



US008180078B2

(12) **United States Patent**
Zellner

(10) **Patent No.:** **US 8,180,078 B2**
(45) **Date of Patent:** **May 15, 2012**

(54) **SYSTEMS AND METHODS EMPLOYING
MULTIPLE INDIVIDUAL WIRELESS
EARBUDS FOR A COMMON AUDIO SOURCE**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 1187 days.

* cited by examiner

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LLC

(21) Appl. No.: **11/955,389**

(22) Filed: **Dec. 13, 2007**

(57) **ABSTRACT**

(65) **Prior Publication Data**

US 2009/0154739 A1 Jun. 18, 2009

Multiple individual wireless earbuds provide audio from a common audio source. A user may thereby enjoy audio in both ears while also benefiting from an entirely wireless configuration. The individual wireless earbuds may each receive the audio signal from the common audio source and then produce audio accordingly. Each earbud may have a channel setting to define whether a given earbud will produce left channel or right channel audio for a multi-channel audio signal. The individual wireless earbuds may alternatively have a master-slave configuration where a master earbud receives a wireless audio signal from the common source, plays audio based on the audio signal, and transmits a wireless signal based on the wireless audio signal to the slave earbud. The slave earbud then plays audio based on the wireless signal from the master earbud.

(51) **Int. Cl.**
H04R 5/033 (2006.01)

(52) **U.S. Cl.** **381/311**; 381/309

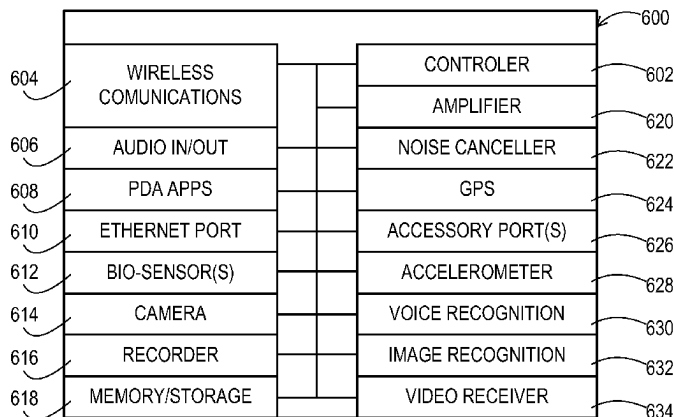
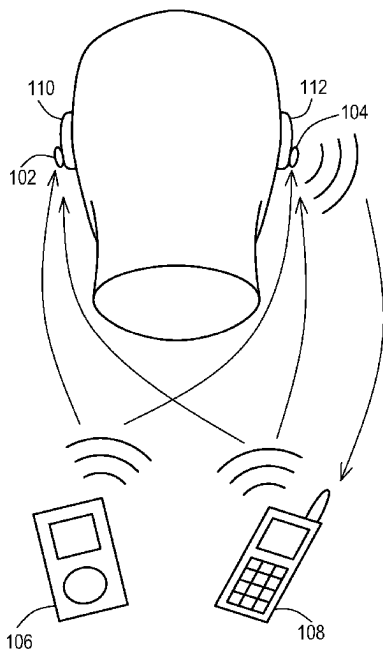
(58) **Field of Classification Search** 381/74,
381/80, 81, 311, 330, 384, 309
See application file for complete search history.

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20 Claims, 5 Drawing Sheets



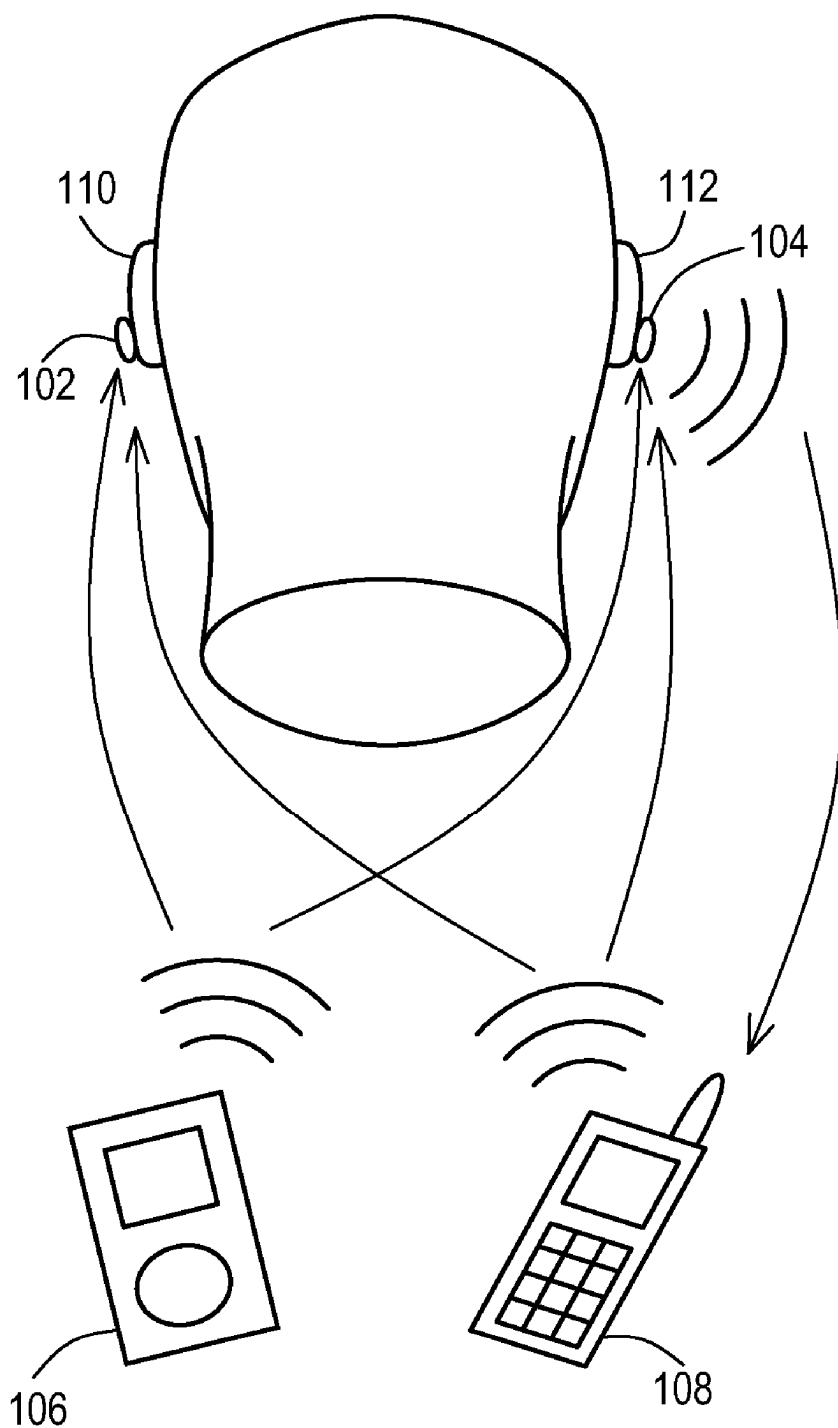


FIG. 1

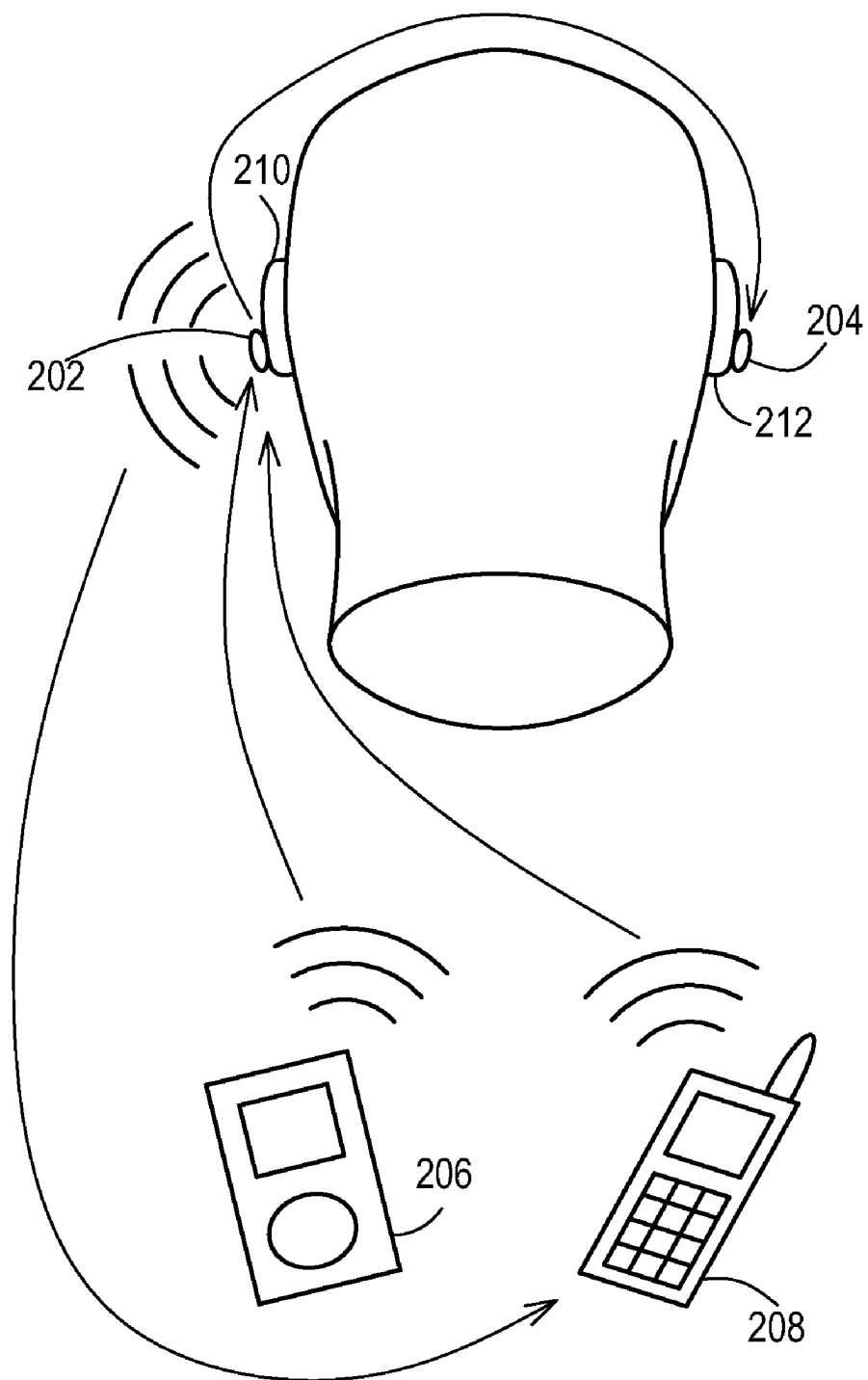


FIG. 2

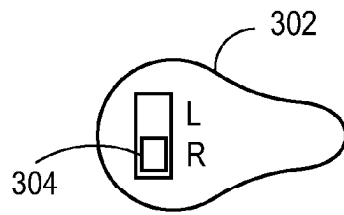


FIG. 3A

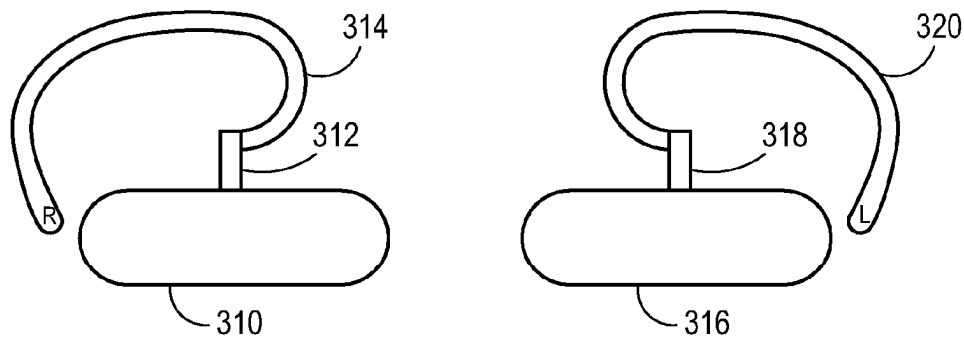


FIG. 3B

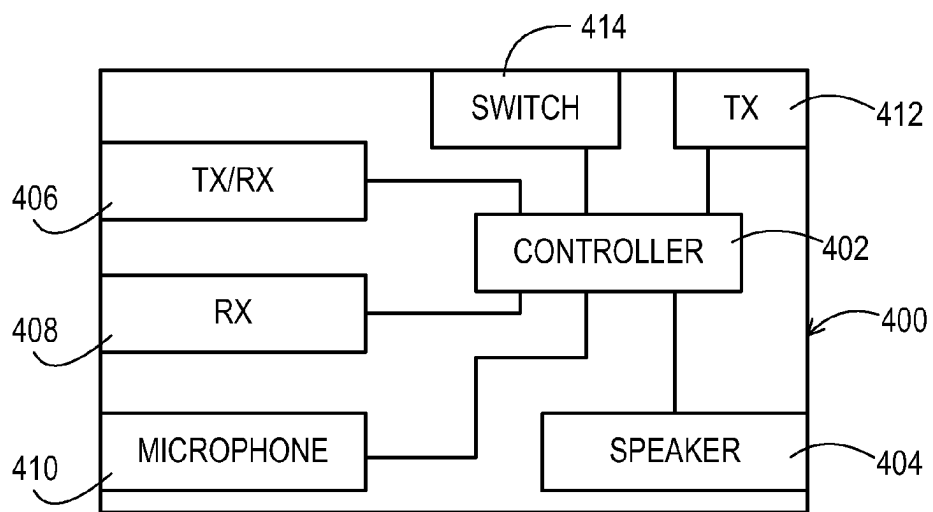


FIG. 4

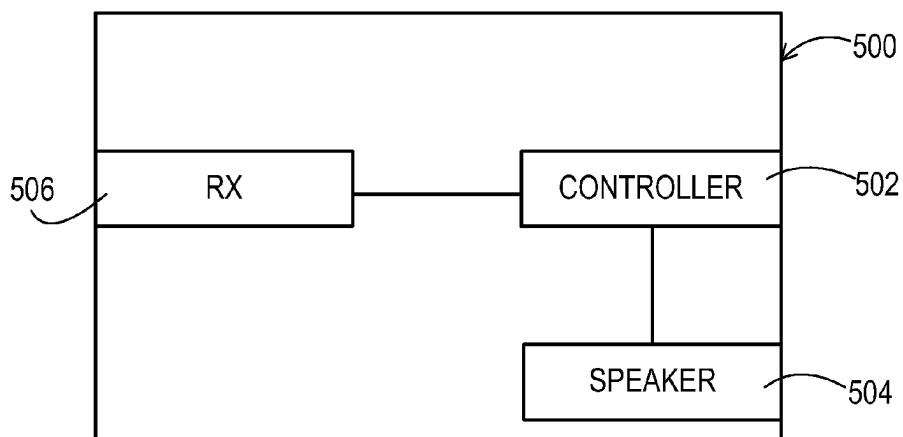


FIG. 5

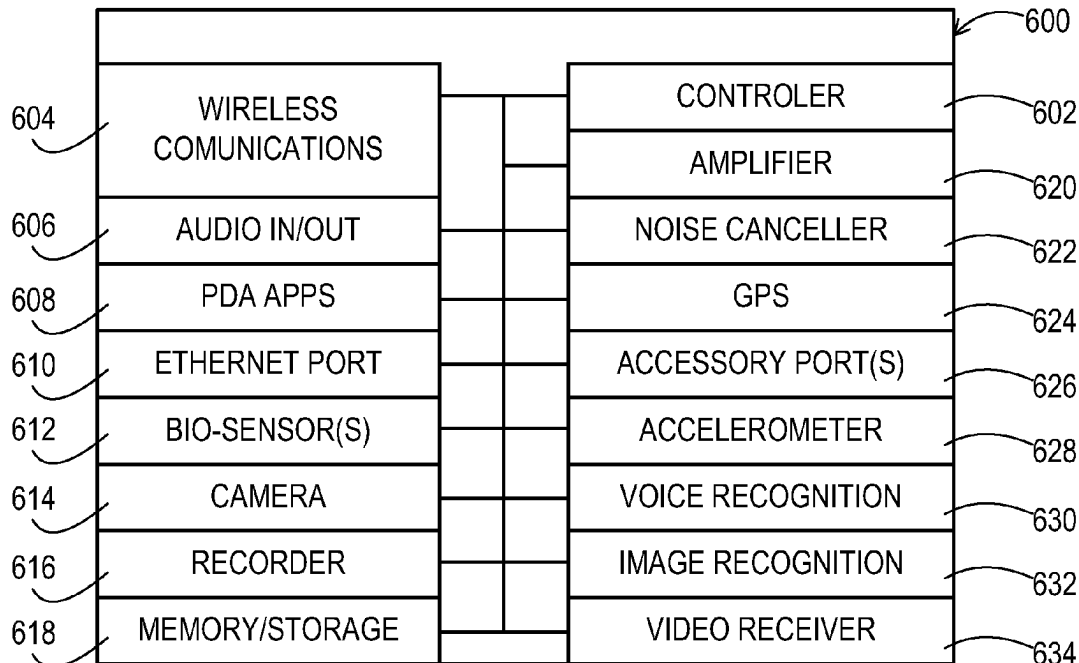


FIG. 6

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