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## Description

The KAS-33100-001 evaluation kit allows for simple and easy evaluation of SiSonic™ MEMS microphones. This evaluation system can be used to evaluate up to two channels of audio for Digital (Page 6) MEMS microphones along with one channel of audio for Analog MEMS microphones (Page 8). One DAC PCB board, three Adapter PCBs, and ten Mic-On-Flex Assemblies are included in the evaluation kit. The power supply (AC Adapter) and headset are purchased separately.

## Digital to Analog Converter (DAC) PCB

The intended use is for the evaluation and test of the Knowles Electronics line of MEMS Digital PDM (Pulse Density Modulation) microphones.

**This board is designed to support R&D activities, and is not intended for qualification or production test use.**

The DAC PCB provides the interface circuitry for two digital microphones. Power is provided via a standard 2.5mm power jack. A 3.5mm stereo headphone jack is available for quick verification of audio output.

**Note: Please reference Knowles Application Note – MEMS Digital Microphone Evaluation Board: SP-703 for more information.**

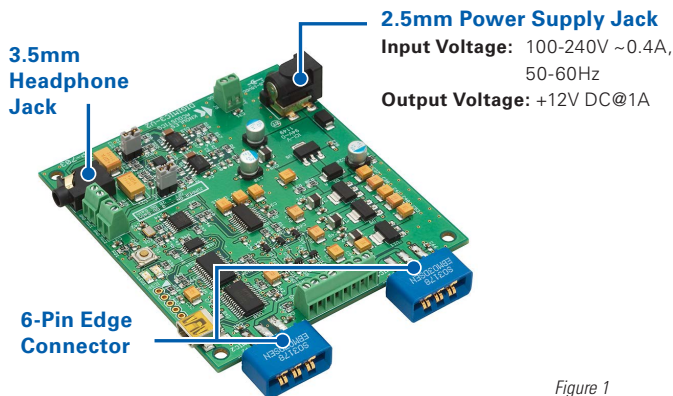


Figure 1

## Digital & Analog Adapter PCBs

- The digital and analog adapters are for both analog and digital microphones.

**Note: See the product datasheet for specifications:**

[http://www.knowles.com/search/product.htm?x\\_sub\\_cat\\_id=3](http://www.knowles.com/search/product.htm?x_sub_cat_id=3)

- Analog microphones will need to be powered and connected externally.  
(See Page 8)

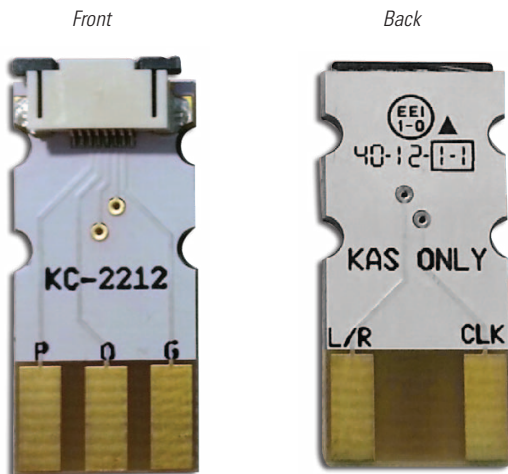


Figure 2

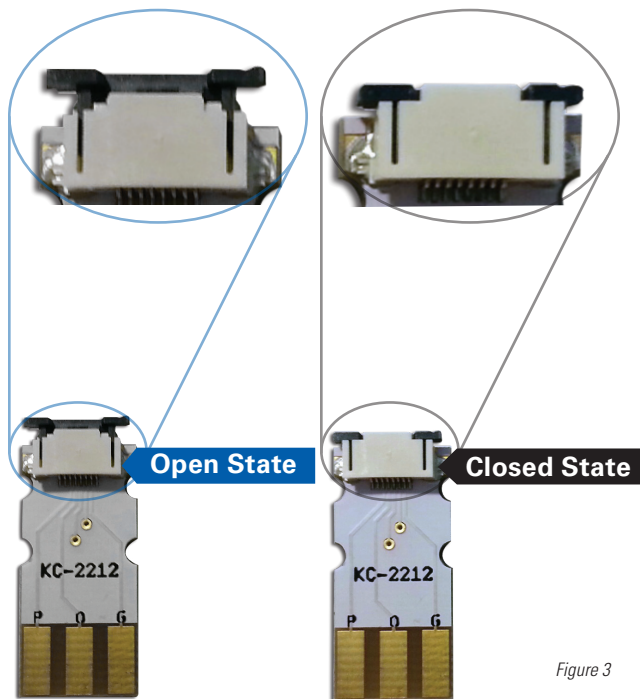


Figure 3

## Digital FLEX PCBs

### Digital Models (2 each)

- 1.SPK0833LM4H
- 2.SPM1423HM4H



**Table 1.**

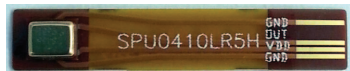
**Digital Pin Function Descriptions**

Symbol	Description
GND	Ground
SEL	Select
CLK	Clock
DAT	Data
VDD	Power
GND	Ground

## Analog FLEX PCBs

### Analog Models (2 each)

- 3.SPQ0410HR5H
- 4.SPA2410LR5H
- 5.SPU0410LR5H



**Table 2.**

**Analog Pin Function Descriptions**

Symbol	Description
GND	Ground
OUT	Output
VDD	Power
GND	Ground

### Installation Steps (Digital)

To listen to the output of the Mic-On-Flex Assemblies with a headset, follow the steps below.

1. Connect one digital FLEX PCB Assembly to an Adapter PCB. The edge connectors must be visible. (Figure 4)

**Note: The FLEX PCBs must be inserted when the Adapter PCBs are in the “open” orientation (Figure 3, Page 4).**

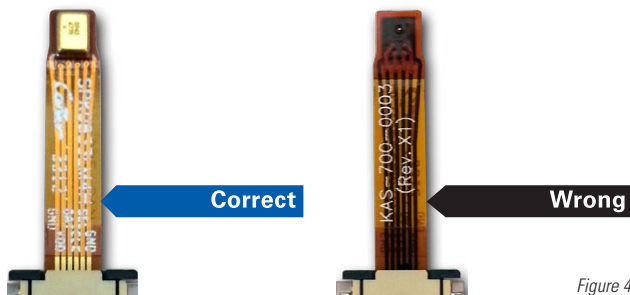


Figure 4

2. Connect at least one Adapter PCB to the 6-pin edge connector.  
For mono use, either of the two 6-pin edge connectors can be used. (Figure 1).

**Note: DAC PCB can only be used with digital microphones. Analog microphones will not operate.**

3. Insert a power supply plug jack (not included) into to the DAC PCB (Figure 1).

- a. Input Voltage: 100-240V ~0.4A, 50-60Hz  
b. Output Voltage: +12V DC@1A

Mono



Stereo

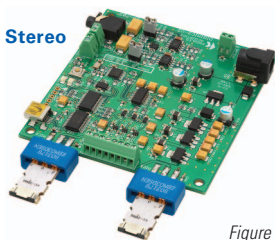
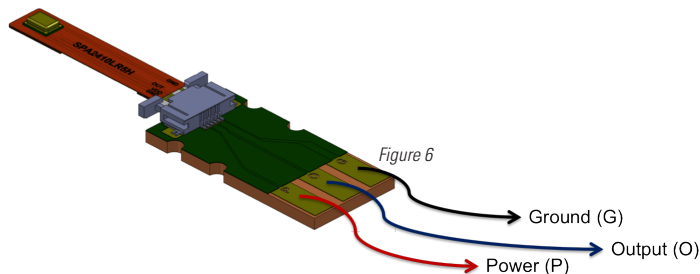


Figure 5

### Installation Steps (Analog)

To access the output of the Mic-On-Flex Assemblies, follow the steps below.

1. Connect one of the three Analog FLEX PCB Assemblies to an Adapter PCB (Figure 4).
2. Solder wires to Power (P), Output (O) and Ground (G) Pins of the Adapter PCB (Figure 6). The output of the microphone is mic level. An amplifier will be needed to bring to line level.
3. Connect the soldered wires to the appropriate equipment. See the product datasheet for specifications: [www.knowles.com/search/product.htm?x\\_sub\\_cat\\_id=3](http://www.knowles.com/search/product.htm?x_sub_cat_id=3)



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