

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

**Doc # 230
June 1987**

**TITLE: RM4 STATISTICS.
SOURCE: UK, NL, FR**

The attached statistics are representative of the statistics generated using the Reference Model 4 as specified in [1]. The differences existing between the implementations within Europe are small.

[1].....TD 11, CCITT WP SG XV/1 Specialist Group on Coding for Video Telephony, San Jose 87.

SEQUENCE : SPLIT/TREV
SIMULATION : RM4.
DATE : MAY 87.

Item			FRAME	FRAME 15	AVERAGE	
1)RMS FOR LUMINANCE				4.08	3.31	
2)SNR FOR LUMINANCE				35.9	37.9	
3Mean value for step size				17	13.5	
4)Mean value Non-zero coef				3.8	4.18	
5)Mean value of Tx'd zeros				6.64	6.98	
6) Block type of Y	Fixed			634	775	
	Intra			13	42	
	Filtered Fixed			114	75	
	Non-filt Fixed MC			96	50	
	Filtered Fixed MC			94	39	
	Non-filt Inter			190	147	
	Filtered Inter			49	40	
	Non-filt Inter MC			223	209	
	Filtered Inter MC			171	203	
	Filtered			428	357	
7) Block of type C	Fixed			455	496	
	Intra			20	9	
	Filtered Fixed			146	133	
	Non-filt Inter			98	97	
	Filtered Inter			73	55	
	Filtered			219	168	
8) Number of bits	Attributes	Y		2741	2247	
		Cr		341	327	
		Cb		401	309	
		TOTAL		3213	2883	
	Class indices			1292	1285	
	EOB			1674	1608	
	Motion vectors			584*8	503*8	
	Coefficients	Y		14201	15996	
		Cr		1295	830	
		Cb		945	899	
		TOTAL		16441	17725	
	TOTAL				29838	29654

RM 4. Statistics

MISSA

22/5/87

Item			FRAME	FRAME 15	AVERAGE
1) RMS FOR LUMINANCE				2.4	2.56
2) SNR FOR LUMINANCE				40.53	39.96
3) Mean value for step size				10	11.36
4) Mean value Non-zero coef				2.59	2.57
5) Mean value of Tx'd zeros				8.58	7.03
6) Block type of Y	Fixed			839	800
	Intra			0	1
	Filtered Fixed			278	280
	Non-filt Fixed MC			46	103
	Filtered Fixed MC			11	36
	Non-filt Inter			270	149
	Filtered Inter			68	41
	Non-filt Inter MC			48	107
	Filtered Inter MC			24	64
	Filtered			381	421
7) Block of type C	Fixed			296	310
	Intra			0	1
	Filtered Fixed			116	130
	Non-filt Inter			287	240
	Filtered Inter			93	109
	Filtered			209	239
8) Number of bits	Attributes	Y		2066	2318
		Cr		362	399
		Cb		459	454
		TOTAL		2887	3171
	Class indices			820	726
	EOB			1580	1428
	Motion vectors			129*8	311*8
	Coefficients	Y		6783	5782
		Cr		1429	1531
		Cb		3064	2406
		TOTAL		11276	9719
	TOTAL (includes Addressing)			19938	19879
	Buffer Status (0-100%)			30.16%	36.8%

SEQUENCE : CHECKED JACKET

SIMULATION : RM4.

DATE : MAY 87.

Item			FRAME	FRAME 15	AVERAGE
1) RMS FOR LUMINANCE				3.063	3.065
2) SNR FOR LUMINANCE				38.4	38.4
3) Mean value for step size				11.56	11.35
4) Mean value Non-zero coef				3.95	3.34
5) Mean value of Tx'd zeros				9.27	8.94
6) Block type of Y	Fixed			1017	977
	Intra			7	3
	Filtered Fixed			31	37
	Non-filt Fixed MC			275	362
	Filtered Fixed MC			81	60
	Non-filt Inter			32	17
	Filtered Inter			18	12
	Non-filt Inter MC			71	65
	Filtered Inter MC			52	47
	Filtered			182	157
7) Block of type C	Fixed			622	590
	Intra			0	0
	Filtered Fixed			26	18
	Non-filt Inter			116	158
	Filtered Inter			28	23
	Filtered			54	41
8) Number of bits	Attributes	Y		1512	1504
		Cr		123	123
		Cb		127	139
		TOTAL		3442	3515
	Class indices			372	1079
	EOB			1890	1444
	Motion vectors			1384	1147
	Coefficients	Y		11920	11331
		Cr		346	418
		Cb		443	563
		TOTAL		12709	12313
	TOTAL			19425	18420