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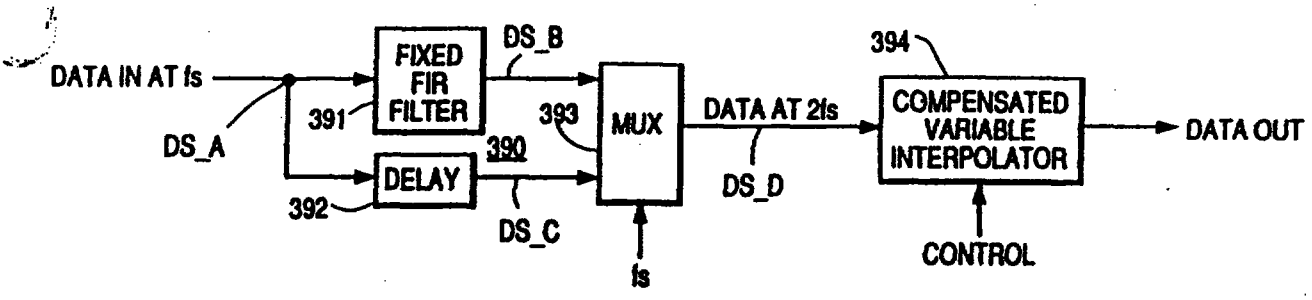
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(54) Title: TWO STAGE INTERPOLATION SYSTEM



(57) Abstract

A two stage interpolation system provides greater bandwidth for signals compressed and expanded by interpolation, such as video signals displayed in a zoom or enlarged mode. A finite impulse response filter (391) generates from a first signal of digital samples a second signal of digital samples representing signal points between the samples of the first signal. The first signal is delayed. The second signal and the delayed first signal are interleaved by a multiplexer (393) to produce a third signal of digital values having a sample density twice that of the first signal. A compensated variable interpolator (394) derives from the third signal a fourth signal of digital samples in which the frequency content of information represented by the first signal has been changed. In the case of enlarging the picture represented by a video signal, the video signal can be truncated in a FIFO line memory (395), prior to being delayed and processed by the finite impulse response filter (391). The compensated variable interpolator (394) can be controlled to provide selected ratios of compression or expansion.