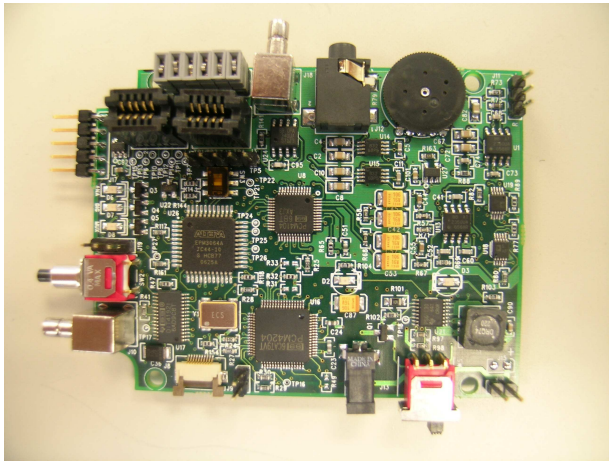


# AKU-EP1

## Digital Output Microphone Evaluation Board

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### Overview

The AKU-EP1 Rev2 evaluation board (Eval Board) is a stand alone platform that can be used for both quick and convenient performance verification, as well as for portable demonstrations of Akustica digital-output microphones. With the option of analog or digital data output formats, the Eval Board interfaces easily to standard audio test equipment. An on-board oscillator provides a standard Direct Stream Digital (DSD®) clock (2.8224 MHz). In addition, the Eval Board utilizes two coupon board sockets to interface to Akustica digital-output microphone samples in single or multiplexed modes of operation.

The three digital output formats supported by the Eval Board are:

- Buffered pulse-density-modulated (PDM) digital-output from the digital-microphone output
- Pulse-code-modulated (PCM) digital-output generated by the on-board 24-bit converter
- AES3 output for direct connection to an Audio Precision® analyzer

Analog line out (pin header and SMB jack) and a headphone jack with volume control are also provided.

### Measuring Acoustic Performance

The Eval Board can be used for precise acoustic performance verification of an Akustica digital microphone. A typical acoustic test involves placing an acoustic pressure source in front of the sample coupon connected to the board. In this configuration, the output of the device under test can be observed in any of three output formats. The following describes the various digital outputs supported by the Eval Board.

### Interface Specification

#### AES3 Output

- Reformat PCM signal to AES3
- 24-bit resolution with 44.1 kHz sampling rate
- SMB – 50 Ohm jack

#### PDM Output

- Buffered output of digital microphone
- Buffered clock output

#### PCM Output

- PCM conversion of PDM signal
- 24-bit resolution with 44.1 kHz sampling rate
- Pin header interface
- Full scale = 75% 1's density PDM

#### Power Specifications

- DC Input: 3V min to 5V max, 500mA

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