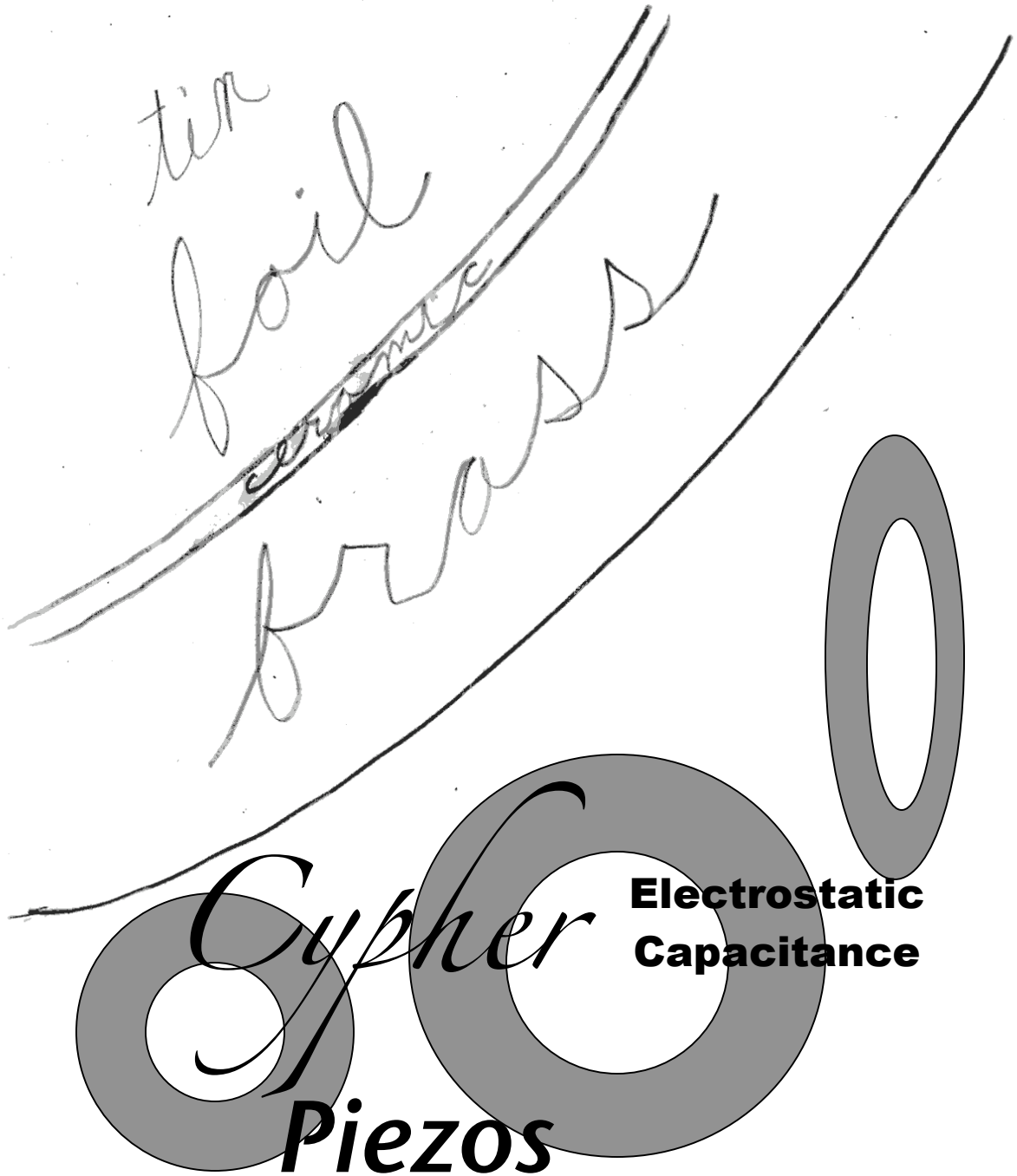
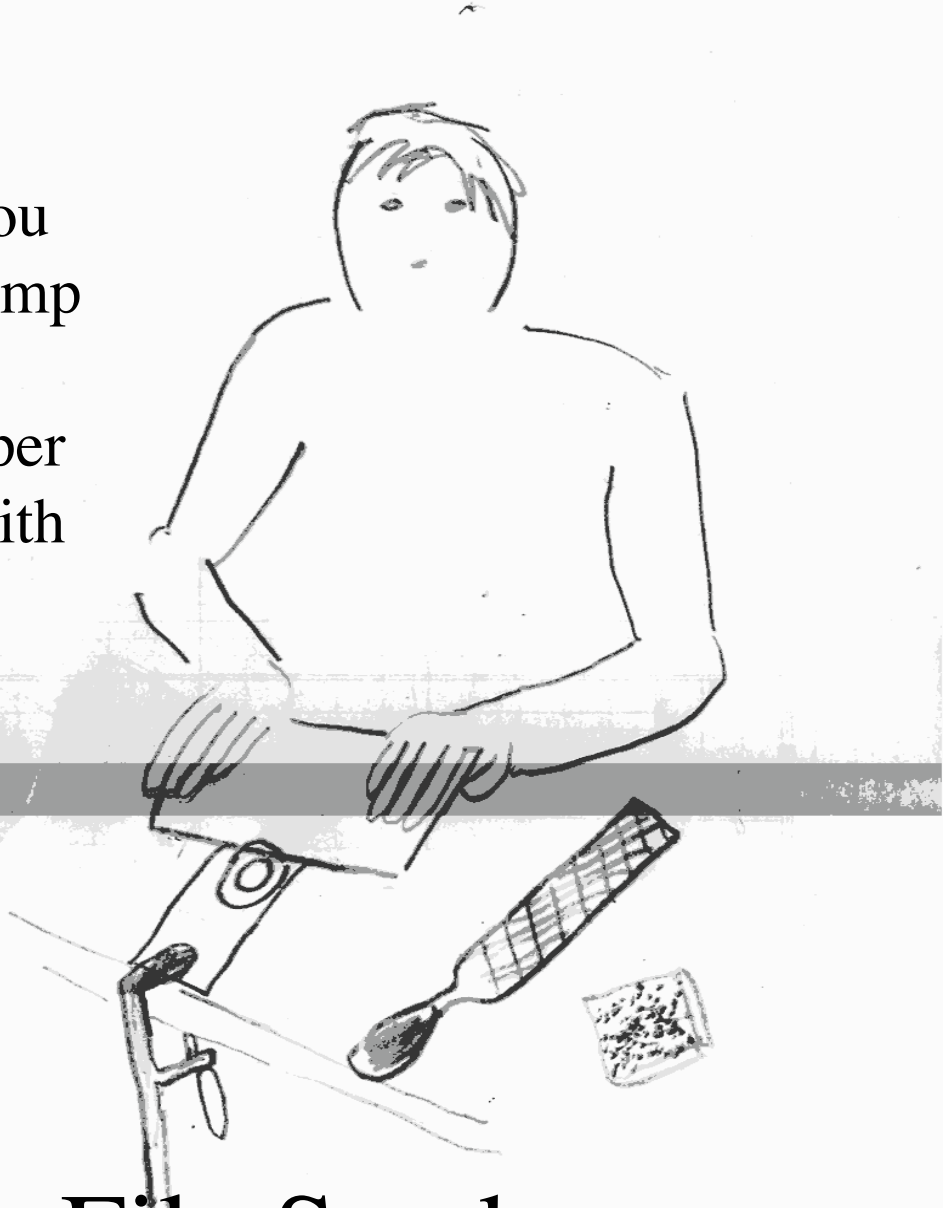


Piezos are sandwiches of brass and ceramic, glued together with epoxy and then sprayed with a thin tin foil on top. When you play your bars really hard, this very thin ceramic can break and the piezo can become leaky to ground, resulting in a cypher, or ghost tone.

(note) Newer Organi should not have this cypher tone, not because they have leaky piezos, but because I have moved their brass side from “zero-ground” to “mido-ground”, or 4.5V. This is because all Organi use a zero to 9V power supply, so they must create a synthetic “mido-ground” around which the piezo foil signal swings. An ideal piezo should feel like a capacitor, but when they get micro cracks, then micro moisture comes in with the weather fronts, thus causing ohmic micro bridges. When the foil has even just a little bit of leak to zero, well then that is pulling it **away from** the synthetic ground established for it. (Peter B)

To select a replacement piezo- look for high “electrostatic capacitance”, which is a result of thin ceramic and/or wide surface area. Caution though, because a very thin piezo is hard to solder without decrystallizing it. With care, you can get a refitted bar for a buck a pop.

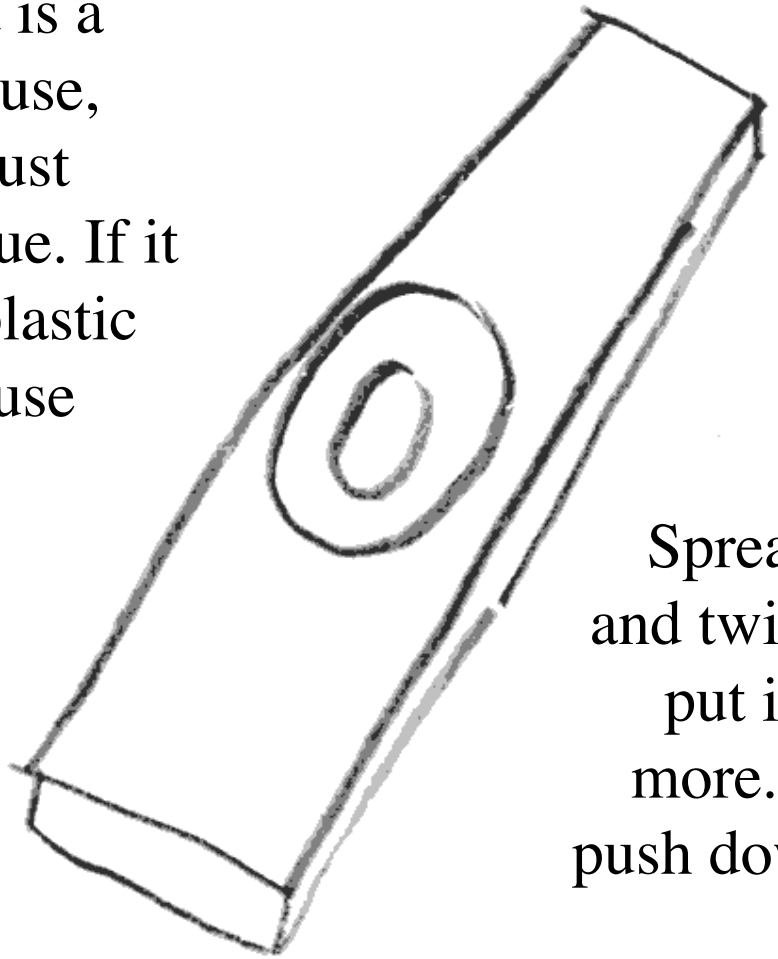
Cut the wires from your broken barre, as close as possible to the piezo to save their length. Now you must scrape off the old piezo. Clamp the barre upside down or push it against a wall so you can use scraper metal to peel it off. Then finish with a file and sandpaper.



Cut Clamp Scrape File Sand

Glue Aliphatic Resin Epoxy

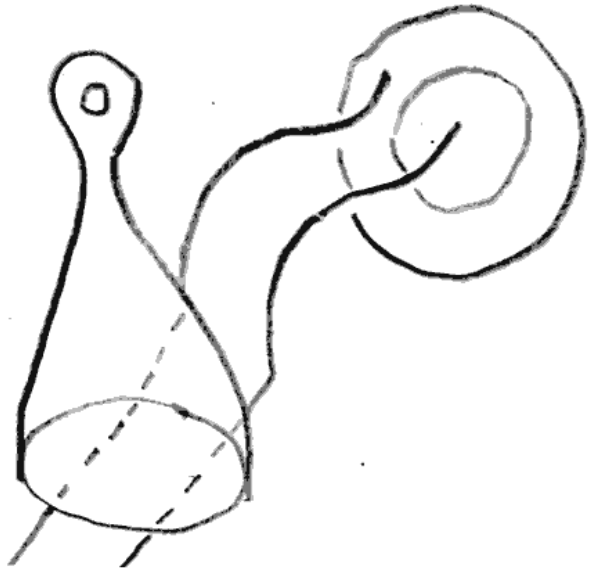
Now glue the new piezo on. If it is a wood barre, I use, surprisingly, just plain wood glue. If it is a metal or plastic bar you must use epoxy.



Spread it thin and even, and twist the piezo as you put it on to distribute it more. Careful when you push down on the piezo- it is very fragile!

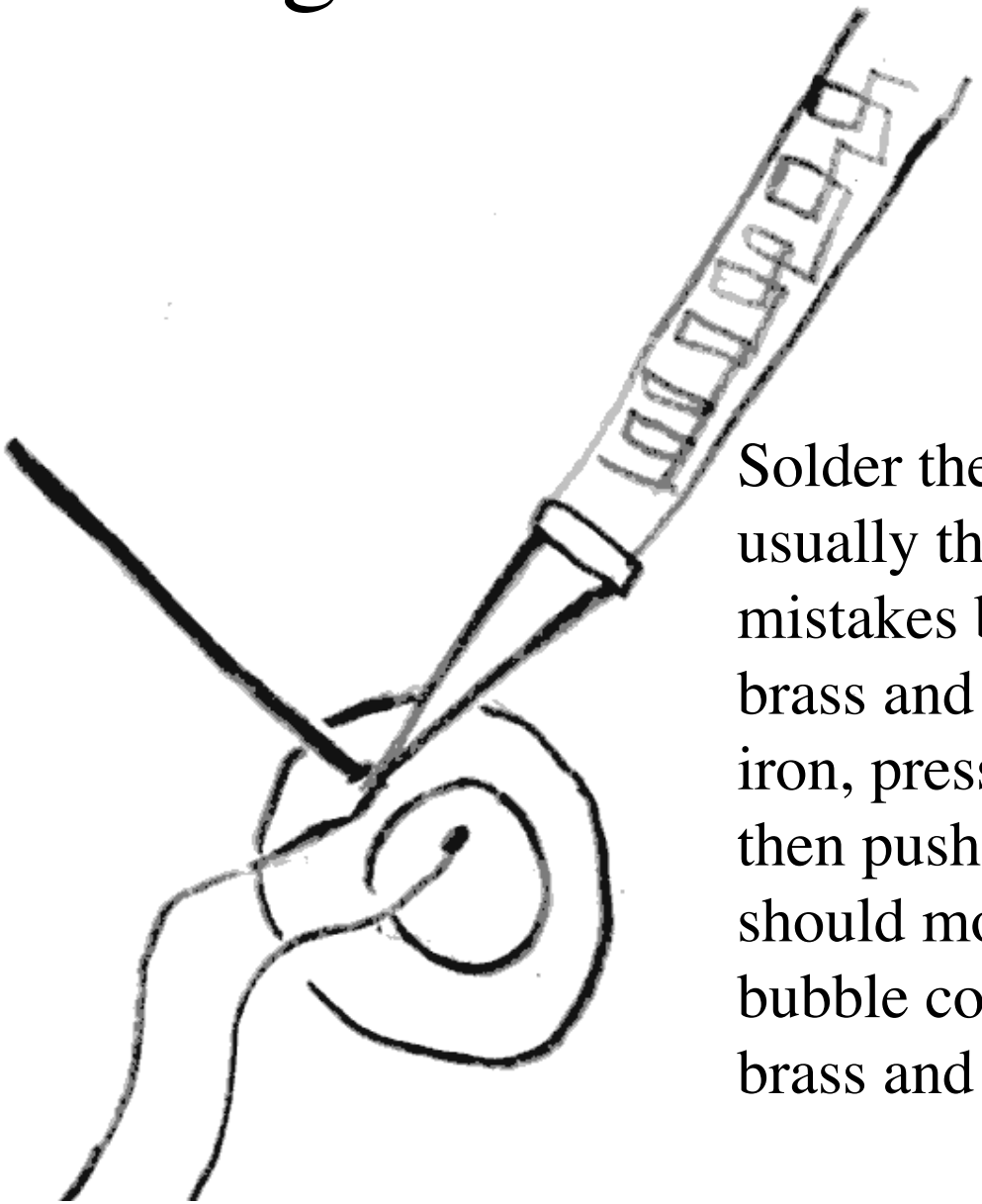
While the glue is drying thoroughly, strip a little bit off the tip of your two wires. One is ground, which connects to the brass, the other is signal which connects to the foil. Take these wires and bend them to make two prongs which will mount down onto the piezo when you place a weight upon their elbow. Or you can have someone else steadily hold the tips onto the piezo.

The prongs should be mounted firmly on the piezo like shown. If you have forgotten which is which, the usual color code is that the darker one is ground.



Mounting Prongs

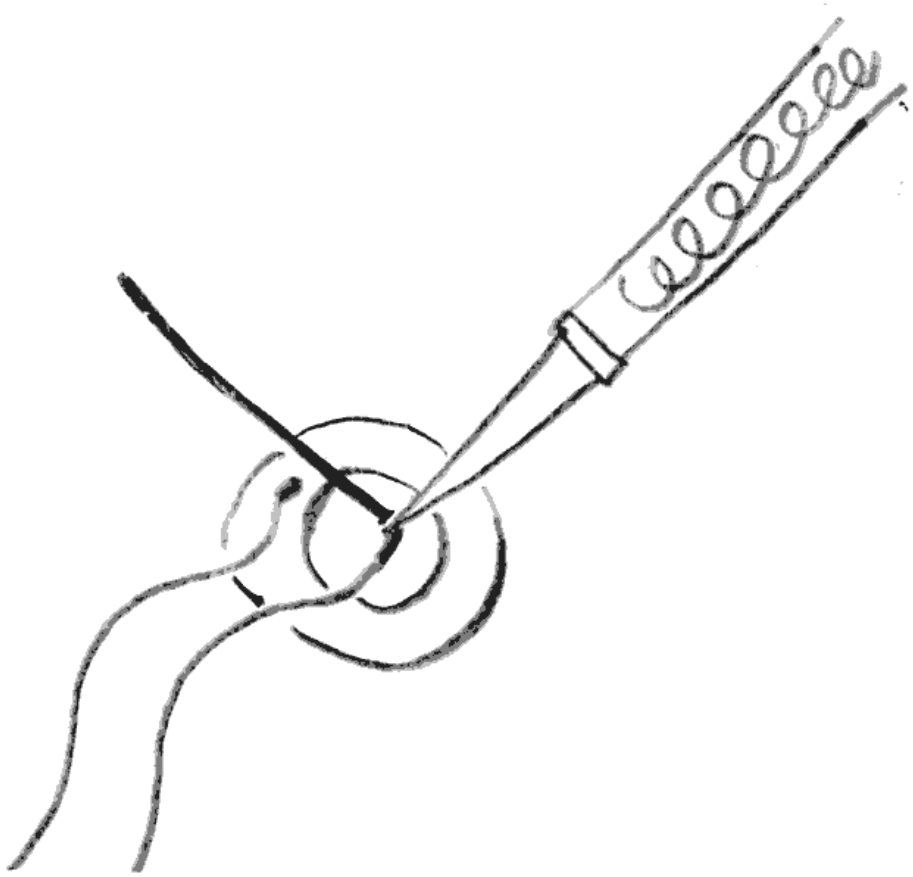
Soldering Ground



Solder the ground first because usually the brass can handle mistakes better. Touch the brass and the wire both with the iron, press for a little bit, and then push some solder in. It should molten and make a bubble contiguous around the brass and the wire.

Soldering Foil

Now here's the tricky part. You must do the same operation on the foil but as swiftly as possible. This is where a fine tipped soldering iron will come in handy because it does not give too much heat. Practice on a spare piezo to see how easy it is to thermally crack the ceramic substrate, or peel off the foil. When this is done, your barre is ready!



Note- you can add extra piezos to supercharge a barre! Just glue more on and repeat this process with little jumper wires to make a parallel circuit with them.