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TITLE: Tape demonstrations for m·64 kb/s coding.

The demonmstration deals with two items:

- Comparison of sequences coded with RM5 and RM5 + DT.
- Conversion between CIF and 4/9 CIF.

1. Comparison between RM5 and RM5 + DT.

The main difference is the transform. In RM5 + DT the DT is used for approximately 1/3 of the blocks where coefficients are transmitted. For the other blocks, DCT is used.

Sequences shown:

MISS AMERICA
CLAIRE
SALESMAN

I do not have an exact implementation of RM5. It is therefore difficult to compare SNRs.

Two-dimensional VLC has not been used so far. The gain would be smaller than for RM5. This is because or the higher concentration of energy in fewer coeffisients.

The main improvement from the use of DT is that one-dimensional structures are generally better reproduced in all the sequences. This works particularly well for scaling factors below 25-30. For high scaling factors, mostly DC components are transmitted and they are equal for all transforms.

2. Conversion between CIF and 4/9 CIF.

Conversion CIF → 4/9 CIF → CIF was performed on the sequences Miss America, Claire and Swing. The filter used is a two-dimensional 11 tap filter. The filter taps are:

$$\frac{-1\ -2\ -1\ 5\ 13\ 16\ 13\ 5\ -1\ -2\ -1}{44}$$

The tap separation is relative to 576 vertical lines.

Two examples of coding with 4/9 CIF are also shown. The coding method includes DT. In order to keep the physical blocksize approximately as with CIF, a block size of 6·6 pixels is used. This would correspond to the physical size of 9·9 blocks with CIF.