

Title (en)

ACOUSTIC AND ELECTRONIC ECHO CANCELLATION USING HIGH RESOLUTION DELAY LINE

Title (de)

AKUSTISCHE UND ELEKTRONISCHE ECHOENTZERRUNG UNTER VERWENDUNG EINER HOCHAUFLÖSENDEN VERZÖGERUNGSLEITUNG

Title (fr)

ANNULATION D'ECHO ACOUSTIQUE ET ELECTRONIQUE UTILISANT UNE LIGNE DE RETARD A HAUTE RESOLUTION

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Application

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Abstract (en)

[origin: WO0108380A1] A high resolution delay line includes a coarse delay having a minimum period of delay and a fine delay having a total delay that is equal to or greater than half the minimum period. Each delay can be implemented in analog or digital form or the delay line can be implemented with one portion in analog form and the remainder in digital form. The digital delay provides a delay upward of 1,500 milliseconds. The fine delay provides a resolution of ten microseconds or less. For echo cancellation, a transmitted signal (21) is coupled through a coarse delay (25) and a fine delay (26) to one input of a correlator (27). Another input of the correlator is coupled to a received signal (22). The delays are adjusted (28, 29) for maximum correlation and the output of the fine delay is subtracted (81) from the received signal to reduce or eliminate an echo. The delays operate by sampling the signal and storing the samples at successive storage sites. The storage sites are read a predetermined time later, producing the delay. The read operation for the coarse echo includes three readings from three separate sites and using correlation products to indicate the magnitude and direction for changing the delay.

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