on page 62" is incorrect.
Proposal: Correct to "clause 2.5.3 on page 57".

18.   elementary system clock reference

Reference: page 57, clause 2.5.2.4
Type: E
Problem: The term "Elementary System Clock Reference" is incorrect.
Proposal: Correct to "Elementary Stream Clock Reference".

19.   PES streams

Reference: page 57, clause 2.5.2.4, 2nd last par.
Type: E

Problem: There should be no reference to "part 2". The references to the tables in ISO/IEC
13818-2 are incorrect.
Proposal: Correct "part 2" as indicated in 5. Correct table references as indicated in 11.

20.   system_clock_reference
Reference: page 59, clause 2.5.3.4, 2nd par.
Type: E
Problem: There is no such syntactical element as "system_clock_reference".
Proposal: Correct to "system clock reference".

21.   system_audio_lock_flag
Reference: page 61, clause 2.5.3.6
Type: E
Problem: The clause reference of "2.5.2 on page 53" is incorrect.
Proposal: Correct to "Clause 2.5.2.1 on page 55".

22.   system_video_lock_flag
Reference: page 61, clause 2.5.3.6
Type: E
Problem: The clause reference of "2.5.2 on page 53" is incorrect.
Proposal: Correct to "Clause 2.5.2.1 on page 55".

23.   Description
Reference: page 73, table 2-49
Type: E
Problem: In the syntax table 2-49 the term "Description" is used while all other syntax tables
use "description".
Proposal: Change "Description" to "description".

24.   SC29
Reference: page 77, clause 2.6.25
Type: E
Problem: "SC29" is incorrect.
Proposal: Change "SC29" to "ISO/IEC JTC1/SC29".

25.   Clause 2.7.10 title
Reference: page 84, clause 2.7.10
Type: E
Problem: "Transport Stream" followed by "Sample Rate Locking in Transport Streams" is
incorrect.
Proposal: Change "2.7.10 Sample rate locking in Transport Streams".

26.   a
Reference: page 86, clause A.0
              page 88, clause A.1.2, line 2
              page 88, clause A.1.3, 1st par, 3rd line.
Type: E
Problem: "a ITU-T Rec. ..." is incorrect
Proposal: Change to "an ITU-T Rec. ...".

27.   It is independent ...
Reference: page 86, clause A.0, last line
Type: E
Problem: The final sentence should have a number before it.
Proposal: Change to "4. It is independent ...".

28.   figure
Reference: page 88, clause A.1.2, line 4

	page 88, clause A.1.3, 2nd par, 2nd line.
Type:	E
Problem:	"... in figure ..." is incorrect. Figure references should be capitalised.
Proposal:	Change to "... in Figure ...".

29.   System Target Decoder

Reference:	page 88, Figure A-1
Type:	E
Problem:	"System Target Decoder" is incorrect
Proposal:	Change to "System Decoder".

30.   packet element stream

Reference:	page 89, clause A.1.3, 2nd par, 2nd line.
Type:	E
Problem:	"... packetized element stream ..." is incorrect
Proposal:	Change to "... packetized elementary stream ...".

31.   Recommendation | International Standard

Reference:	page 89, clause A.1.3, 2nd par, 3rd line.
	page 89, clause A.1.3, last par, 3rd line.
	page 90, clause A.2.1.1, 1st par, 1st/2nd line.
	page 110, clause D.0.1, last par, 4th line.
	page 111, clause D.0.2, 2nd par, 7th line.
	page 115, clause D.0.4, 4th par, 9th line.
	page 117, clause D.0.6, 1st par, 4th line.
Type:	E
Problem:	"... Recommendation	International Standard ..." and "IS" are incorrect
Proposal:	Change to "... specification ...".

32.   Program Stream or Transport Stream

Reference:	page 90, clause A.2.1.3, 1st line.
Type:	E
Problem:	"Program Stream or Transport Stream" is incomplete
Proposal:	Change to "ITU-T Rec. H.222.0	ISO/IEC 13818-1 Program Stream or Transport Stream".

33.   Annex D

Reference:	page 100, clause C.2, 1st par, last line.
Type:	E
Problem:	Is the reference to Annex D correct?
Proposal:	Confirm.

34.   Defined by ISO

Reference:	page 101, clause C.2, 2nd par, 4th line.
Type:	E
Problem:	"... defined by ISO ..." is not correct.
Proposal:	Change to "... defined by ITU-T	ISO/IEC ..."

35.   Annex D clause numbering

Reference:	pages 109-119
Type:	E
Problem:	Clause numbering in Annex D is of the form "D.0.x".
Proposal:	Change to "D.x"

36.   ITU-T Rec. H.262 | ISO/IEC 13818-2 Systems

Reference:	pages 109, clause D.0, 1st par, 1st line
Type:	E
Problem:	"... ITU-T Rec. H.262	ISO/IEC 13818-2 Systems ..." is incorrect.

Proposal: Change to "... ITU-T Rec. H.222.0 I ISO/IEC 13818-1 Systems"

37.   System_Clock_Frequency
Reference: pages 111, clause D.0.2, 2nd par, 8th line
Type: E
Problem: "System_Clock_Frequency" is incorrect.
Proposal: Change to "system_clock_frequency"

38.   44,100   and   27,000,000
Reference: pages 111, clause D.0.2, 3rd par, 3rd line
               pages 112, clause D.0.3, 1st par, 3rd line
Type: E
Problem: "44,100" and "27,000,000" are incorrect.
Proposal: Change to "44 100" and "27 000 000" respectively. It should be clarified that use of the comma as a decimal point operator is correct.

- end -