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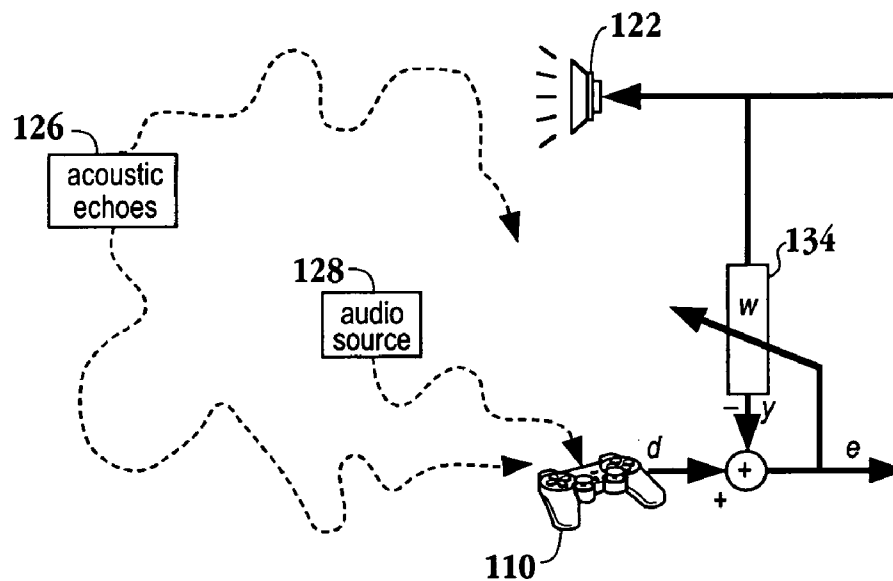
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ABSTRACT(76) Inventor: **Xiadong Mao**, Foster City, CA (US)

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SUNNYVALE, CA 94085 (US)(21) Appl. No.: **10/650,409**(22) Filed: **Aug. 27, 2003****Publication Classification**(51) **Int. Cl.⁷** **H04R 3/00; H04B 15/00**(52) **U.S. Cl.** **381/94.7; 381/92**

A method for reducing noise associated with an audio signal received through a microphone sensor array is provided. The method initiates with enhancing a target signal component of the audio signal through a first filter. Simultaneously, the target signal component is blocked by a second filter. Then, the output of the first filter and the output of the second filter are combined in a manner to reduce noise without distorting the target signal. Next, an acoustic set-up associated with the audio signal is periodically monitored. Then, a value of the first filter and a value of the second filter are both calibrated based upon the acoustic set-up. A system capable of isolating a target audio signal from multiple noise sources, a video game controller, and an integrated circuit configured to isolate a target audio signal are included.



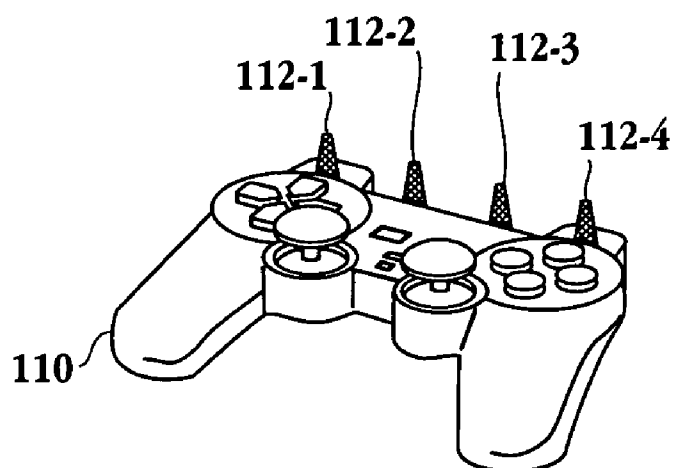


Fig. 1A

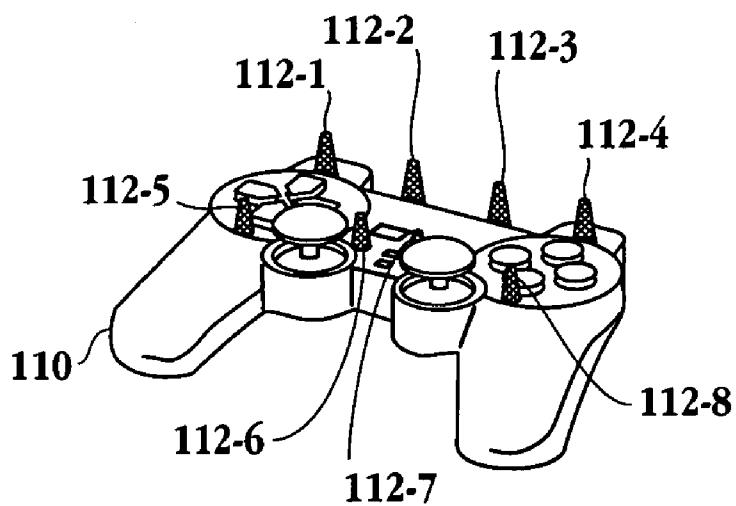


Fig. 1B

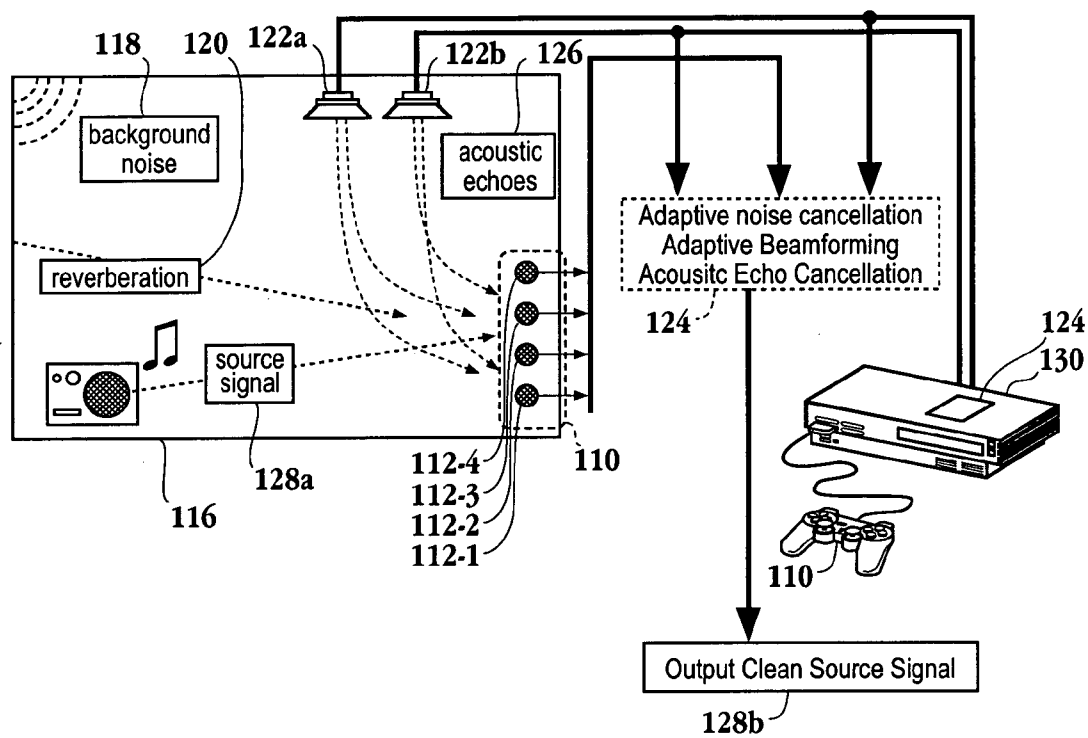


Fig. 2

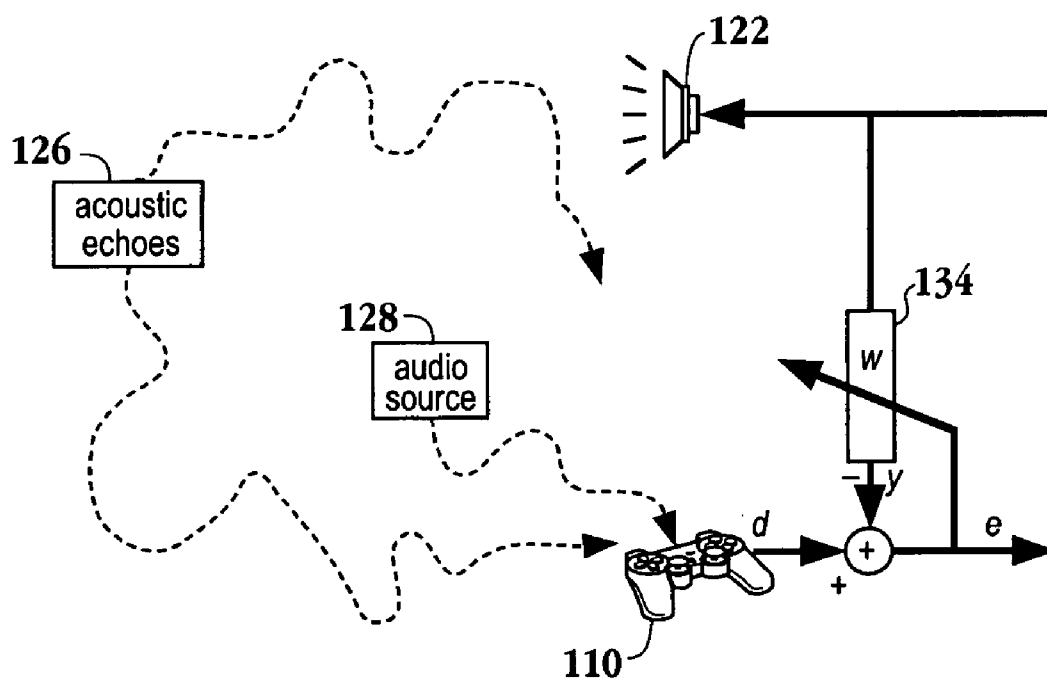


Fig. 3

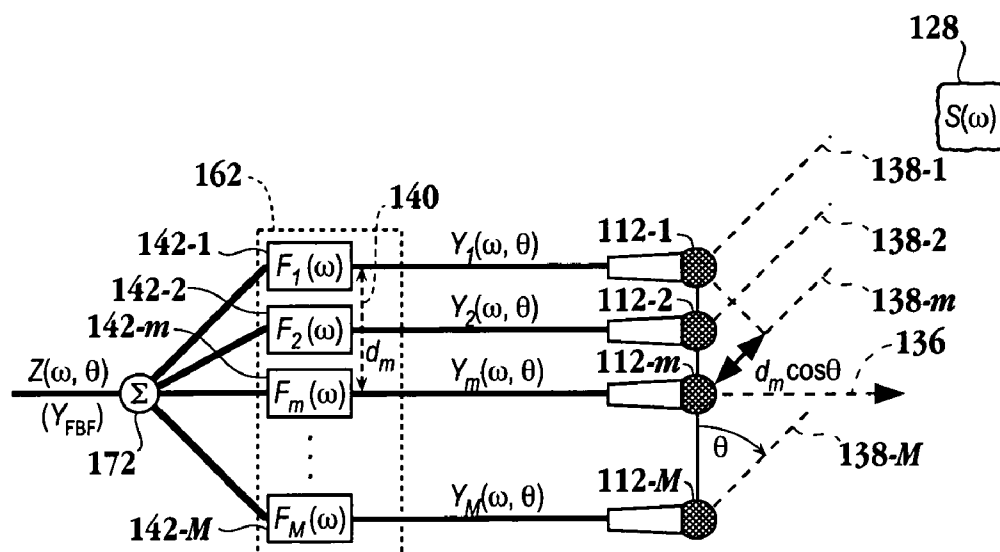


Fig. 4



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