



US 20050058313A1

(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.: US 2005/0058313 A1**
Victorian et al. (43) **Pub. Date: Mar. 17, 2005**

(54) **EXTERNAL EAR CANAL VOICE DETECTION**

(76) Inventors: **Thomas A. Victorian**, Plymouth, MN (US); **David A. Preves**, Chanhassen, MN (US); **J. Virgil Bradley**, Plymouth, MN (US)

Correspondence Address:
Schwegman, Lundberg, Woessner & Kluth, P.A.
P.O. Box 2938
Minneapolis, MN 55402 (US)

(21) Appl. No.: **10/660,454**

(22) Filed: **Sep. 11, 2003**

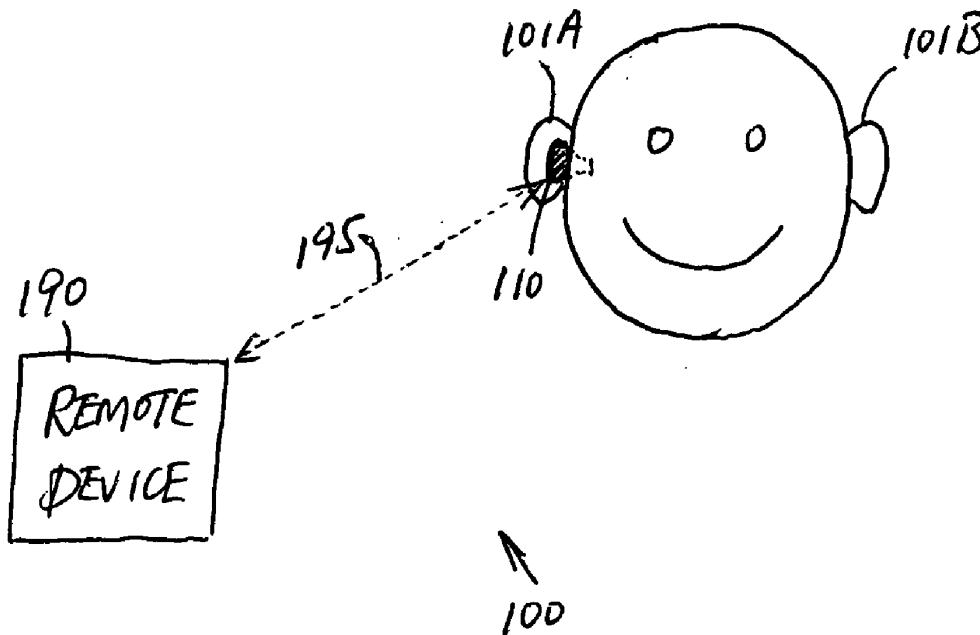
Publication Classification

(51) **Int. Cl.⁷** **H04R 3/00; H03G 3/20**

(52) **U.S. Cl.** **381/315; 381/328**

(57) **ABSTRACT**

Ear-level full duplex audio communication systems each include one or two ear attachment devices, such as in-the-ear (ITE) or behind-the-ear (BTE) devices, that wirelessly communicates to a remote device such as a computer, a personal digital assistant (PDA), a cellular phone, a walkie talkie, or a language translator. When used as a hearing aid, such a system allows a hearing impaired individual to communicate with or through the remote device, such as to talk to another person through a cellular phone. When being used as an ear piece wirelessly extended from the remote device, such system allows an individual with normal hearing to privately communicate with or through the remote device without the need of holding the device or wearing any device wired to the remote device. Each ear attachment device includes a voice operated exchange (VOX), housed within the device, to preserve energy and hence, maximize the period between battery replacement or recharges. The VOX also gates various sounds detected by the system to control possible echoes and ringing.



Bose Exhibit 1043

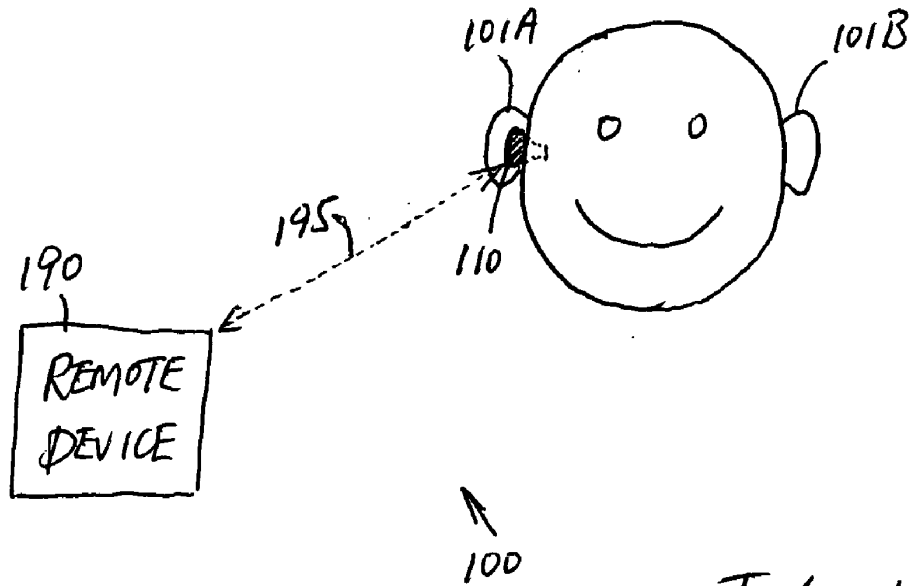


FIG. 1

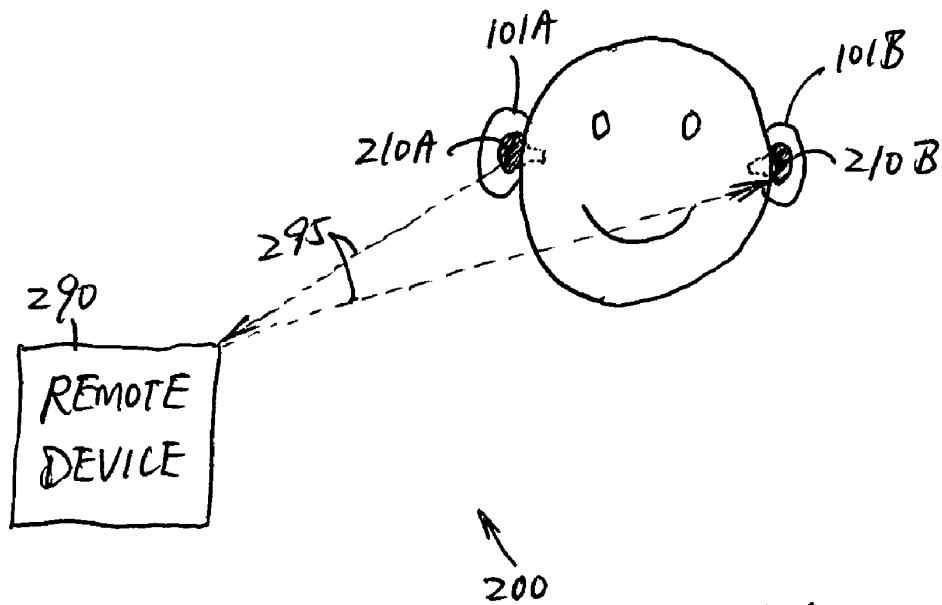


FIG. 2

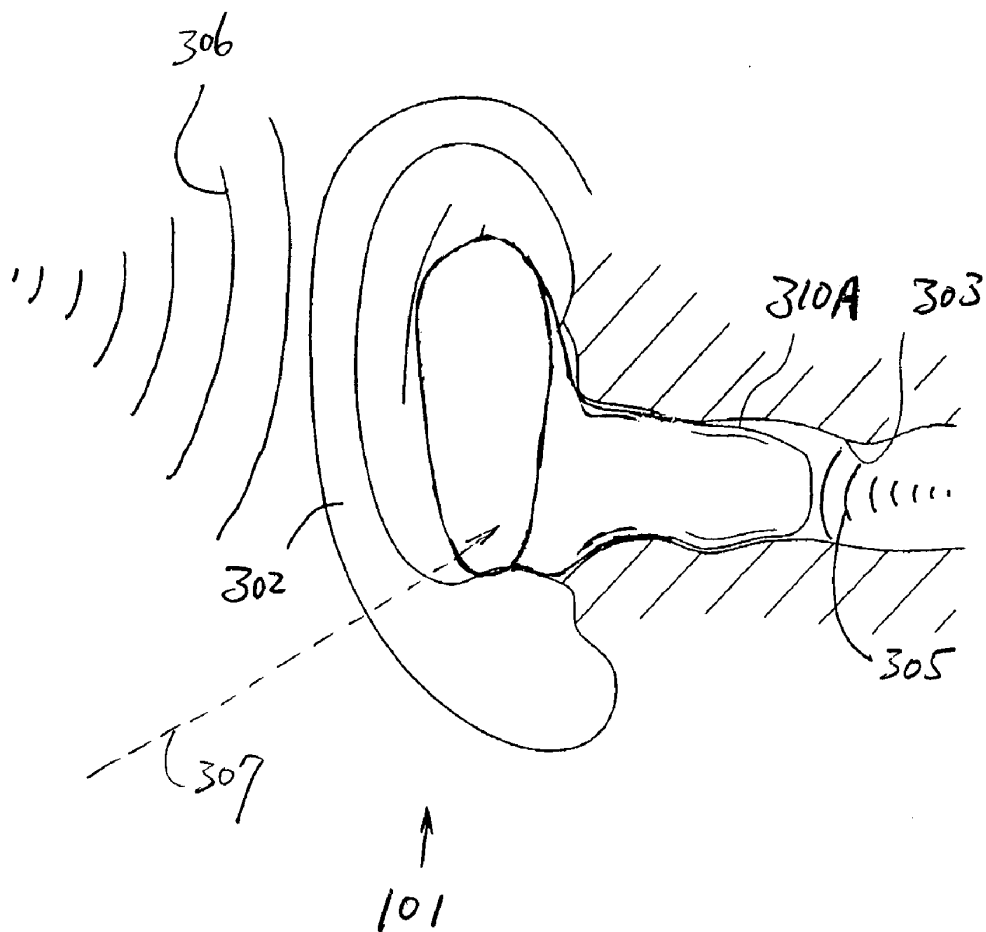


FIG. 3A

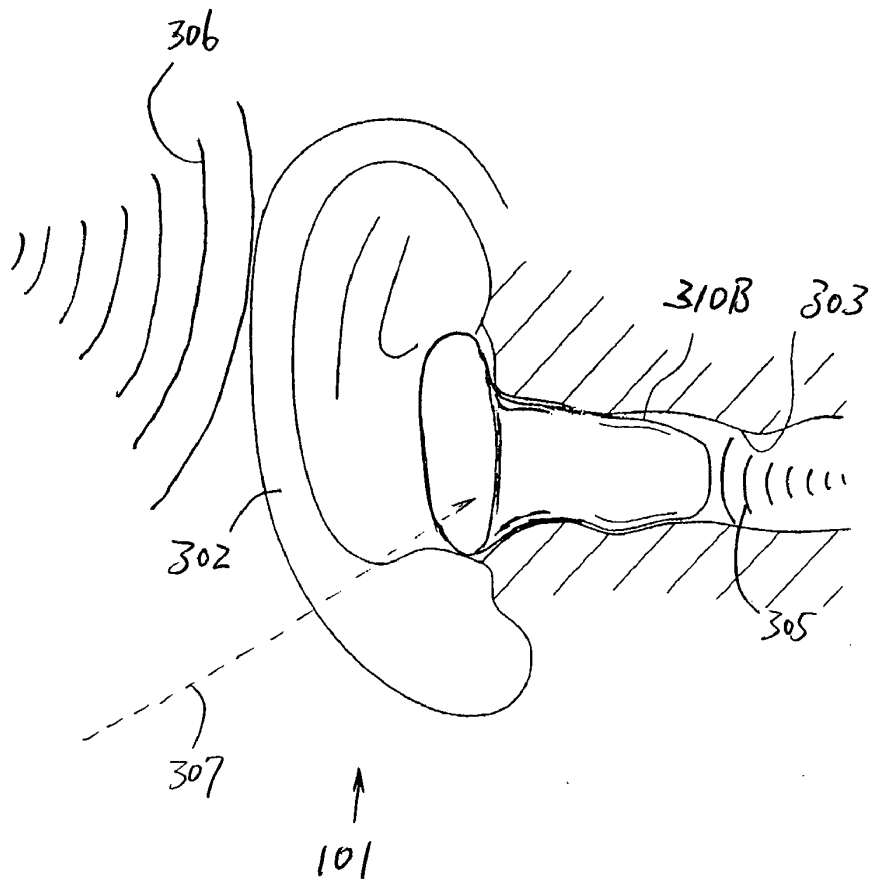


FIG. 3B

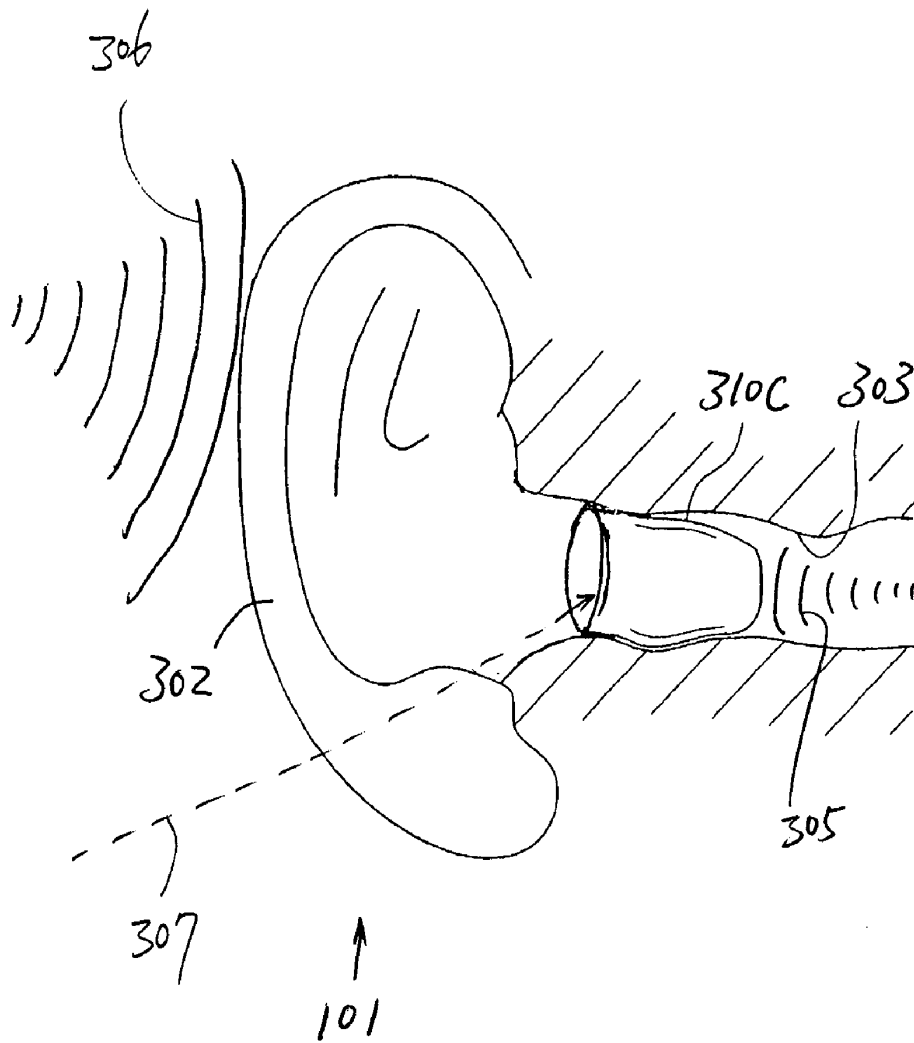


FIG. 3C

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.