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PAHOL SIRILUANGTONG : TV GHOST CANCELLER USING FPGA-BASED FIR
FILTERS. THESIS ADVISOR : WANCHALERM PORA, Ph.D., 129 pp. ISBN 974-03-
1138-5.

This thesis presents a PAL TV ghost canceller that employs a ghost cancellation reference signal (GCR Signal) recommended by the ITU-R BT.1124 standard. The ghost canceller consists of an adaptive FIR filter, which is developed on a Xilinx FPGA, XCV300E-6. The resource sharing technique is exploited. It reduces required hardware resource by six times. A DSP chip, TMS320C6211, is chosen to optimize the parameters of the filter according to the LMS (Least Mean Square) algorithm. We also developed a ghost generator using delay line for testing the TV ghost canceller. Experiments show that the ghost canceller can visually cancel the ghost in 4 seconds if the ghost power is not more than -6 dB and its delays are not more than 10 μ s, compared to that of the main signal.