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(19) **United States**(12) **Patent Application Publication****Yen et al.**(10) **Pub. No.: US 2009/0271187 A1**(43) **Pub. Date: Oct. 29, 2009**(54) **TWO MICROPHONE NOISE REDUCTION SYSTEM****Publication Classification**(51) **Int. Cl.**
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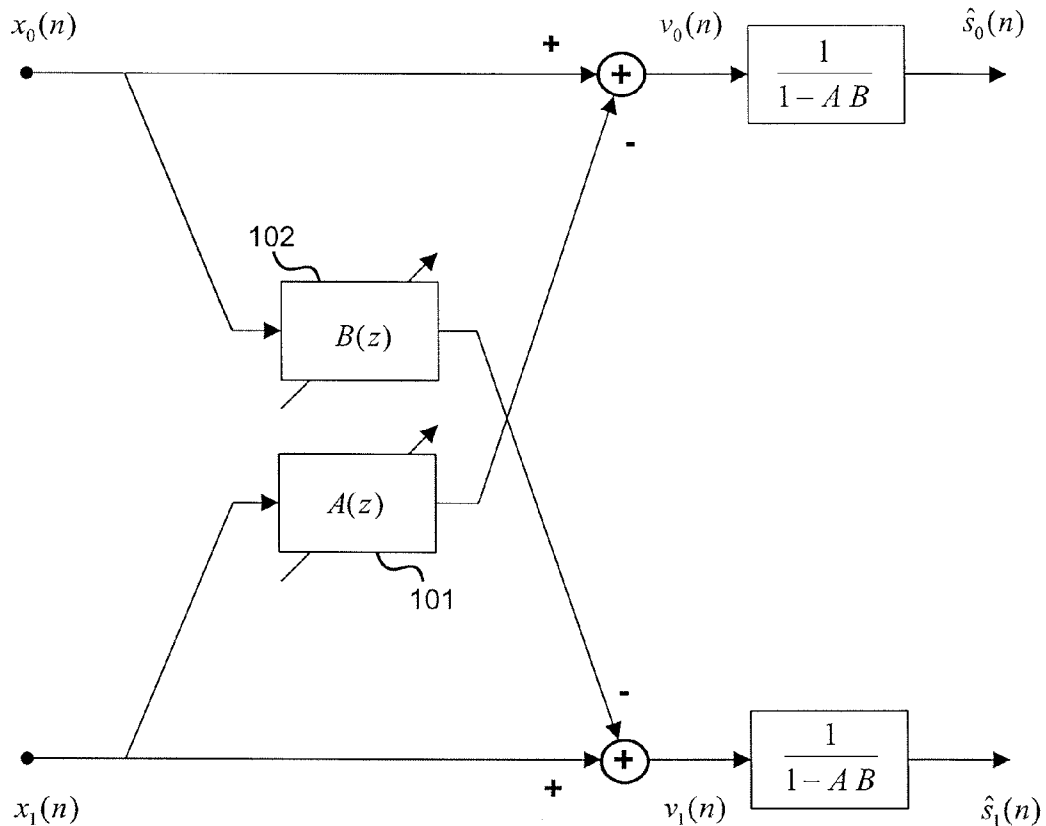
(2006.01)

(52) **U.S. Cl.** **704/226; 704/E21.001**(57) **ABSTRACT**

A two microphone noise reduction system is described. In an embodiment, input signals from each of the microphones are divided into subbands and each subband is then filtered independently to separate noise and desired signals and to suppress non-stationary and stationary noise. Filtering methods used include adaptive decorrelation filtering. A post-processing module using adaptive noise cancellation like filtering algorithms may be used to further suppress stationary and non-stationary noise in the output signals from the adaptive decorrelation filtering and a single microphone noise reduction algorithm may be used to further provide optimal stationary noise reduction performance of the system.

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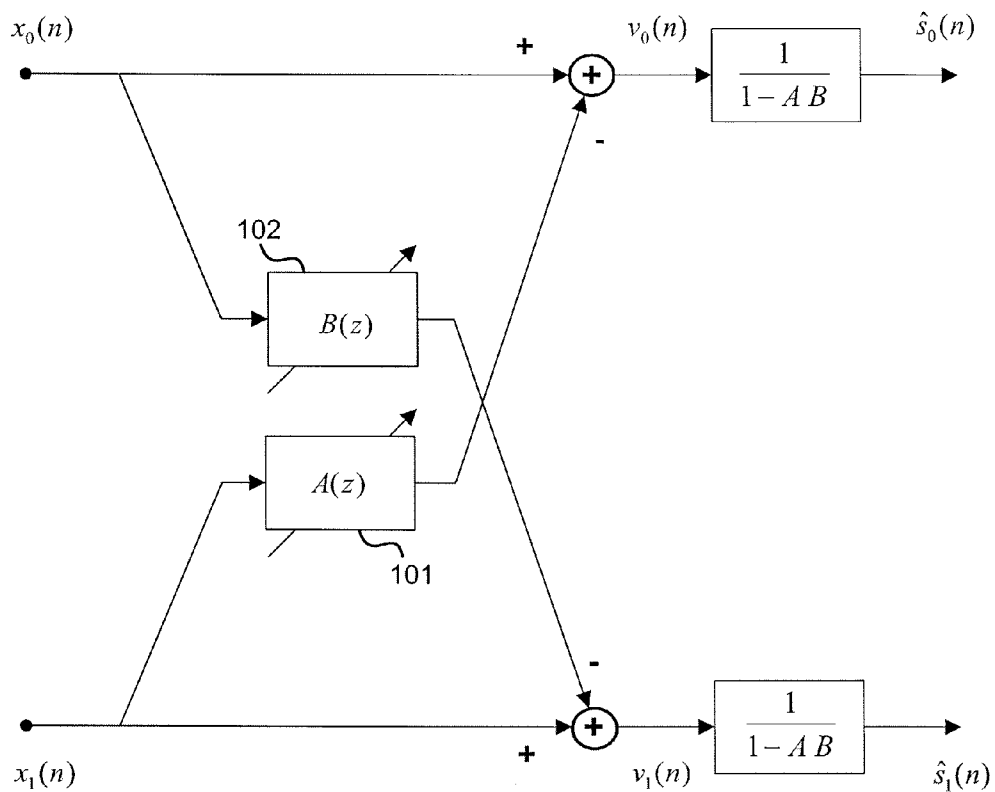


FIG. 1

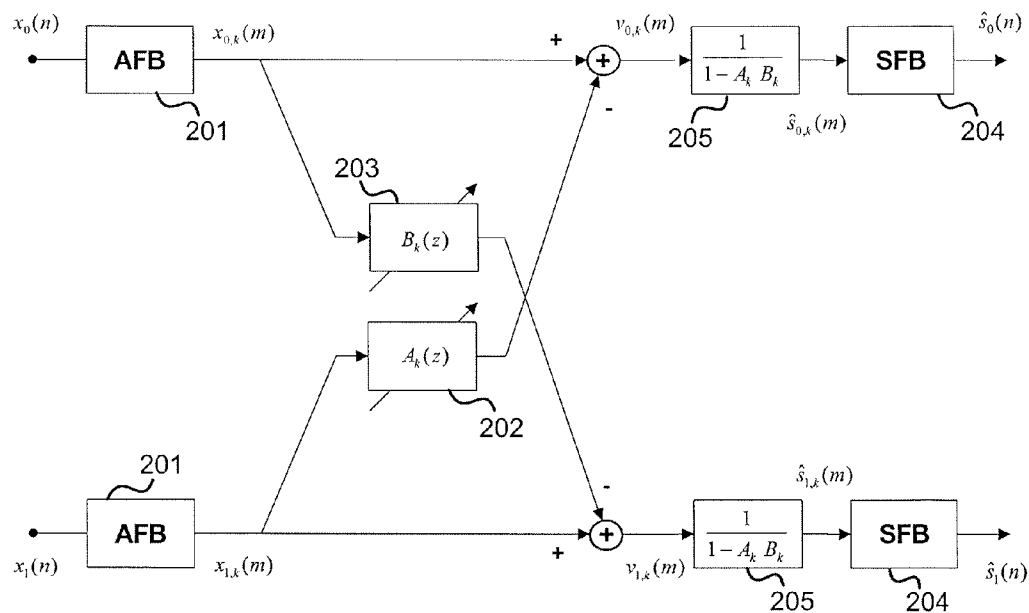


FIG. 2

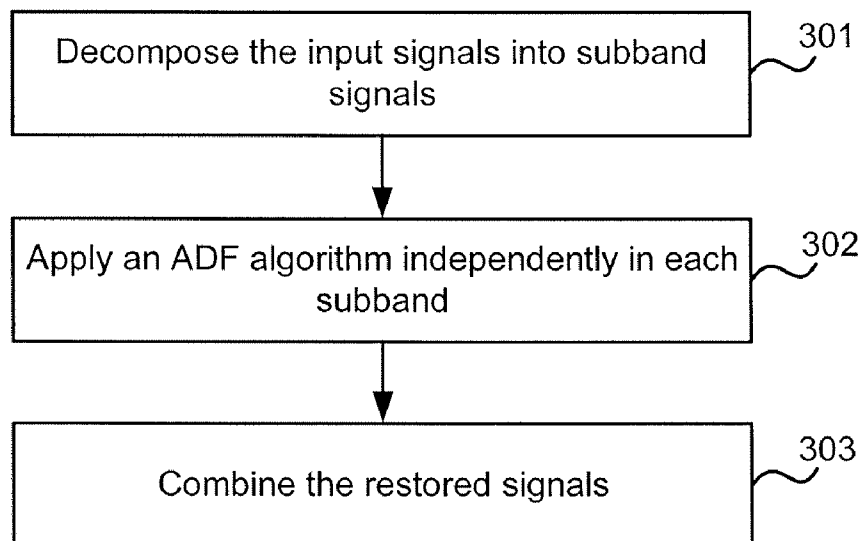


FIG. 3

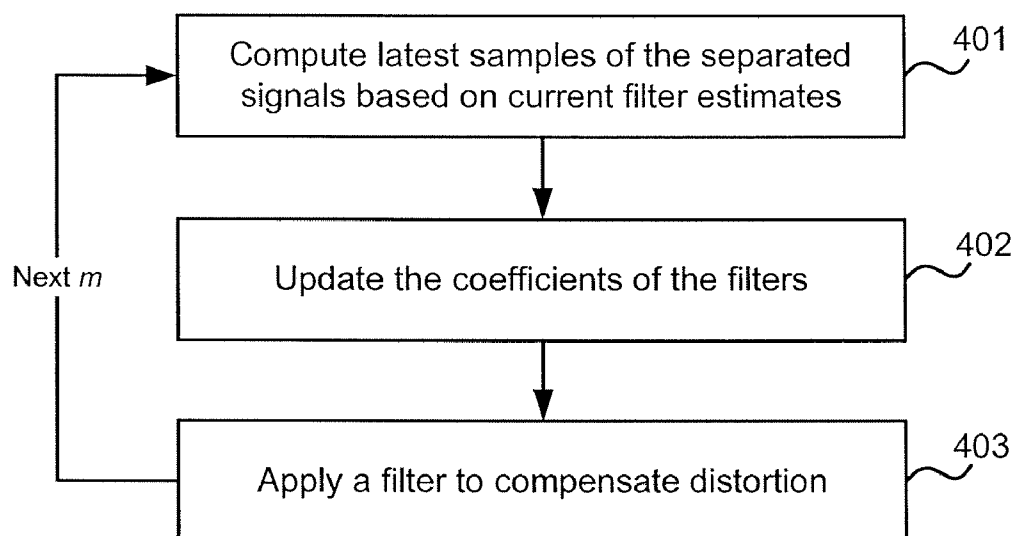


FIG. 4

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