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CCITT SG XV
WORKING PARTY XV/1
Specialists Group on Coding
for Visual Telephony

Doc 428
December 6, 1988

SOURCE : ALCATEL CIT FRANCE

TITLE : VIDEOTAPE - TRIALS ON LOOP FILTER

The videotape shows comparison between RM6 and loop filter described on the document $\neq$ 356 CCITT SG XV with modification of the threshold values confirmed by Japanese colleagues (annexe 1).

The statistical results on SNR are given in the figure.

Up to now, using the threshold values given by Japanese colleagues or using other values we do not find any improvement. In comparison with RM6 results we obtain a loss of SNR about 0.1 dB (Claire) to 2 dB (Swing). About subjective quality picture observed on Claire and Blue Jacket the blocking effect is a little reduced involving a slight blurredness and a granular noise on motion, however the picture quality is very closed. Regarding Swing sequence this kind of filter seems to be not compatible with RM6 scheme.

ALGORITHM : RM6J
 BIT RATE : 59,4 kbit/s

SOURCE : ALCATEL CIT
 DATE : 20th November 1988

Sequence		CLAIRE	MISS AMERICA	SALESMAN	BLUE JACKET	SWING
Number of coded pictures		150	50	140	166	125
1) R.M.S. for luminance		3.3094	3.2760	7.3922	5.4486	8.1919
1) R.M.S. for chrominance		2.5778	3.1148	3.1641	3.2466	5.4703
2) SNR for luminance		37.74	37.82	30.76	33.41	29.86
2) SNR for chrominance		39.91	38.26	38.13	37.90	33.37
3) Mean value of the step size		18.94	19.35	26.85	22.39	21.41
4) Mean value of the number of non-zero coefficients		2.70	1.89	2.41	3.06	2.51
5) Mean value of the number of zeros before the last non-zero coefficient		4.39	2.46	7.17	7.17	15.09
4) Mean value of the number of bits per signif block		13.06	8.44	13.11	15.96	16.94
TYPE OF MB	Intra	0	1	3	1	2
	Fixed nf	257	201	239	269	266
	Inter nf	81	103	111	99	115
	Fixed MC f	8	18	8	4	2
	Coded MC f	48	70	32	21	5
TYPE OF LUMI	Intra	2	4	11	3	6
	Fixed nf	1237	1124	1227	1317	1364
	Inter nf	118	96	176	159	164
	Fixed MC f	100	232	88	49	18
	Coded MC f	123	122	75	52	11
TYPE OF CHRO	Intra	1	2	4	2	3
	Fixed nf	656	536	685	705	711
	Inter nf	21	73	16	32	52
	Fixed MC f	86	132	77	41	9
	Coded MC f	25	45	4	9	5
8) Number of bits	Attributs	583	743	680	571	615
	Class. Index	332	571	328	310	342
	EOB words	860	1103	895	773	792
	Motion vectors	332	548	264	157	68
	Coeff. Y	3500	2238	3636	3837	3227
	Coeff. C	305	677	100	295	850
	Coeff. Total	3805	2915	3736	4102	4077
	TOTAL	5912	5880	5903	5913	589

A N N E X E 1

Mr. M. Thiberville
Alcatel CIT

Fax: +33 36 48 20 75

Subject : Clarification about Doc. #356
Date : November 15, 1988
Your Ref: Your Fax dated 15 Novembre 1988
Our Ref : SOXUL586
Number of Pages: This page only

Dear Mr. Thiberville,

Thank you for your fax on our loop filter scheme. We have to apologize that Doc. #356 has the following two errors:

3rd line from the top and the 7th line from the bottom on p.2

" $th1 = (\text{average step size in a image}) \cdot 1.25$ "

should read

" $th1 = (\text{average step size in a image}) \cdot 1.25/8$ "

If you will find further difficulties, please advise me quickly. Hoping that these corrections would solve the problem.

Best regards,

~~Visual Media Laboratory~~
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