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

DOCUMENT #283
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Source : NTT, KDD, NEC and FUJITSU

Title : PROGRESS REPOPRT ON JAPANESE HARDWARE PROJECTS

In Japan, two types of flexible hardwares (FH) are being produced, and experiments are being carried out on each.

Using one type of FH, several studies have been carried out. They are chracteristics check based on initial compatibility test parameters, experiment on quantization charcteristics, some evaluation for proposed optimised parameters, compatibility check by DIS test pattern generators and so forth. The results are given in annex 1 to this contribution and Doc. #285, 287, 290.

And some Japanese organization has planned to bring this FH to United Kingdom to performe an international compatibility check in co-operation with some European organization.

The other type of FH in Japan has been completed except video multiplex. Now at this moment video multiplex coder and decoder are tested under the condition of tandem connection. The video multiplex decoder has been tested with DIS test pattern generator, and it has been confirmed that the moving pattern is regenerated correctly.

The pictures obtained by this FH are also demonstrated in Annex 2, and experimental result based on this FH related to loop filter is described in Doc. #286.

Annexes and List of Related Contributions

Annex 1. Coded pictures based on initial compatibilty check parameters
2. Pictures processed by the second type of FH in Japan

Topics of related contributions
#285 Quantizing Characteristics Based on Initial Compatibilty Check Parameters
#286 Filter in the Coding Loop
#287 Proposal and Consideration of Buffer Size
#290 Connection Test Results with Test Signal Generator

Annexes to #283

Annex 1 : CODED PICTURES BASED ON INITIAL COMPATIBILIBY CHECK PARAMETERS

Two sequencies coded by the first Type FH are demonstrted.
Parameters are based on the followings.

(1) First sequence : Compatibility check parameters

- Feedforward coding control with picture unit basis.
- Without cyclic refresh, with demand refresh.

(2) Second sequens : Optimized parameters (based on Doc. #285)

- Quantizer step size for chrominance is half of luminance one.
- 8 quantizer set (12 unit quantizers).
- Each unit quantizer has a dynamic range of +/- 700 at least.
- 128 Kbit buffer.
- Feedforward coding control with picture unit basis.
- Without cyclic refresh, with demand refresh.

Annex 2 : PICTURES PROCESSED BY THE SECOND TYPE OF FH IN JAPAN.

Two pictures demonstrated by VCR.
Coditions are as follows.

(1) First picture : Regenerated by DIS test pattern.

(2) Second picture : Local decoded picture controlled by transmitssion buffer occupancy.

- Quantizer step size is changed in GOB unit.
- Frame dropping rate is controlled by buffer occupancy.
- Loop filter is inserted (MC control).
- Buffer occupancy is below 64kbit.
- With cyclic refresh.