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

Document #319
March 1988

Source: NTT, KDD, NEC AND FUJITSU

Title : PROGRESS REPORT ON JAPANESE HARDWARE PROJECTS (3)

This paper describes the present status of experimental results of two types of flexible hardware (FH).

The operation of the first project CODEC has already been confirmed, and series of studies on this type of FH have been conducted to investigate the influence of transformation mismatch (Doc. #323) and so forth. With regard to the second project CODEC, confirmation has been obtained overall up to transmission coder/decoder part, and experimental results based on this FH related to loop filter is described in Doc. #320. In the case of the latter type, however, errors are sometimes produced when the amount of data that has to be processed in the transmission encoder increases.

Two types of interconnection experiments are currently being carried out with these CODECs.

One CODEC in the first project was transported to the U.K., where international interconnection experiments with British equipment were performed. Details of this experiment are given in Contribution #337 of this Meeting.

Interconnection experiment was also carried out in Japan with both CODECs from Project 1 and Project 2, and it was confirmed that two-way communication was possible. The results of this experiment are given in Annex 1.

Annex and List of Related contributions

Annex 1. : Interconnection experiment in Japan

Topic of related contributions

#320 : Filter in the Coding for Visual Telephony
#323 : Precision for IDCT Calculation and Refresh Cycle
#337 :

Annex 1 : Interconnection experiment in Japan

The first type of FH operates back to back , and the second type of FH sometimes makes errors at the trasmmision decoder when a large amount of data has to be processed due to the limited power.

As the result of interconnection experiment in Japan , it became apparent that two types of FH were different only in the points of color balance adjustment and the last five bits of PSC code. No other problems which disturb picture regeneration are not discovered at this moment.

Four pictures are demonstrated by VCR. Coditions are as follows.

(1) First picture :
- DIS test pattern regenerated by the first type of FH

(2) Second picture :
- DIS test pattern regenerated by the second type of FH

(3) Third picture :
- the transmitter is the second type of FH
- the receiver is the first type of FH
- cyclic refresh by intra GOB
- prediction with MC and loop fiter

(4) Fourth picture :
- the transmitter is the first type of FH
- the receiver is the second type of FH
- cyclic refresh by intra GOB
- prediction with MC and loop filter
- relatively coarse quantizer is used in the first type of FH to cope with hardware limitation