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(54) **TWO-WIRE INTERFACE FOR DIGITAL MICROPHONES**

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(57) **ABSTRACT**

(51) **Int. Cl.**⁷ **H04R 3/00**
(52) **U.S. Cl.** **381/111**; 381/113; 381/122
(58) **Field of Search** 381/111, 112,
381/113, 114, 91, 92, 122, 174, 190, 191;
398/132, 133

A two-wire interface for a digital microphone circuit includes a power line and a ground line. The interface utilizes the ground line as a "voltage active line" to transmit both clock and data signals between the digital microphone circuit and a receiving circuit. The digital microphone circuit detects the clock signal on the voltage active line and uses the detected clock signal to operate an ADC to provide digital data. The digital data is used to selectively drive current back to the receiving circuit over the voltage active line. The receiving circuit detects the transmitted data by monitoring the voltage associated with a line termination. The impedance associated with the line termination is switched by the receiver circuit to modulate the clock signal on the voltage active line.

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20 Claims, 9 Drawing Sheets



