

Myriad Design
Phantom Piezo Preamp V3
6577B1 V3
(SKU SV807)
User Guide V1.0 – Jan 2025

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Thank you for purchasing the Stompville Phantom Piezo Preamp V3.

The preamp is designed for use with a musical instrument, an art installation, or a hydrophone. Its purpose is to buffer the output of a piezo transducer element. The preamp is professionally built and the JFET transistors are very closely matched. The preamp has very low distortion and noise.

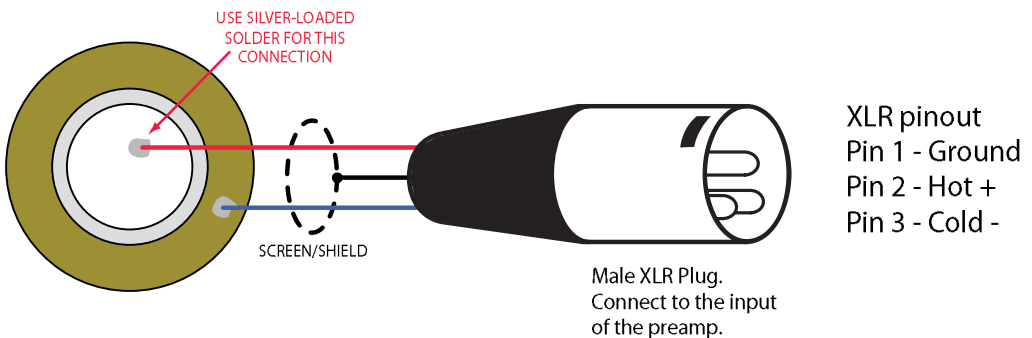
The output of a piezo transducer has a very high impedance. The preamp provides approx. 12dB of voltage gain but mainly serves to buffer the output of the piezo transducer and allow the piezo to drive a significant length of microphone cable without loss of high frequency content.

The unit must be connected to a mixing desk/console/sound board/portable recorder or DAW balanced microphone input using a standard balanced XLRM-to-XLRF microphone cable. The mixing desk/console must have phantom power facility of 12-48V. The preamp unit does not incorporate a battery or other power source.

The preamp serves the same purpose as a D.I. box. However, the preamp will have better performance than a D.I. box because the input impedance is very high and the input design is optimised for piezo transducers.

If the piezo transducer is incorporated into a wooden case, such as a stomp box, cigar box guitar, or cajon, and you use a bare transducer, you must create a shielded environment for the transducer preferably with self-adhesive copper shielding (or aluminium shielding).

For further information on shielding, search YouTube for “shielding a guitar”. Ensure that the piezo element is not in electrical contact with the shielding.



Connect the piezo transducer to pins 2 and 3 on the input connector. It does not matter which way around you connect pins 2 and 3. Connect pin 1 to the shield. If your transducer has only two connections, connect the signal to pin 2 and the shield to pins 1 and 3.

Changing the orientation of the transducer will change the phase of the signal. Human hearing is not sensitive to absolute phase, however, if you have multiple transducers close together, you should consider that there may be phase cancellation and you should experiment to get the best results. You can either change the polarity of pins 2 and 3 of the XLR connector, or move one of the transducers to a different position, or use the phase invert switch on your mixer or DAW.

Note that the XLR cord from the preamp to the device which provides phantom power must be fully wired (i.e. pin 1 must be connected at both ends). Sometimes, XLR cables are wired with pin 1 connected only at one end in order to break ground loops.

Selecting a Piezo Transducer

Piezo transducers come in many variations. Generally, the larger the diameter, the lower the resonant frequency and the better the low-frequency response. However, if the transducer is bonded to a hard surface, the diameter of the transducer is less important. In a contact microphone, for example, the piezo transducer is often bonded to a steel plate.

Search Ebay for "piezo pickup" for a range of transducer options.

Input Protection

The phantom piezo preamp incorporates a transorb protection device which clamps the maximum input voltage to approximately $\pm 4V$ (8V peak-to-peak).

Using The Preamp

Piezo transducers have good frequency response and the preamp will drive at least 100m of low-capacitance microphone cable without significant loss of high-frequency content.

- Connect the unit to a microphone input on your mixing desk/console/board, DAW or PC interface.
- Switch phantom power on. 48V phantom power is best.
- Consider using the PAD attenuator (if available and if necessary) to avoid overloading the microphone preamp.
- Use equalisation (EQ) to alter the tonal quality of the piezo transducer.
- Use the phase reversal switch to experiment with blended sound if you have more than one transducer.
- Use a limiter and/or compressor to reduce dynamic range or avoid overloads.
- Use the piezo transducer audio as a trigger for a sidechain effect.

Note:

The Phantom Piezo Module has been hand soldered using a proprietary no-clean-flux solder. This is so we do not have to use environmentally unsatisfactory solvents to clean flux residue from the circuit board.

There is no need to clean the circuit board further.

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