

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

Doc. # 527
June 9, 1989

Subject: Computer Evaluation of Reference Model 8

Source: Bellcore

1. Introduction

This document presents computer simulation results of Reference Model 8 for four CCITT test sequences (e.g., Miss America, Salesman, Claire, and Swing).

Statistics: Reference Model 8
 Bit Rate: 59.4 Kbps
 Sequence: Miss America

Date: June 9, 1989
 Frame Rate: 10Hz
 Institute: Bellcore

ITEM		15th Picture	Mean Whole Seq.
1.	RMS for luminance	3.15	3.27
2.	SNR for luminance	38.17	37.85
	for chrominance (u)	38.16	37.79
	for chrominance (v)	39.45	38.73
3.	Mean value of step size	15.78	17.92
4.	Mean value of the number of non-zero coefficient	1.99	1.92
5.	Mean value of the number of zeroes before last non-zero coefficient	2.28	2.25
6.	Block type of MACRO	FIXED 208	210
		CODED MC 63	76
		FIXED MC 7	20
		CODED 118	89
		INTRA 0	0
7.	Block type of Y	FIXED 1202	1114
		CODED MC 148	135
		FIXED MC 132	250
		CODED 102	84
		INTRA 0	0
8.	Block type of UV	FIXED 682	686
		CODED 110	106
9.	Macro attributes	622	651
Number	End of block	720	651
of	Coded Block Pattern	992	895
bits	Motion vectors	455	609
	Quant. Step bits	180	180
	Coefficients	Y 2653	2351
		U 198	251
		V 379	317
		Total 3230	2919
	Total	6199	5904

Correction to p.3/Doc.#527

Statistics: Reference Model 8
 Bit Rate: 59.4 Kbps
 Sequence: Salesman

Date: June 9, 1989
 Frame Rate: 10Hz
 Institute: Bellcore

ITEM		15th Picture	Mean Whole Seq.
1.	RMS for luminance	7.37	6.76
2.	SNR for luminance	30.79	31.54
	for chrominance (u)	37.70	38.32
	for chrominance (v)	38.98	39.27
3.	Mean value of step size	26.00	25.04
4.	Mean value of the number of non-zero coefficient	2.34	2.74
5.	Mean value of the number of zeroes before last non-zero coefficient	5.34	5.45
6.	Block type of MACRO MACRO	FIXED 249 CODED MC 39 FIXED MC 6 CODED 101 INTRA 1	273 37 6 78 1
7.	Block type of Y	FIXED 1250 CODED MC 100 FIXED MC 80 CODED 150 INTRA 4	1278 94 79 129 3
8.	Block type of UV	FIXED 776 CODED 16	776 16
9.	Macro attributes	524	457
Number	End of block	540	484
of	Coded Block Pattern	650	536
bits	Motion vectors	335	294
	Quant. Step bits	180	180
	Coefficients	Y 3619 U 40 V 33 Total 3692	3911 41 29 3981
	Total	5921	5933

Statistics: Reference Model 8
 Bit Rate: 59.4 Kbps
 Sequence: Claire

Date: June 9, 1989
 Frame Rate: 10Hz
 Institute: Bellcore

ITEM		15th Picture	Mean Whole Seq.
1.	RMS for luminance	3.04	3.10
2.	SNR for luminance	38.47	38.29
	for chrominance (u)	39.16	38.99
	for chrominance (v)	41.81	41.85
3.	Mean value of step size	15.72	18.20
4.	Mean value of the number of non-zero coefficient	2.64	2.80
5.	Mean value of the number of zeroes before last non-zero coefficient	2.97	3.06
6.	Block type of MACRO MACRO	FIXED 264 CODED MC 22 FIXED MC 5 CODED 105 INTRA 0	278 47 7 65 0
7.	Block type of Y	FIXED 1285 CODED MC 54 FIXED MC 54 CODED 191 INTRA 0	1270 126 87 102 0
8.	Block type of UV	FIXED 749 CODED 43	752 40
9.	Macro attributes	462	467
Number of bits	End of block	576	535
	Coded Block Pattern	645	558
	Motion vectors	150	336
	Quant. Step bits	180	180
	Coefficients	Y 3464	3599
		U 230	176
		V 119	78
		Total 3813	3854
	Total	5826	5930

Statistics: Reference Model 8
 Bit Rate: 59.4 Kbps
 Sequence: Swing

Date: June 9, 1989
 Frame Rate: 10Hz
 Institute: Bellcore

ITEM		15th Picture	Mean Whole Seq.
1.	RMS for luminance	5.70	4.67
2.	SNR for luminance	33.01	34.75
	for chrominance (u)	34.08	36.03
	for chrominance (v)	34.83	36.64
3.	Mean value of step size	16.72	15.81
4.	Mean value of the number of non-zero coefficient	1.90	2.17
5.	Mean value of the number of zeroes before last non-zero coefficient	14.81	14.04
6.	Block type of MACRO MACRO	FIXED 261 CODED MC 1 FIXED MC 0 CODED 134 INTRA 0	267 6 1 122 0
7.	Block type of Y	FIXED 1408 CODED MC 0 FIXED MC 4 CODED 172 INTRA 0	1384 15 13 170 2
8.	Block type of UV	FIXED 731 CODED 61	748 44
9.	Macro attributes	451	426
Number	End of block	466	462
of	Coded Block Pattern	700	643
bits	Motion vectors	10	64
	Quant. Step bits	180	180
	Coefficients	Y 2982 U 542 V 478 Total 4002	3385 470 293 4148
	Total	5809	5922