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in ATM and Other Network Environments

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TITLE : Comments for CD13818-2 | Draft Rec. H.262
PURPOSE : Proposal
Relevant MPEG sub-group : Video

All items are based on ISO/IEC JTC1/SC29 N659 dated 1993-12-01 which has been distributed for the ballots.

1. Global comments for writing conventions through the whole text

1) The usage of capital letters in the Clause title is not consistent. For example, both "D.5 Low Delay Mode" and "D.11 Trick modes" appear.

2) The usage of italic or bold letters to express data elements is not consistent.

3) In order to express a decimal point, both a comma (Table 7-18 etc.) and a period (Figure 7-11 etc.) are used. This should be unified.

4) The official style of refering the Recommendation published by ITU-R has been modified. The correct style is "Recommendation ITU-R XXX".

2. Proposed editorial improvements

1) Clause 6.3.6 Page 44 Table 6-9 Value=4
It is suggested to delete the reference to "FCC".

2) Clause 7.6.3.1 Page 72 Line 45
For clarification, the sentence "**motion_code**, **motion_residual** and **mv_format** are fields recovered from the bitstream." should be modified as follows:

motion_code is a field recovered from **motion_horizontal_code** or **motion_vertical_code** using Table B-10. **motion_residual** is a field recovered from **motion_horizontal_r** or **motion_vertical_r**. **mv_format** is a field recovered from the bitstream using Table 6-17.

3) Clause 7.7.4 Page 89
To explain **spatial_temporal_weight_class**, the following description which is written in Clause 6.3.16 of the Seoul revision(ISO/IEC JTC1/SC29 WG11/602) should be added after Table 7-18.

spatial_temporal_weight_class is derived from **spatial_temporal_weight_code** if present, otherwise from the macroblock_type. This class is used to indicate the number of motion vectors for the macroblock in the coded bitstream and indicates how the motion vector predictors are updated as defined in a combined table in Clause 7.7.4.

4) Clause 7.7.4 Page 89
To explain **spatial_temporal_integer_weight**, the following description should be added after Table 7-18.

spatial_temporal_integer_weight is derived from **spatial_temporal_weights**. This is equal to 1 when all **spatial_temporal_weights** are integer values, otherwise 0.

5) Clause 7.7.6 Page 95

The reason for a skipped picture in the lower layer being forbidden should be more clearly explained.

6) Clause 7.9 Page 102

Concerning the description of the reference pictures, the words "frame", "picture" and "picture(s)" seem to be inconsistent. The intention seems that the reference in the lower layer is always "frame" and that the word "picture(s)" correspond to both cases for frame-pictures and field-pictures. If this is the case, corresponding descriptions should be modified as follows;

Line 10	enhancement picture	==>	enhancement picture(s)
Line 12	enhancement pictures	==>	enhancement picture(s)
Line 14	lower layer picture	==>	lower layer frame
Line 14	coincident picture	==>	coincident frame
Table 7-27	lower layer picture	==>	lower layer frame

7) Clause 8

The maximum value for vbv_buffer_size in each Profile@Level should be restricted to multiples of 16*1024 as follows (each value is rounded down to the nearest multiple of 16*1024);

489472 (Clause 8.2.2.2 Page 111 Line 22)	==>	475136 (1024*16*29)
9787392 (Clause 8.2.5.2 Page 113 Line 27)	==>	9781248 (1024*16*597)
489472 (Clause 8.3.2.2 Page 114 Line 30)	==>	475136 (1024*16*29)
367616 (Clause 8.3.2.2 Page 114 Line 30)	==>	360448 (1024*16*22)
1223680 (Clause 8.3.3.2 Page 115 Line 10)	==>	1212416 (1024*16*74)
4893696 (Clause 8.4.2.2 Page 116 Line 24)	==>	4882432 (1024*16*298)
2447360 (Clause 8.5.2.2 Page 117 Line 32)	==>	2441216 (1024*16*149)
489472 (Clause 8.5.2.2 Page 117 Line 33)	==>	475136 (1024*16*29)
2447360 (Clause 8.5.3.2 Page 118 Line 16)	==>	2441216 (1024*16*149)

In accordance with these modifications, each column of Table E-7 (Annex E Page 165) should be changed to multiples of 16*1024.

8) Clause 8

The current wording for VBR in Clauses 8.1.2.2, 8.2.2.2, 8.2.3.2, 8.2.4.2, 8.2.5.2, 8.3.2.2, 8.3.3.2, 8.4.2.2, 8.5.2.2, 8.5.3.2, 8.5.4.2 is based on the Brussels WD. Since the VBR bit_rate definition was resolved at the Seoul meeting, we should make alignment between Clause 6.3.3, "Coded data rate and VBV buffer size" sections in Chapter 8, and Section 2.4.2 of Systems.

The following correction is suggested;

The coded data rate for fixed bit rate operation and the the maximum average bitrate over a frame period Rmax for variable bitrate operation, both of which are specified in bit_rate, shall be ....

==>

The coded data rate for fixed bit rate operation and the maximum video elementary stream rate Res(max) for variable bit rate operation, which are specified in bit_rate in this Specification and Clause 2.4.2 of ISO/IEC 13818-1, respectively, shall be ....

9) Clause 8

Common understanding for intra_dc_precision is as indicated in #05/Table E-16;

[8:10] for Simple, Main, SNR and Spatially Scalable Profiles

[8:11] for High Profile.

This should be specified in each Profile@Level. Clauses 8.2.4.4, 8.2.5.4, 8.4.2.4, 8.5.3.4, 8.5.4.4 are missing. The following addition is suggested;

8.2.4.4 intra_dc_precision

See Clause 8.2.3.4 "intra_dc_precision"

8.2.5.4 intra_dc_precision

See Clause 8.2.3.4 "intra_dc_precision"

8.4.2.4 intra_dc_precision

See Clause 8.2.3.4 "intra_dc_precision"

8.5.3.4 intra_dc_precision

See Clause 8.5.2.4 "intra_dc_precision"
8.5.4.4 intra_dc_precision
See Clause 8.5.2.4 "intra_dc_precision"

In line with the above convention, the following editorial changes are also suggested, otherwise full sentence should be repeated;

Clause 8.1.2.4 Page 29 Line 29
The intra_dc_precision shall be 8 bit, 9 bit or 10 bit. ==> See Clause 8.2.3.4 "intra_dc_precision"
Clause 8.2.2.4 Page 111 Line 33
The intra_dc_precision is shall be 8 bit, 9 bit or 10 bit. ==> See Clause 8.2.3.4 "intra_dc_precision"

10) Clause 8.1.2.3 Page 110 Line 24
Because the simple profile shall not support the B-picture, the last two sentences in this Clause should be replaced as follows:

The values of forward_horizontal_f_code shall be limited to the range [1:8]. The values of backward_horizontal_f_code shall be 15.
The values of forward_vertical_f_code shall be limited to the range [1:5]. The values of backward_vertical_f_code shall be 15.

In accordance with these modification, the description "set to 15 if Simple" should be added to "Parameter range in Level" columns of **backward_horizontal_f_code** and **backward_vertical_f_code** in Table E-16 (Annex E Page 170).

11) Annex A Page 119
The meaning of the maximum refresh period is not clearly defined in the last part of the Annex A. The following modification is suggested;

Note that Clause 2.3 Std 1180-1990 "Considerations of Specifying IDCT Mismatch Errors" requires the specification of periodic intra-picture coding in order to control the accumulation of mismatch errors. Every macroblock is required to be refreshed before it is coded 132 times as predictive macroblocks. A skipped macroblock or a bi-directionally predictive macroblock is excluded from this counting since it does not lead to the accumulation of mismatch errors. This requirement is the same as indicated in 1180-1990 for visual telephony according to ITU-T Recommendation H.261.

12) Annex D.7.4 Page 146 Figure D-1
This figure contains "Lower Encoder, Lower Decoder, out lower," that don't correspond to the description, i.e. "base layer", in the page 145. They should be changed to "Base Encoder, Base Decoder, out base."

13) Annex D.7.4 Page 146 Line 3
The expression of "higher layer: base layer-to-enhancement layer" is difficult to understand. The phrase might be written as "video input/out: base layer-to-enhancement layer."

14) Annex D.7.4 Page 149 Figure D-5
This figure is not referred to in the description at all. There might be some missing description. Otherwise, Figure D-5 is not necessary here.

15) Annex D.12.1.1.3 Page 154
The following 8th paragraph in this Clause should be deleted because slice is now limited within one block line as defined in the Clause 6.1.3 (Page 17).

When concealment motion vectors are used, ... and therefore the chances of achieving effective concealment using concealment motion vectors is improved.

16) Annex E Page 168 Table E-12
Restrictions of **scalable_mode** for each profile are missing.
SNR : "x" ==> "x (SNR scalability)"

SPATIAL : "x" ==> "x (spatial/SNR scalability)"
HIGH : "x" ==> "x (spatial/SNR scalability)"

17) Annex E Page 169 Table E-14
"Type" for Picture coding extension is missing. "D" should be described.

18) Annex E Page 173 Table E-21
Descriptions for "macroblock" are missing. "x" should be filled in Status and "I" should be described in Type.

19) Annex E Page 176 Table E-28
It would be advisable to mention that every decoder must decode ISO/IEC 11172-2 bitstream as follows.

Table E-28

	Bitstream	Decoder				
		HP@HL	HP@H-14	.....	MP@LL	SP@ML
	HP@HL	X				
	.....					
	SP@ML	X	X	.....		X
==>	ISO/IEC 11172	X	X	.....	X	X

3. Editorial corrections

1) Clause 1 Page iii Line 15
DTTB Digital Terrestrial Television Broadcast
==> DTTB Digital Terrestrial Television Broadcasting

2) Clause 1 Page vi Table I-1
Standard TV ==> SDTV
High Definition ==> HDTV
4:2. chroma simulcast ==> 4:2:2 chroma simulcast

3) Clause 5.3 Page 10 Line 26
ISO/IEC-defined extensions ==> ISO/IEC | ITU-T-defined extensions

4) Clause 6.1.3.2 Page 18 Line 3
" Where a defined level of a defined profile requires that .... may be used." should be deleted.

5) Clause 6.3.3 Page 36 Line 13
The horizontal_size_value is the width ==> The horizontal_size is the width

6) Cluuse 6.3.3 Page 36 Line 20
vertical_size_value is the height ==> vertical_size is the height

7) Clause 6.3.6 Page 41 Line 18
A comma is missing at the end of this line.

8) Clause 6.3.6 Page 42,43,44 Table 6-7,6-8,6-9
ITU-R Recommendation 624-4 ==> Recommendation ITU-R BT.470

9) Clause 6.3.8 Page 46 Line 12
It is a semantic restriction that ==> It is a syntactic restriction that

10) Clause 6.3.8 Page 46 Line 16
Descriptions of **lower_layer_prediction_horizontal_size** and **lower_layer_prediction_vertical_size** should appear after that of **layer_id** according to Clause 6.2.2.5.

11) Clause 6.3.9 Page 47 Line 19
This item is to avoid circular referencing.

The fields correspond to the fields defined in the IEC standard for "time and control codes for video tape recorders" (see Bibliography, Annex G).
==>
The fields correspond to the fields defined in the IEC standard Publication 461 for "time and control codes for video tape recorders".

12) Clause 6.3.10 Page 48 Line 17
at the start of play ==> at the start of operation

13) Clause 6.3.11 Page 50 Line 17
This is affects the inverse quantisation ==> This affects the inverse quantization

14) Clause 6.3.11 Page 50 Line 37
If progressive_frame is set to 0 it indicates that ==> If progressive_frame is set to 0, it indicates that

15) Clause 6.3.11 Page 50 Line 38
between (corresponding spatial samples) of the two fields
==> between (corresponding spatial samples of) the two fields

16) Clause 6.3.11 Page 50 Line 41
If progressive_frame is set to 1 it indicates that ==> If progressive_frame is set to 1, it indicates that

17) Clause 6.3.12 Page 52 Line 15
if (repeat_first_field == "1") ==> if (repeat_first_field == 1)

18) Clause 6.3.12 Page 52 Line 16
number_of_frame_centre_offsets = 3 ==> number_of_frame_centre_offsets = 3;

19) Clause 6.3.12 Page 52 Line 18
number_of_frame_centre_offsets = 2 ==> number_of_frame_centre_offsets = 2;

20) Clause 6.3.16 Page 54 Line 44
-- The maximum ==> The maximum

21) Clause 6.3.16 Page 56 Line 25
A period is missing in this sentence.

22) Clause 7.3 Page 62 Line 28
picture header extension ==> picture coding extension

23) Clause 7.4.4 Page 66 Line 6
F''[u][v] ==> *F''[v][u]*

24) Clause 7.7.2 Page 85 Figure 7-13
lower_layer_vertical_size ==> *lower_layer_prediction_vertical_size*
lower_layer_horizontal_size ==> *lower_layer_prediction_horizontal_size*

25) Clause 7.7.2.1 Page 86 Line 12
When lower_layer_deinterlaced_field_select is "0" the first is used, otherwise the second is used.
==> When lower_layer_deinterlaced_field_select is "0" the top field is used, otherwise the bottom field is used.

26) Clause 7.7.2.1 Page 86 Table 7-16 top-left column
lower_layer_field_select ==> **lower_layer_deinterlaced_field_select**

27) Clause 7.7.2.2 Page 86 Table 7-17
Filter for first field ==> Filter for top field
Filter for second field ==> Filter for bottom field

28) Clause 7.7.2
The lower layer picture (if progressive picture) or deinterlaced lower layer picture (if interlaced picture) is called input_prog_field. Vertically resampled input_prog_field is called mid_field, and horizontally resampled mid_field is called output_field. Thus the following corrections should be done;

Clause 7.7.2.2 Page 87 Line 2	prog_field	==>	input_prog_field
Clause 7.7.2.3 Page 87 Line 19	input_field	==>	input_prog_field
Clause 7.7.2.3 Page 87 Line 21	output_field	==>	mid_field
Clause 7.7.2.4 Page 87 Line 39	input_field	==>	mid_field

29) Clause 7.7.2.4 Page 87 Line 45
if y1 ==> if x1

30) Clause 7.7.3 Page 88 Line 30
picture scalable extension ==> picture spatial scalable extension

31) Clause 7.7.3 Page 89 Table 7-18 fourth column from left side
spatial_temporal_weight class ==> spatial_temporal_weight_class

32) Clause 7.7.3 Page 89 Table 7-18 bottom row
For spatial_temporal_weight_code_table_index == 0
==> For spatial_temporal_weight_code_table_index == 00

33) Clause 7.7.3 Page 89 Line 8
prediction for the frame which is derived from the spatial prediction for that frame.
==> prediction for the picture which is derived from the spatial prediction for that picture.

34) Clause 7.7.3 Page 90 Table 7-19 left column of the third row
Progressive coincident with enhanced layer top fields
==> Progressive coincident with enhanced layer from top fields

35) Clause 7.7.5 Page 95 Line 6,22,26
Every hyphen of I-frame, I-field, B-frame and B-field should be excluded.

36) Clause 7.7.5 Page 95 Line 8
accept for the first ==> except for the first

37) Clause 8.5.2.1 Page 117 Line 22
One of the two periods should be removed.

38) Clause 8.5.3.1 Page 118 Line 5
One of the two periods should be removed.

39) Annex C.8 Page 138 Line 24
Note that his ==> Note that this

40) Annex D.2 Page 142 Line 18
D.2.5 ==> D.2.4

41) Annex D.2.4 Page 142 Line 25
sub_carrier phase ==> sub_carrier_phase

42) Annex D.7.2.1 Page 145 Line 18
to a large extend ==> to a large extent

END