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**CODED REPRESENTATION OF PICTURE AND AUDIO INFORMATION**

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**Title:** **Interlace to interlace conversion**
**Source:** **PTT Research (NL)**
**Purpose:** **Information**

A 3 field apertures vertical temporal down conversion filter has been implemented to obtain a lower resolution input for a hierarchical coder. A 1 field up conversion is used to generate a spatial (compatible) prediction for the lower layer.

Simulation have been performed with these filters, comparison between layered coding and standalone coding has been made with several up conversion filters.

## Layered with reference to non-layered

In order to get a quantitative measure of the influence of the interlace to interlace filters the following comparison has been made: First sequences are processed with a fixed bitrate in the non layered mode of MPEG2, second the same sequences are processed with the same fixed bitrate in a layered mode, the additional prediction from the lower resolution level is a not coded down converted and up converted signal. A gain in signal to noise of 0.4 to 0.8 dB is reached for the Flower Garden, Table Tennis and Calendar sequences. Different horizontal up conversion filters are tested and no significant difference in performance is found.

An accompanying tape will be presented showing the downconverted and upconverted signals with the three field apertures downconversion and one field aperture upconversion.

## Conclusion

A 1 field up conversion filter has been investigated. Short horizontal filters seem to perform equal to long horizontal filters.