An Investigation of Digital Filtering Techniques

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A study carried out on Digital Filtering Techniques covering signal digitization, the theory of digital filtering techniques, and the implementation of digital filters. The digitization covers theories related to signal sampling, construction of an ADC which can be connected to the parallel port of an IBM compatible computer and the usage of the unidirectional parallel port as a bi-directional communication port. Several filters of low pass, high pass, and band pass categories were realized and their recurrence formulae were implemented. A good approximation to the ideal situation can be obtained with higher order filters. The speed of the hardware and the complexity of the software routines are crucial factors in filter designing.