

(12) **United States Patent**  
**Bren et al.**

(10) **Patent No.:** **US 7,447,325 B2**  
(45) **Date of Patent:** **\*Nov. 4, 2008**

(54) **SYSTEM AND METHOD FOR SELECTIVELY COUPLING HEARING AIDS TO ELECTROMAGNETIC SIGNALS**

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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 713 days.

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This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **10/243,412**

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(22) Filed: **Sep. 12, 2002**

(57) **ABSTRACT**

(65) **Prior Publication Data**

US 2004/0052391 A1 Mar. 18, 2004

(51) **Int. Cl.**  
**H04R 25/00** (2006.01)

(52) **U.S. Cl.** ..... **381/331; 381/312; 381/315**

(58) **Field of Classification Search** ..... **381/312, 381/314-315, 324, 327-328, 331, 23.1**

See application file for complete search history.

Systems, devices and methods are provided for selectively coupling hearing aids to electromagnetic fields. One aspect relates to a hearing aid device. In various embodiments, the hearing aid device includes an induction signal receiver for receiving induction signals, a microphone system for receiving acoustic signals, a hearing aid receiver, and a signal processing circuit. The signal processing circuit includes a proximity sensor for detecting an induction source. The signal processing circuit presents a first signal to the hearing aid receiver that is representative of the acoustic signals. When the induction source is detected, the signal processing circuit presents a second signal to the hearing aid receiver that is representative of the induction signals and transmits a third signal representative of the induction signals from the hearing aid device to a second hearing aid device. Other aspects are provided herein.

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**51 Claims, 12 Drawing Sheets**

