United States Patent [19]

Nakagawa et al.

[54] **SUBBAND ACOUSTIC ECHO CANCELLER**

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[57] **ABSTRACT**

In a subband acoustic echo canceller which generates an echo replica from a subband received signal $x_k(m)$ by an estimated echo path in each subband, subtracts the echo replica from a subband echo signal $y_k(m)$ by a subtractor to generate a subband error signal $e_k(m)$ and uses an adaptive algorithm in an echo path estimation part to estimate the transfer function of the estimated echo path from the subband error signal $e_k(m)$ and the subband received signal $x_k(m)$ so that the subband error signal $e_k(m)$ approaches zero, the stop-band attenuation of each band-pass filter of a received signal subband analysis part for generating the subband received signal $x_k(m)$ is set to be smaller than the stop-band attenuation of each band-pass filter of an echo subband analysis part for generating the subband echo signal $Y_k(m)$ to thereby flatten the frequency characteristics of the subband received signals relative to the subband echo signals.
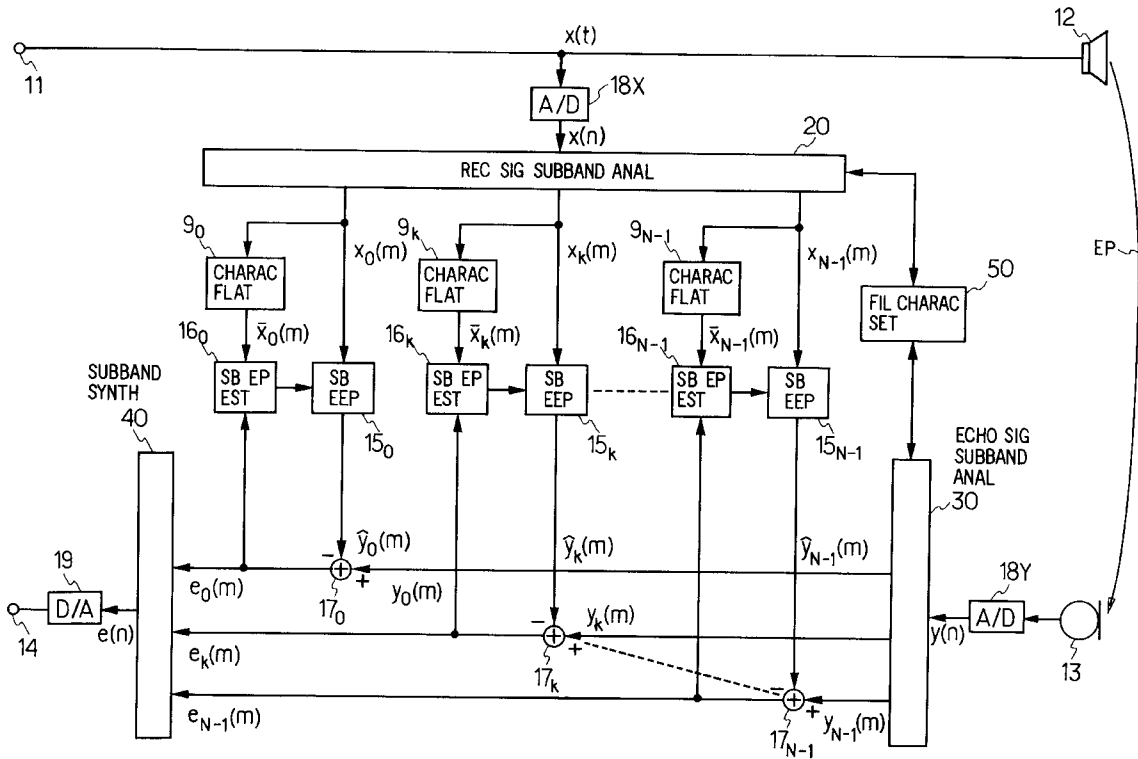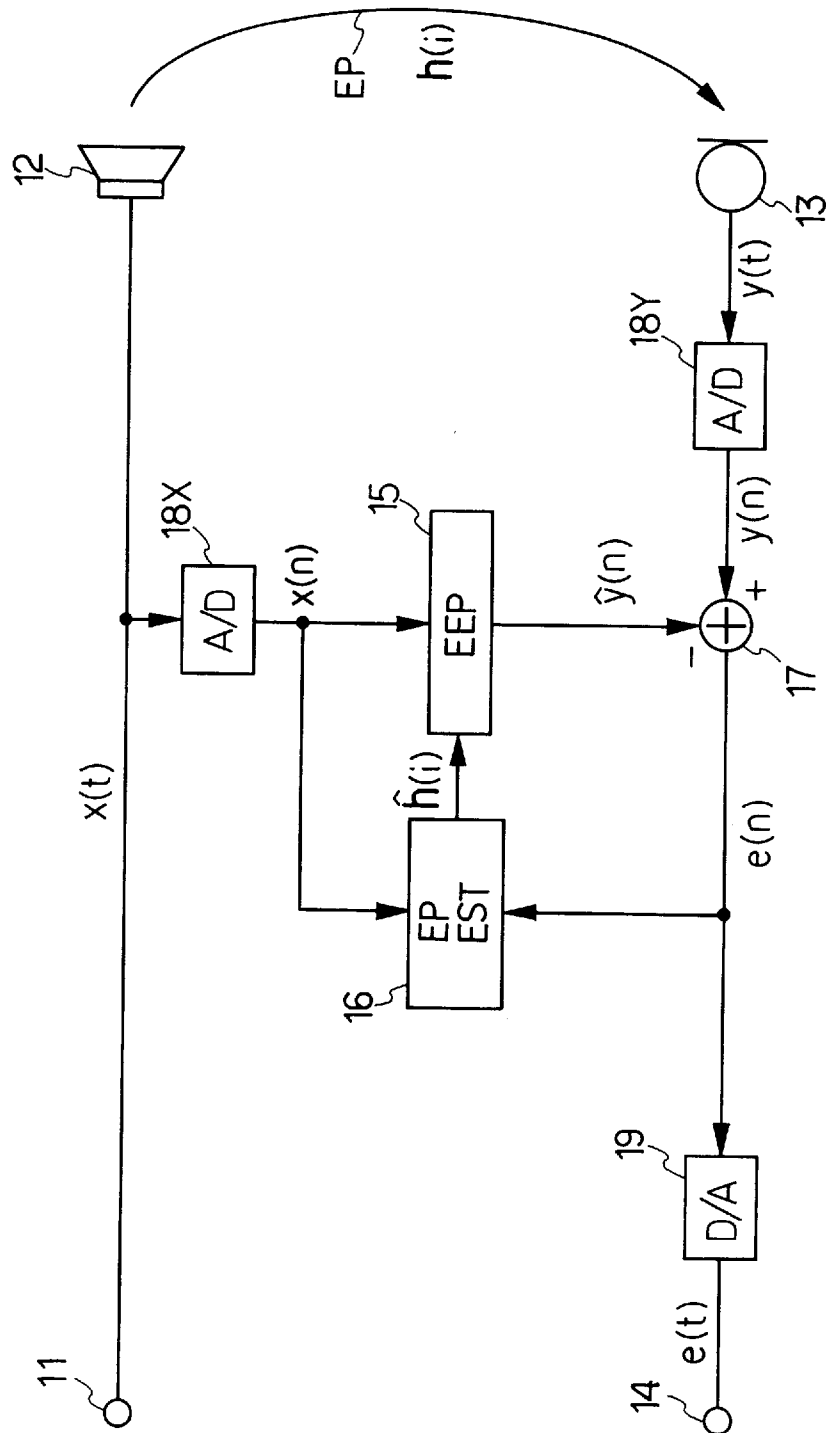
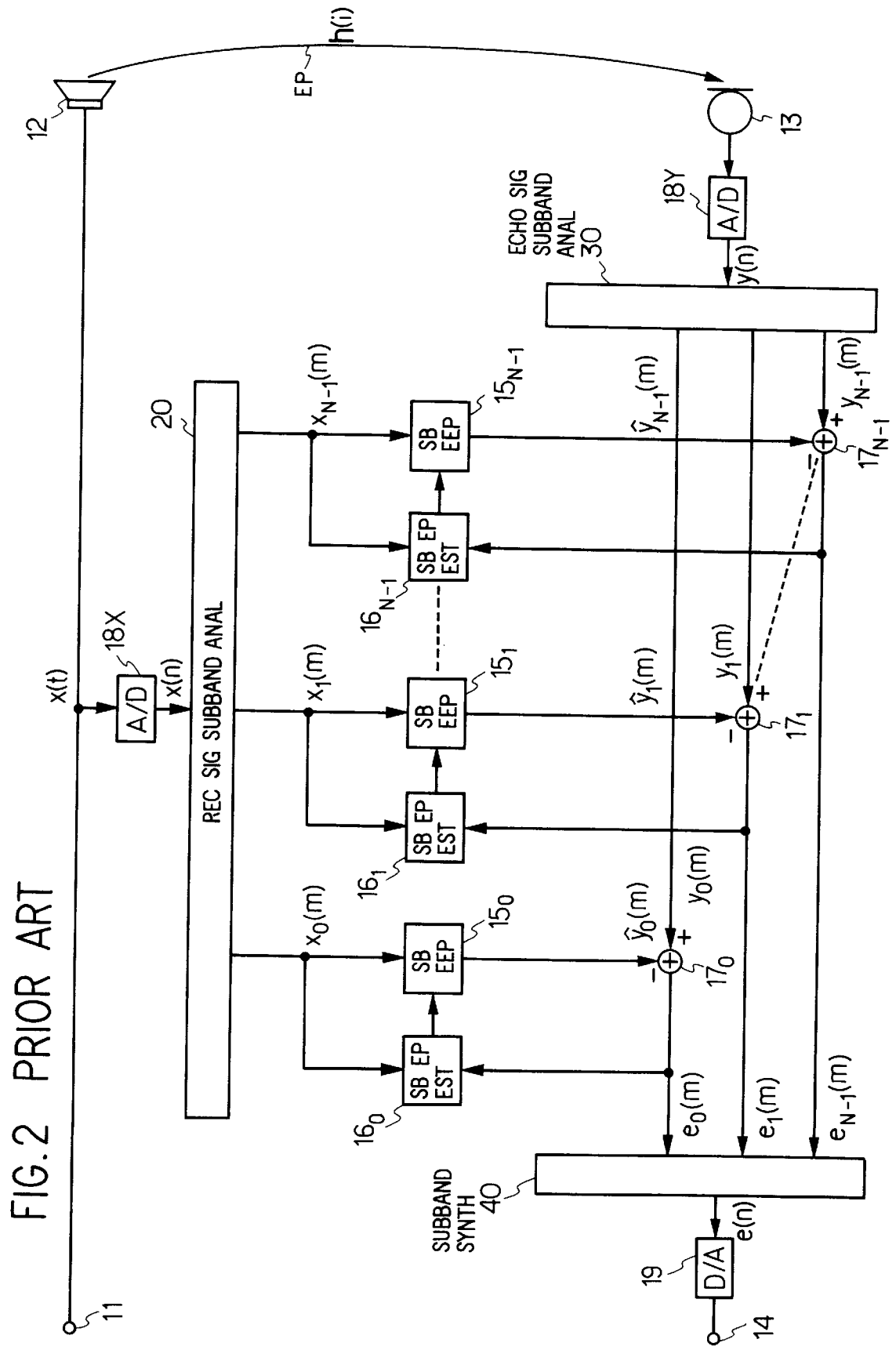**16 Claims, 21 Drawing Sheets**

FIG.1 PRIOR ART

FIG.2 PRIOR ART

FIG.3 PRIOR ART

FIG.4 PRIOR ART

DOCKET ALARM
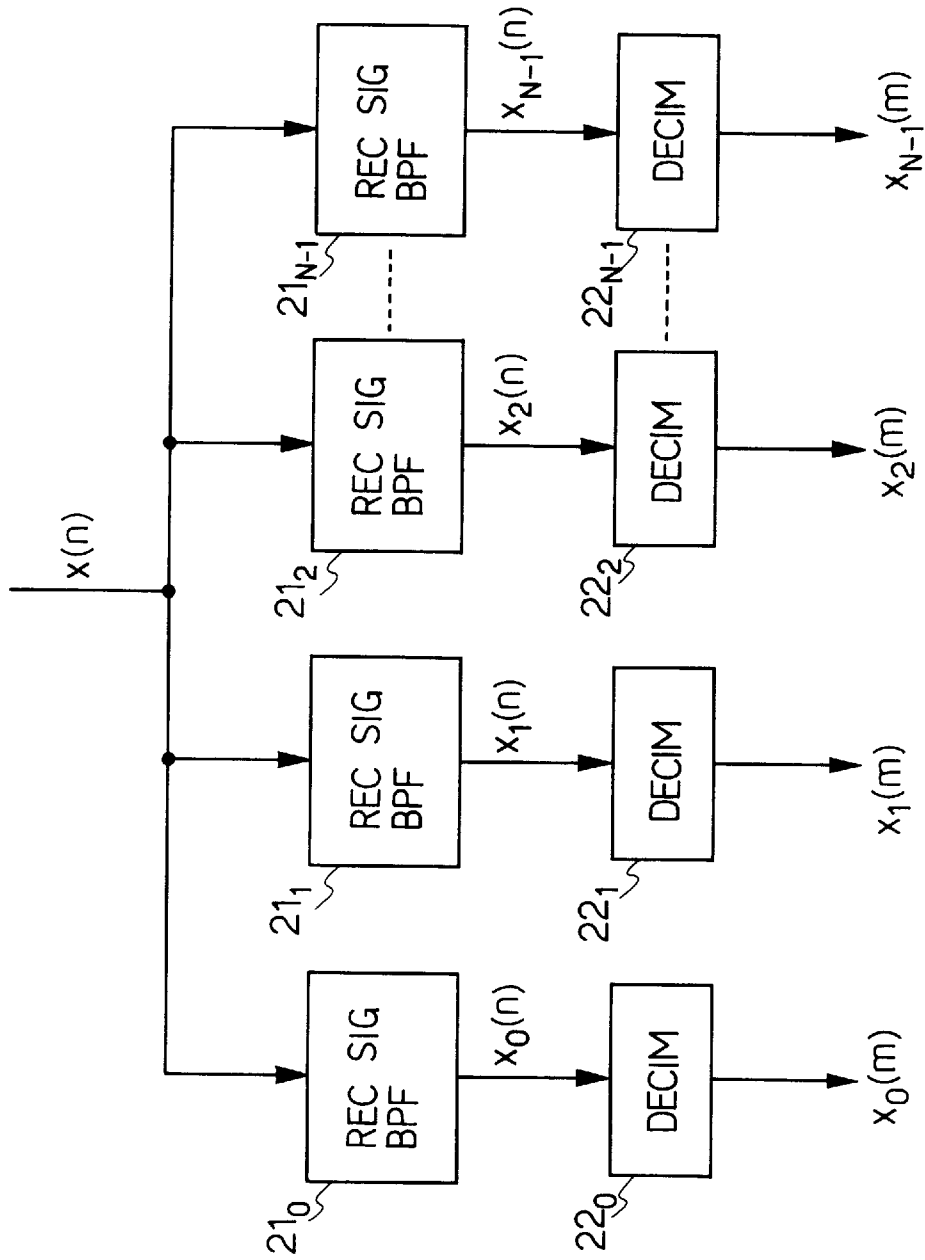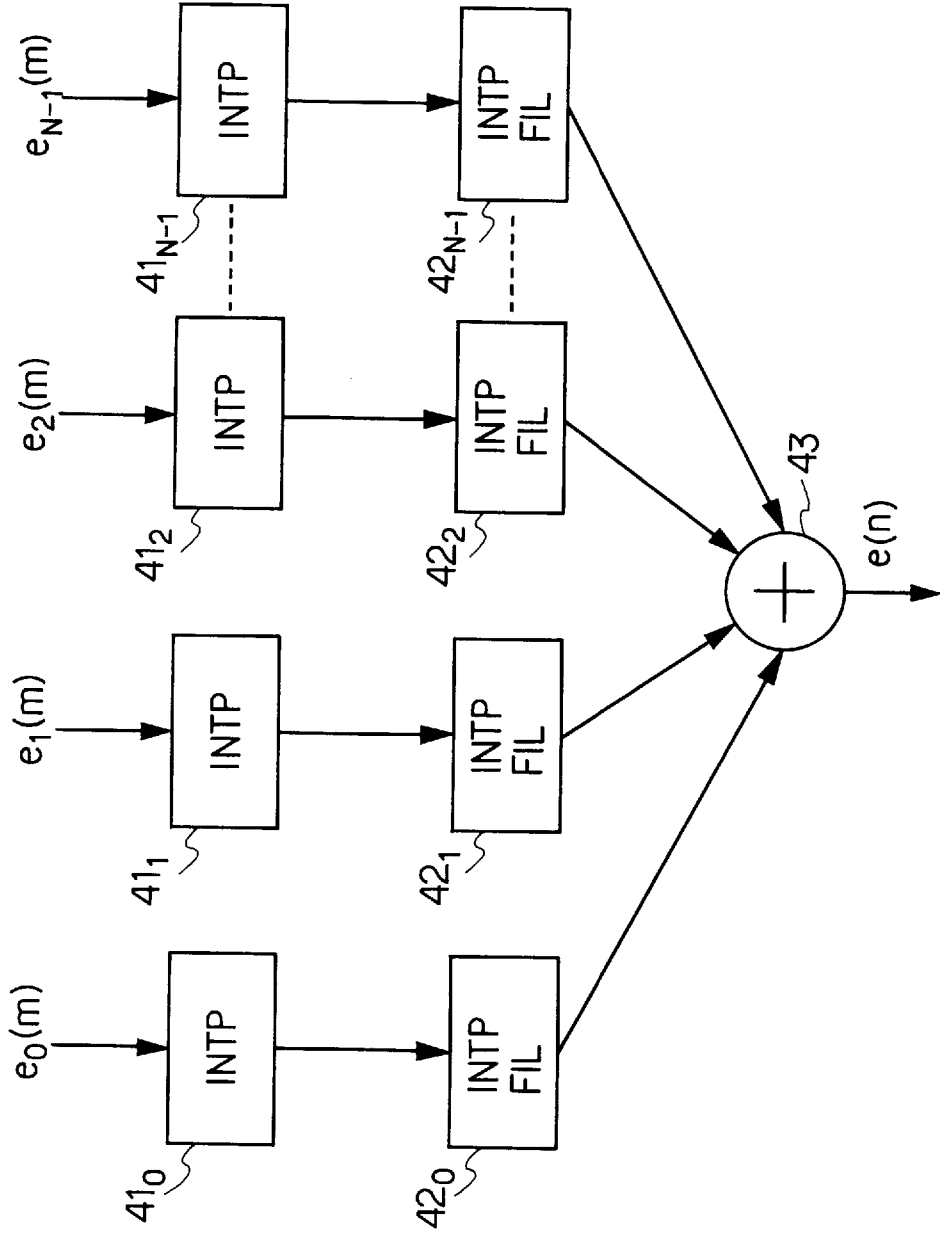
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