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

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Source: NL,N,F,FRG,S,UK,I

Title : Guidelines for simulation activities at 64 kbit/s.

Introduction

The Specialists Group has learned in the past that it is important to reach a common basis for simulation activities in order to guarantee an appropriate comparison and evaluation of source coding results. This document aims to discuss a general basis for cooperation in the area of source coding at 64 kbit/s.

1. Reference scheme.

In order to converge in the near future to a common coding approach a general "Reference Scheme" is proposed which is depicted in figure 1. This reference scheme still allows the "Hybrid Coding based Reference Model" as well as the inclusion of more novel methods such as "Object Analysis Techniques".

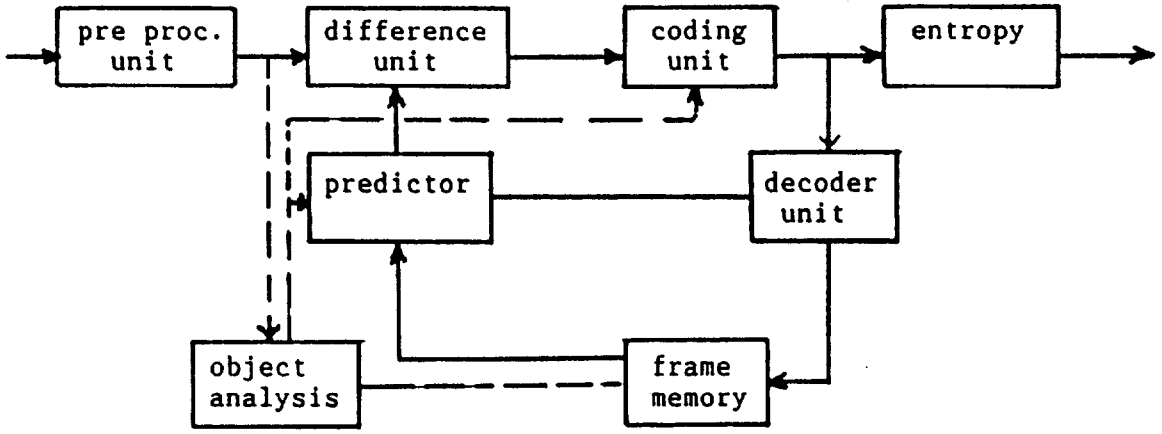

Figure 1: Reference Scheme.

2. Picture Material.

It is suggested to use three different sequences:

name	source	source format	length
a. Claire	Europe	CIF	240 pictures
b. Miss America	USA	CIF	150 pictures
c.	Japan	.....	.....

d. graphics (as available for nx384 kbit/s coding)

Note: the sequences are considered separately.

3. Source Input : Common Intermediate Format as described in document #104.
   Output : CCIR format (upconverted to full screen).

4. Initial conditions.

   - empty buffer;
   - the first picture is repeated according to table 1.
   - buffer overflow is not allowed.

30 Hz	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	1			2			3			4			5		
	1			1			3			4			5		

This frame is repeated !

Table 1.

5. For the purpose of comparison the coding loop will operate at 10 Hz.

6. The simulation will be carried out in closed loop mode.

7. The bitrate for video is 64 kbit/s.

8. The buffersize at 10 Hz is 6.4 kbit.

9. The signal to noise ratio (S/N) is for reference information. S has to be defined as 255 and N as the difference between the coder input signal and decoder output signal respectively.

10. The simulation results will be presented without pre/post processing and with pre/post processing.

11. A form for the numerical presentation of the data is annexed (form 1).

12. U-matic will be used to display results (format NTSC, PAL or SECAM according to the region where the tape has been produced).

DATA PRESENTATION FOR SIMULATION. RESULTS AT 64 KBIT/S.

Note 1: Skip those topics which are not relevant.
Note 2: Data according to the mean value of the whole sequence-
start with the second coded picture.

Source		:
Sequence		:
Date		:
Format after subsampling	Y	:
	UV	:
Blocksize	Y	:
	UV	:
Coded frame rate		:
Number of coded pictures		:
Number of blocks in picture		:
SNR for luminance		:
Mean value for the step size		:
block type of Y in %	Fixed	:
	Intra	:
	Filtered fixed	:
	Non-filt fixed MC	:
	Filtered fixed MC	:
	Non-filt inter	:
	Filtered inter	:
	Non-filt inter MC	:
	Filtered inter MC	:
	Filtered	:
	Other	:
block type of C in %	Fixed	:
	Intra	:
	Filtered fixed	:
	Non-filt inter	:
	Filtered inter	:
	Filtered	:
	Other	:
number of bits	Attributes Y	:
	Attributes Cr	:
	Attributes Cb	:
	Attributes Total	:
	Classification indexes	:
	EOB	:
	Motion Vectors	:
	Overhead Information	:
	Coefficients Y	:
	Coefficients Cr	:
	Coefficients Cb	:
	Coefficients Total	:
	Total	