

Commune with the invisible forces surrounding you. SIGIL is an active contact microphone you can assemble yourself. Use the Sigil Transducer to listen to the vibrations all around you. Use it to listen to the mechanical vibrations of automata. Build a plate reverb. Turn the objects around you into drums. Or simply use it as a fantastic piezo pickup for your acoustic instruments.

Introduction

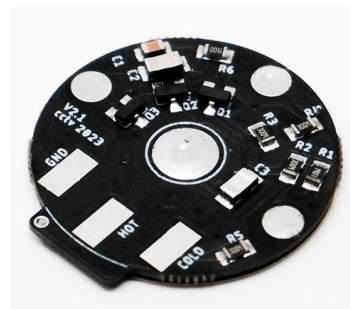
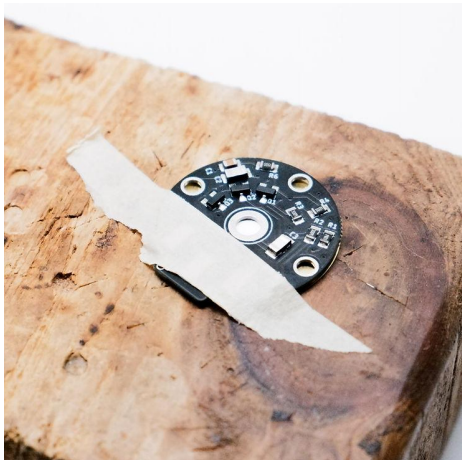
This guide covers the step-by-step assembly process of the Sigil Transducer, designed to be suitable for all skill levels. To successfully complete the assembly, you will need a few tools and supplies. Below is a list of the required items:

- Sigil DIY Kit
- A Soldering Iron
- Wire strippers
- Side Cutters
- Solder
- Tweezers
- Masking Tape (optional)

Assembling The Pre-Amp

Peel one side of the double-sided stickers and place it on the white face of the ground shield (opposite the side that has "Active Passive" printed on it). Set it aside for now.

Next, Solder the piezo to the pre-amp, ensuring the white side of the piezo faces the back of the pre-amp. The pre-amp has four holes that need to be soldered onto the piezo - three are located at the corners, and one is in the middle of the board. To keep everything in place, you may find it helpful to use masking tape to hold down the assembly while soldering. It is important that the piezo element is centered on the preamp PCB (Printed Circuit Board).



Starting with the center pad, insert the tip of the soldering iron through the hole and feed a generous amount of solder through each one. Repeat for the 3 other large pads.

Return to the ground shield. Peel the other side of the double-sided sticker and stick the ground shield to the piezo. The golden side of the piezo should face the double-sided tape. Ensure that the small hole at the bottom tab of the PCB aligns with the hole on the ground shield. We will thread the leg of the resistor from your kit into these holes to align them.



Place the resistor leg through the holes that line up at the tab, and twist it to secure it in place. Then, solder the leg to the holes. Before soldering it in place, double-check that the resistor leg is not crooked. After soldering, cut the resistor leg as short as possible so that it will fit into the case.

You're half done! Now, let's move on to preparing the cable and soldering it to the contact mic.

Soldering The cable to the Pre-Amp

Measure about 10mm from the end of the XLR cable and carefully strip the outer casing from the wire. Use wire strippers to do this: place the wire inside the jaws of the tool and slowly twist the wire inside the strippers to cut the insulation without damaging the wires inside. Use side cutters to cut off the blue foil inside the casing to expose the three wires.



Inside the cable, you'll find three wires that need to be soldered to the pre-amp. Start by stripping a few millimeters off the orange and white wires to expose their copper wire.

It's essential to "tin" each wire, including the silver shielding wire, by applying solder to them.

Add solder to the pads on the preamp labeled GND, HOT, and COLD. Double-check that you have cut the wires to an appropriate length so that none of the wires will be exposed outside the case when fully assembled. Solder the three wires to the contact mic.

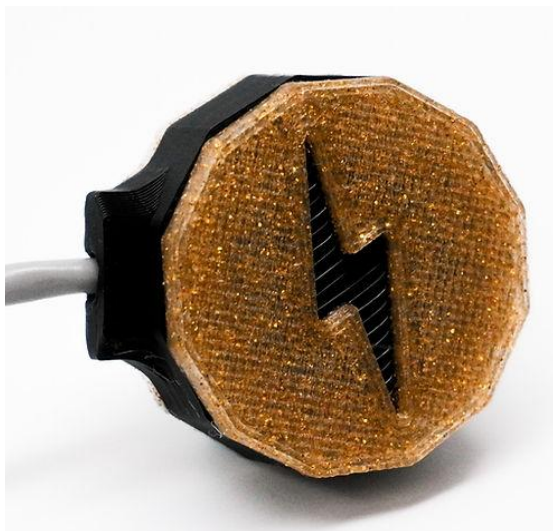
The wires will be connected to the following pads

- Shield (silver wire) → GND
- Orange → HOT
- White → COLD



It is acceptable if the shielding wire touches the resistor leg you soldered earlier, these are both ground connections. Thread the cable through the inside of the plastic microphone enclosure, and pop the pre-amp assembly into position.

You can now screw down the case top (both pieces of the case thread together). Hand-tight only.



Attaching the cable to its XLR connector

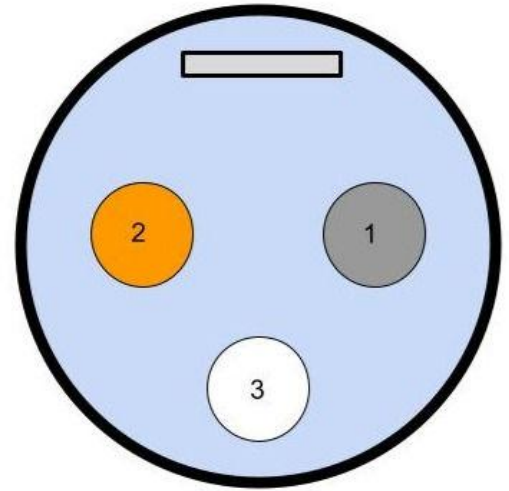


This step requires attention to ensure that the XLR connector assembly is correctly in place before soldering the wires to it. Please refer to the picture to verify that you have each component in the correct order before proceeding with the soldering.

- The order of the connector assembly is as follows:
- XLR connector endcap/boot
- Black Plastic Strain Relief
- Solder Cup Connector (where the wires are soldered)
- Silver Metal Housing (added last, at the end)

Here's a step-by-step guide for attaching the XLR cable to its connector:

- Place the black end cap and strain relief on the cable. You can now proceed to solder the wires to the XLR's solder cups.
- Tin each wire by applying solder to them. Then, add solder to each cup on the XLR connector. While you heat the cup, gently place the corresponding wire inside the cup. You can refer to the diagram below to check which wire goes into each cup. If needed, you may find it useful to use tweezers during this step, especially if you value your fingers being un-burnt.
- Diagram below:
- White → #3
- Orange → #2
- Shield → #1



- Once you have soldered the XLR wire to the cup, proceed to screw on the silver metal housing to the black end cap, making sure that the wire passes through the strain relief.



- Now it's time to test out the microphone! Apply another piece of double-sided tape to the back of the contact mic so that you can easily attach it to a sound source, such as instruments, typewriters, machinery, etc. The kit includes extra tape disks in case you damage or lose one.

- The microphone requires phantom power (+48V) to function.
- To extend your microphone's reach, connect to a longer XLR cable and then plug it into your mixer. Now, you're all set to explore and capture new sounds with the Sigil Transducer.

List of Materials	Sigil
Part	Qty
Double Sided Stickers	4
3d printed case (top + bottom)	1
Pre-amp PCB	1
Piezo element 27mm (#7BB-27-4)	1
Ground shield PCB	1
Grey Mic Cable	23"
XLR connector	1
XLR Black Boot	1
XLR Black Strain Relief	1
XLR Metal Connector Housing	1
Cloth Bag	1
Build Guide	1


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