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(54) **Title**: SYNCHRONIZING WIRELESS EARPHONES

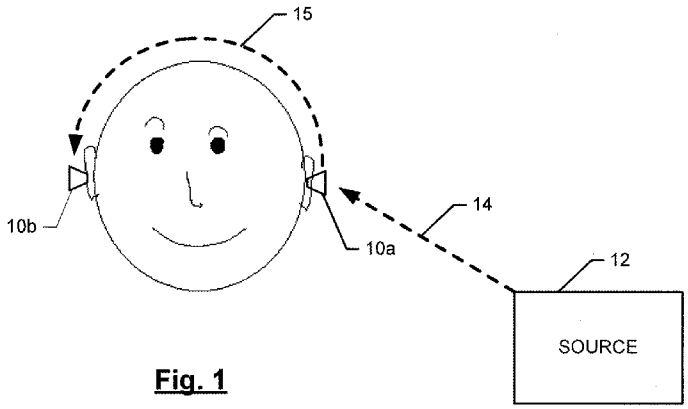

Fig. 1

(57) **Abstract**: Electroacoustical speaker devices that synchronously play audio received from a source. In one embodiment, one speaker acts as the master and the other speaker acts as the slave. The master speaker receives digital audio data from a source and, in addition to playing the digital audio received from the source, the master speaker retransmits the digital audio to the slave speaker. The master speaker additionally sends synchronization data to the slave speaker, such as data that indicates the buffer status or playback position of the master speaker. The slave speaker utilizes the synchronization data from the master speaker to adjust, for example, its buffer status or playback position, so that the two speakers play the audio synchronously (e.g., within thirty milliseconds). In one embodiment, the master speaker uses a connection-oriented protocol, such as TCP/IP, to transmit buffered audio data to the slave speaker and uses a connectionless protocol, such as UDP or ICMP, for the synchronization data. In addition, the speakers may transition roles as master and slave.

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