



Digital Audio Data Interface

The PIO-9216

The Portland Tool & Die PIO-9216 programmable serial audio data interface provides a simple and direct connection between circuit board components such DSP's, DAC's, ADC's, CODECS, etc. and your SoundCheck® system.



PIO-9216 Digital Audio Data Interface

Introduction

The Portland Tool & Die PIO-9216 programmable serial audio data interface provides a simple and direct connection between circuit board components such DSP's, DAC's, ADC's, CODECS, etc. and your audio test system. This enables accurate testing of devices that use the I2S, Left Justified, Right Justified and TDM audio data formats. This capability is valuable in the R&D lab for evaluating and de-bugging circuit board designs, and is also common on the production line, for example, for testing / QC of circuit boards before installation into a device. The PIO-9216 works with any audio test system and can be computer controlled from within SoundCheck or via an external program.

Operation

The PIO-9216 interfaces to digital systems with 8 to 24 bit audio samples and from 4 to 216 kHz sample rates and it supports one or two channels. The decoded audio is available for direct interface to a computer over a universally compatible USB audio interface or via SPDIF. The USB interface utilizes a pure digital sample rate converter to allow universal computer access to devices with unusual sample

rates and bit depths while the SPDIF interface can be set to either pass the audio through directly or sample rate convert it.

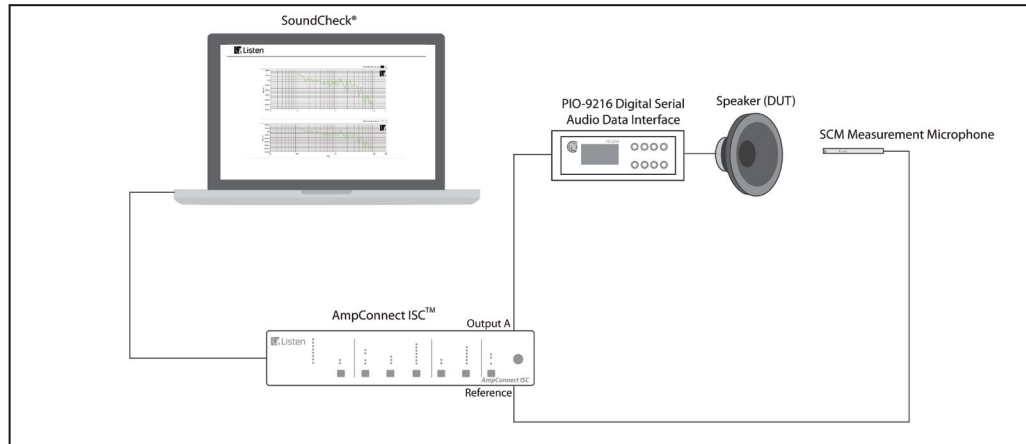
The programmable serial port offers discrete master, bit, and frame clocks. The master clock can operate at up to 50 MHz and can be generated or received. The bit and frame clocks are source synchronous and can also be generated or received. The alignment of data inside the data frame, the size of the data frame and NxFS ratio of the master clock are all independently programmable.

The data terminal, which uses 50 Ohm BNC connectors, is bidirectional and can be set to transmit or receive data. Each input/output connector is buffered and reflected on a dedicated monitor interface which allows an oscilloscope to monitor or sniff the signals without loading the circuit under test. The flexibility of the interface allows the instrument to interface to nearly any digital audio IC.

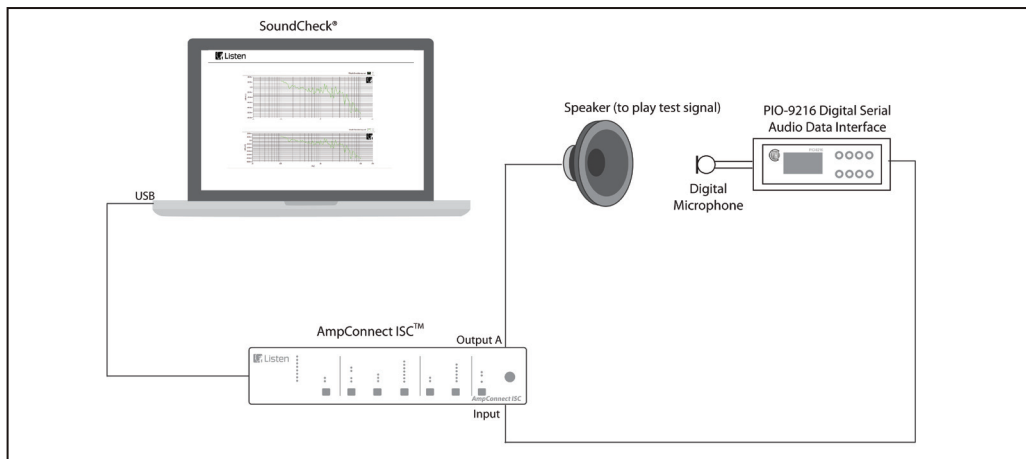
Digital Audio Data Interface (cont.)

Setup Diagrams

Digital Speaker



Digital Microphone



Specifications

Master Clock

Direction: In or Out
 Range: 0.08 to 50 MHz
 NxFS: 8 to 12,500
 Vin/out: 1.2 to 5.5 V

Bit/Frame Clock

Direction: In or Out
 FS Range: 4 to 216 kHz
 Bit Range: 128 kHz to 6.912 MHz
 Frame width: 8 to 32 bits
 Word width: 8 to 24 bits
 Vin/out: 1.2 to 5.5 V

Data Terminal

Direction: In or Out
 Channels: Mono or Stereo

Justification: Left or Right
 Offset: 0 to 7 bits relative to start of frame
 Vin/out: 1.2 to 5.5 V

Host Interface

USB Audio
 24 bit, 48 kHz sample rate
 SPDIF/AES Digital Audio
 - 22 to 192 kHz in bit exact mode
 - 48 kHz via sample rate conversion

Physical

Dimensions: 86mm (H) x 271mm (W) x 211mm (D)
 Weight: 1.6 kg
 Power requirement: 12 VDC, 24W power input (Supplied with universal 100 to 240 VAC, 50 to 60 Hz power supply)

NOTE: Specifications are subject to change. Please contact Listen for current information or questions.