

TITLE:
NOISE CANCELLATION USING SEGMENTED, FREQUENCY-DEPENDENT
PHASE CANCELLATION

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Abstract

Noise abatement within a signal stream containing unwanted signal referred to as noise is performed by acquiring a digitized noise signal and using a digital processor circuit to subdivide the acquired noise signal into different frequency band segments and thereby generate a plurality of segmented noise signals. Then individually for each segmented noise signal, the processor shifts in time the segmented noise signal by an amount dependent on a selected frequency of the segmented noise signal to produce a plurality of shifted segmented noise signals. The precise time shift applied to each noise segment considers the frequency content of the segment and the system processing time. Individually for each segmented noise signal, amplitude scaling is applied. The shifted and amplitude-scaled segmented noise signals are then combined to form a composite anti-noise signal which is output into the signal stream to abate the noise through destructive interference.

20 FIG 1