CCITT SGXV
Working Party XV/1
Specialists Group on Coding for Visual Telephony

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SOURCE: CHAIRMAN
TITLE : CLARIFICATION ON FLEXIBLE HARDWARE SPECIFICATION AND RM8

The following clarifications are given as outcome of the recent correspondence work.

1. Flexible Hardware Specification (Annex 4 to Doc. #499R)

1.1 Coding of Intra DC Component (p. 38)

The second last paragraph of § 2.2.4 is interpreted as follows;

QUANTISER FOR INTRA-MODE DC COMPONENT

INTRA DC level into quantiser	FLC	Reconstruction level into inverse transform
0 - 11	0000 0001 (1)	8
12 - 19	0000 0010 (2)	16
20 - 27	0000 0011 (3)	24
.	.	.
.	.	.
1012 - 1019	0111 1111 (127)	1016
1020 - 1027	1111 1111 (255)	1024
1028 - 1035	1000 0001 (129)	1032
.	.	.
.	.	.
2020 - 2027	1111 1101 (253)	2024
2028 - 2047	1111 1110 (254)	2032

Notes.

1) FLC 'n' is used to encode the 8 values 8n-4, 8n-3, 8n-2, 8n-1, 8n, 8n+1, 8n+2, 8n+3.
except FLC 1 is also used for input values 0 - 3.
FLC 128 is not used, FLC 255 substitutes.
FLC 254 is also used for input values 2036 - 2047, though values higher than 255x8=2040 should not theoretically occur.

2) The decoded value corresponding to FLC 'n' is 8n except FLC 255 gives 1024.

3) Only the relation between FLC and its reconstruction level affects compatibility. How to relate the quantizer input levels to FLC is left to each design.

1.2 Positions of stuffing code in MA (p. 36)

The second paragraph of "Macroblock Address" is interpreted as follows;

> The stuffing code '0000 0001 111' can be inserted at any position where one of the codes in Appendix 4 is expected to appear. It can be inserted where there should be address of transmitted macroblock, PSC or GBSC. Repeated use of this code is also allowed as in [..., CBP, $TCOEFF_{11}$, $TCOEFF_{12}$, ..., $TCOEFF_{1n}$, EOB, ..., $TCOEFF_{k1}$, $TCOEFF_{k2}$, ..., $TCOEFF_{km}$, EOB, STUFFING_CODE, STUFFING_CODE, ..., STUFFING_CODE, VALID_MBA, TYPE3, MVD, CBP, ...].

2. **Buffer Regulation in RM8 (Annex 3 to Doc. #499R)**

The last hyphenated item in Part I is interpreted as follows;

> The stepsize of the quantizer is ADJUSTED every 11th macro block (at the start of each row of blocks of a GOB). The quantizer stepsize is TRANSMITTED with the first not fixed block ('no mc coded', 'mc coded' or 'Intra') in this row blocks using the Type 3 VLC for the 2nd and 3rd row of blocks of a GOB.
>
> Note: If all blocks in a row of blocks of a GOB are either 'fixed' or 'mc not coded', the quantizer stepsize is not transmitted.

END