Specifications

The shield itself conforms to Raspberry Pi's Hardware Attached on Top (HAT) specifications and connects to Pi via the 40-pin header. The shield is slightly bigger in length (56x100 mm) than RPi itself. It has two female DIN-5 connectors for MIDI in/out and two ¼" (6.35mm) stereo jack connectors for stereo audio in/out. There are two pots for gain and volume control, a programmable button and MIDI activity and input clip LEDs.

Audio

Parameter	Conditions	Value
Input/Output Coupling	-	AC and DC respectively
Input/Output Channels	-	2 / 2 (Left and Right)
Input/Output Type	-	¼" (6.35mm) Stereo
Input/Output Resolution	-	24bit
Sampling Frequency (Fs)	-	48kHz, 96kHz, 192kHz
Input/Output SNR@1kHz	G = 0 dB	110dB
Input Impedance	-	100kOhm || 2pF
Input Gain (G)	-	0dB to +40dB
Input Clip LED	-	Yes
Input Clip Voltage	G = 0 dB	2.5V (peak to peak)
Full Scale Output	Load impedance > 1 kOhm	0V to 2.1V (RMS)
Loopback Bandwidth (-3 dB)	G = 0 dB, Fs = 48 kHz	7.5Hz - 23kHz
Loopback THD@1kHz	G = 0 dB, Fs = 48 kHz	< 0.045%
Loopback Latency	Fs = 192 kHz, RPi2, buffer size = 128 frames	2.092ms
Phantom Power	-	None

MIDI

Parameter	Value
Input/Output connectors	DIN-5 female sockets
MIDI loopback latency	2.105ms
Activity LEDs	Input & Output

Other

Parameter	Value
Current Draw	< 300mA @ 5.1VDC
Dimensions	56mm x 100mm
Weight	67g

Power Supply

There are two versions of Pisound regarding power supply:

- **5.1V version (latest):** Pisound powers up from Raspberry Pi's power supply via pins on the GPIO header. Pisound consumes no more than 300mA at 5.1VDC. For use with this version of Pisound, we recommend to use the official 5.1VDC RPi power supply for RPi version 1, 2 and 3 or USB-C Power Supply for RPi version 4.
- **9V version (old beta version):** 7.2V - 12.6V, 18W minimum. 5.5x2.1 mm coaxial power jack connector. The inner connector is connected to the positive terminal, and the sleeve is connected to the ground. The power adapter connected to Pisound supplies the RPi board too, so RPi does not need to have its USB supply port connected. The Pisound itself has a power consumption of about 1.8W. A 9VDC power supply capable of delivering at least 2 Amps of current is recommended for this version.

Supported Raspberry Pi Models

Compatible Models	
Raspberry Pi 4 [1]	Raspberry Pi 3
Raspberry Pi 3B+	Raspberry Pi 2 version 1.2
Raspberry Pi 2	Raspberry Pi 1 Model B+
Raspberry Pi 1 Model A+	Raspberry Pi Zero version 1.2
Raspberry Pi Zero version 1.3	

1. Full compatibility since Pisound hardware version v1.1.

   Pisound v1.0 can still be used with the RPi model 4, but there's a known issue caused by a power supply design change in Raspbery Pi 4, see this topic in our community for detailed information and software workaround details. `pisound-config` has a menu to help with enabling / disabling it. ↩

Raspberry Pi Pins Used by Pisound

- Black - Power supply pins.
- Red - Pins used by Pisound.
- Green - Pins available for your use.
- Blue - Pins reserved for Raspberry Pi hats use.

Pinout of Pisound Header

Number	Corresponding Raspberry Pi Pin
1	Ground
2	5v Power
3	BCM 7 (CE1)
4	3v3 Power
5	BCM 5
6	BCM 6
7	BCM 22
8	BCM 23
9	BCM 27
10	BCM 4 (GPCLK0)
11	BCM 15 (RXD)
12	BCM 14 (TXD)
13	BCM 2 (SDA)
14	BCM 3 (SLC)