ADMP401 MEMS Microphone Breakout Board

Ready to add sound detection to your next project? This small breakout board from SparkFun couples a tiny microelectromechanical system (MEMS) microphone with a 67x gain external amplifying circuit, converting sound into analog voltage signals that can be measured by a microcontroller's analog-to-digital converter (ADC). The unit comes fully assembled as shown and works from 1.5 to 3.3 V.

Overview

This tiny microphone board from SparkFun is a carrier for Analog Device's ADMP401 Omnidirectional Microphone with Bottom Port and Analog Output. Therefore, careful reading of the the ADMP401 datasheet (179k pdf) is recommended. The board includes an amplifying circuit with a gain of 67 that matches the bandwidth requirements of the ADMP401. The amplifier's AUD output will float at one half Vcc when no sound is being picked up, and the amplifier produces a peak-to-peak output of about 200mV when the microphone is held at arms length and is being talked into at normal conversational volume levels. The convenient output voltage range of AUD means it can be directly connected to the ADC of a typical microcontroller.

The ADMP401 is a bottom port microphone, which allows the microphone to be mounted flush against the outside wall of an enclosure. The breakout board pins have a 0.1" pitch, making the board compatible with standard 0.1" protoboards, breadboards, 0.1" male headers, and 0.1" female headers.

Features

- -3dB roll off at 100Hz and 15kHz
- 1.5 to 3.3VDC supply voltage
- Should comfortably output 40mW
- Signal to noise ratio (SNR) of -62dBA

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