

**MULTI-MODE EQUALIZER IN A DIGITAL VIDEO SIGNAL
PROCESSING SYSTEM**

ABSTRACT

A digital high definition television receiver equalizer system includes an input adaptive feed forward filter (FFF 20), a carrier recovery network (46), and a slicer (40) in addition to an adaptive decision feedback filter (DFF, 30) for removing intersymbol interference. At the beginning of a blind equalizing interval the FFF is not adapted and the DFF operates as a linear filter with adapted coefficients for equalizing post-ghosts. Afterwards in the blind interval the FFF coefficients are adapted blindly for equalizing pre-ghosts. In a subsequent decision-directed mode the slicer output is used for adapting both the FFF and DFF non-linearly.

Figure 1