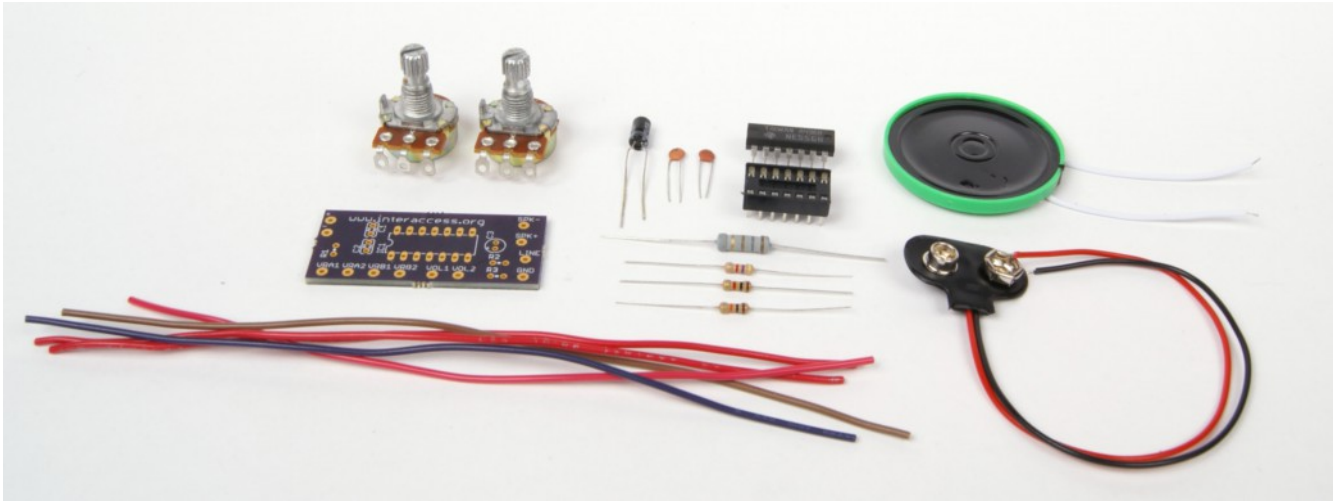
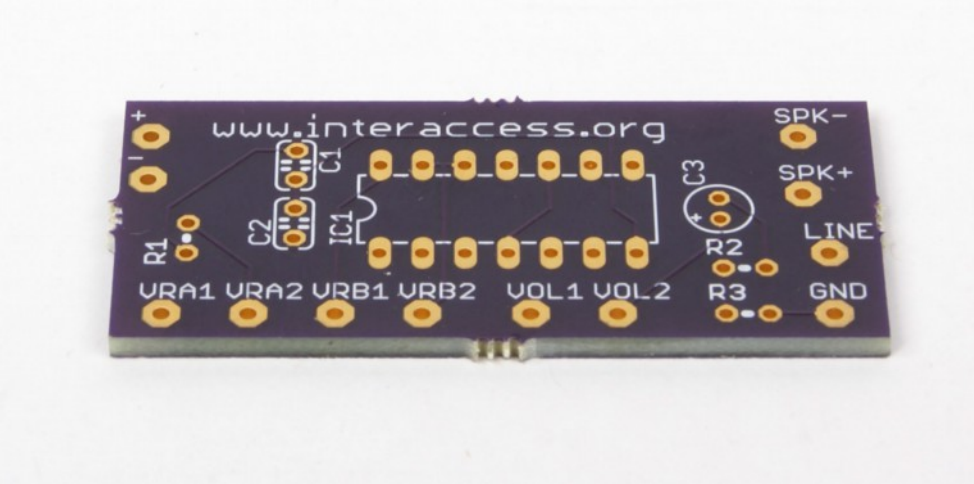
ATARI PUNK CONSOLE!

PARTS LIST:
1 printed circuit board
1 battery clip
1 NE556 integrated circuit
1 14 pin socket for the IC chip
2 .01µF capacitors (labelled “103”on the body of the capcitor) “µF” is pronounced “microFarad”
1 10µF capacitor
1 1kohm resistor (brown black red) “kohm” is pronounced “kay-ome”
1 4.7kohm resistor (yellow violet red)
1 10 kohm resistor (brown black orange)
1 130 ohm 1 Watt resistor (brown orange brown-it is larger than the other resistors.)
2 500 kohm linear potentiometers
1 8 ohm speaker
Hookup wire.
Note that the visual appearance of the components may vary from the photographs!



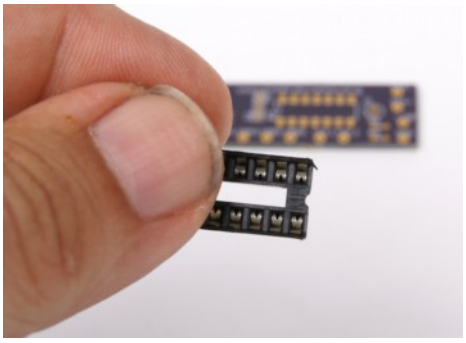
If you've never soldered before, we highly recommend the guide Soldering Is Easy, available here:

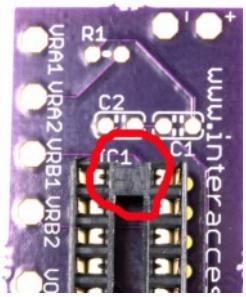
https://mightyohm.com/files/soldercomic/FullSolderComic_EN.pdf

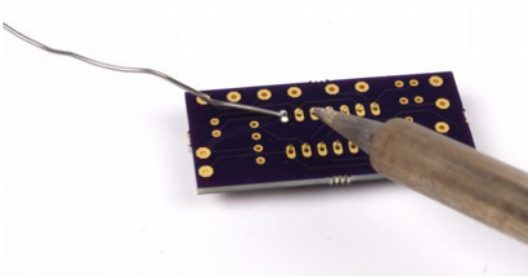


First, examine the printed circuit board. We will install components on the top side, which is the side with the printing on it.

Solder the socket into the spot marked IC1 on the board. Carefully note that the socket has a semicircular indentation on one end that should match the pattern printed on the board.

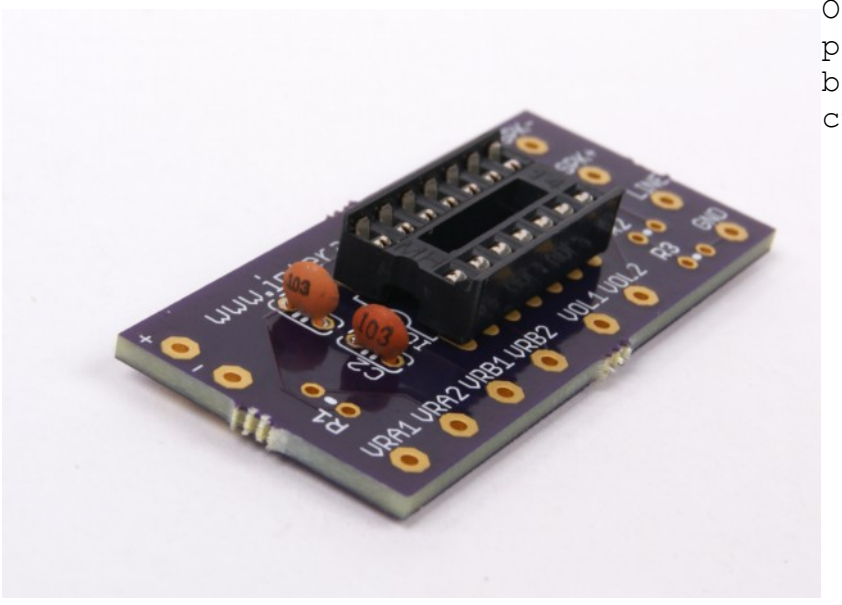




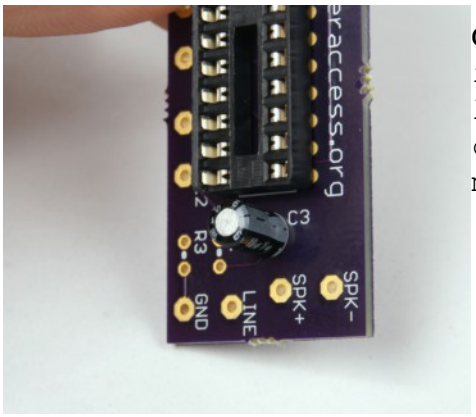


Solder each pin of the socket to the circuit board. It's a good idea to flip the board over and check that it's straight after soldering one pin, then go ahead and solder the rest. Take care that adjacent pins don't get shorted together by blobs of solder, and that you've soldered all 14 pins.

Now mount the two .01µF capacitors (marked “103”) in the spots marked **C1** and **C2.**
They can go in either way, they don't have a positive and negative.

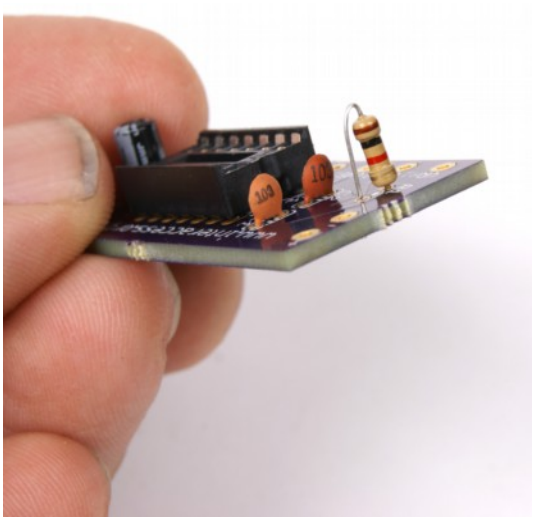


Once you have soldered them in place, trim the wires on the bottom of the board using wire cutters.

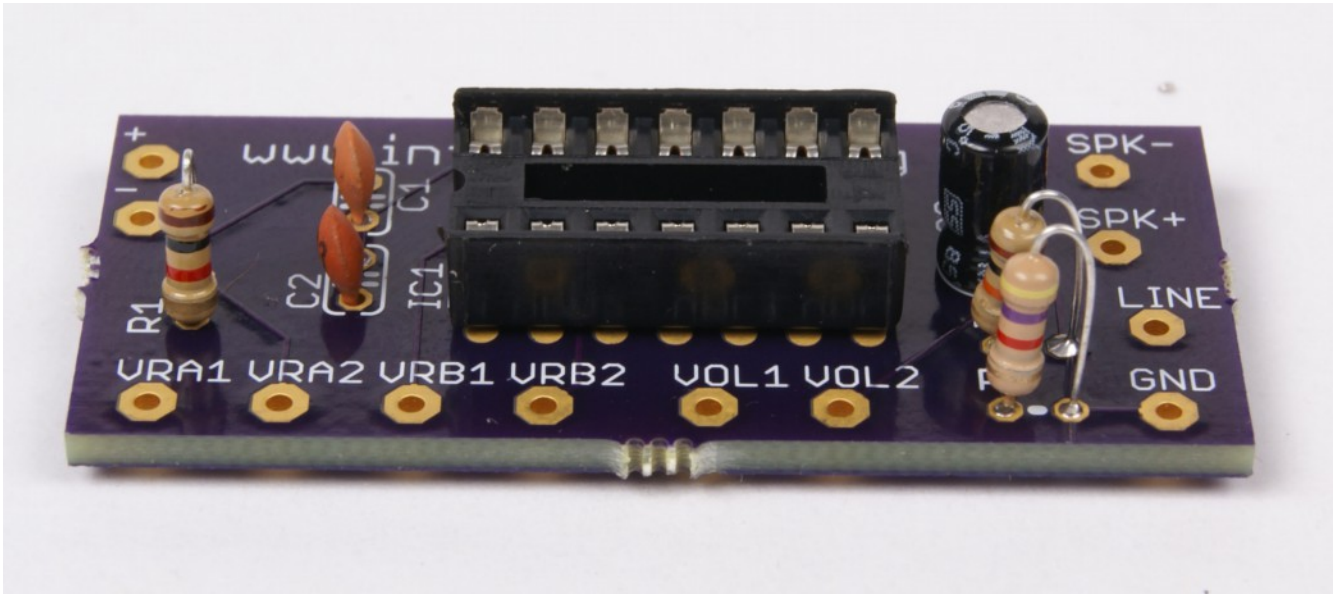


C3, the 10µF electrolytic capacitor has to be installed the correct way around. Make sure the long lead goes through the hole marked **"+"** in the circle marked **C3.** The negative (-) side should be marked on the body of the capacitor.

Now, form the leads of all the resistors as shown:

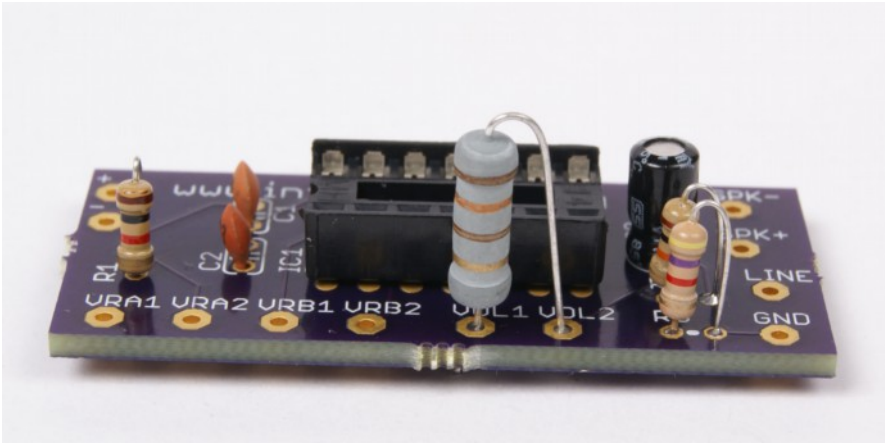


Solder the 1kOhm(brown black red) resistor in the spot marked **R1.** Make sure you don't get it mixed up with the 10 kOhm resistor- red and orange can look very similar! In a similar fashion mount the 10 kohm (brown black orange) in the spot marked **R2,** and the 4.7 kohm resistor in the spot marked **R3.** Your board should now look like this:

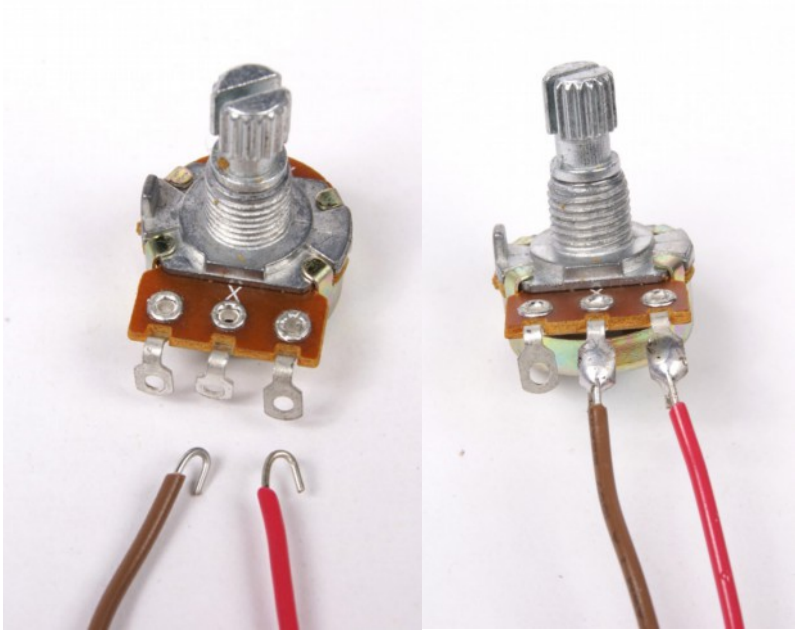


Mount the 130 Ohm 1 watt resistor in the holes marked Vol1 and Vol2 This resistor will limit the power going to the speaker, and prevent the IC chip from being damaged.

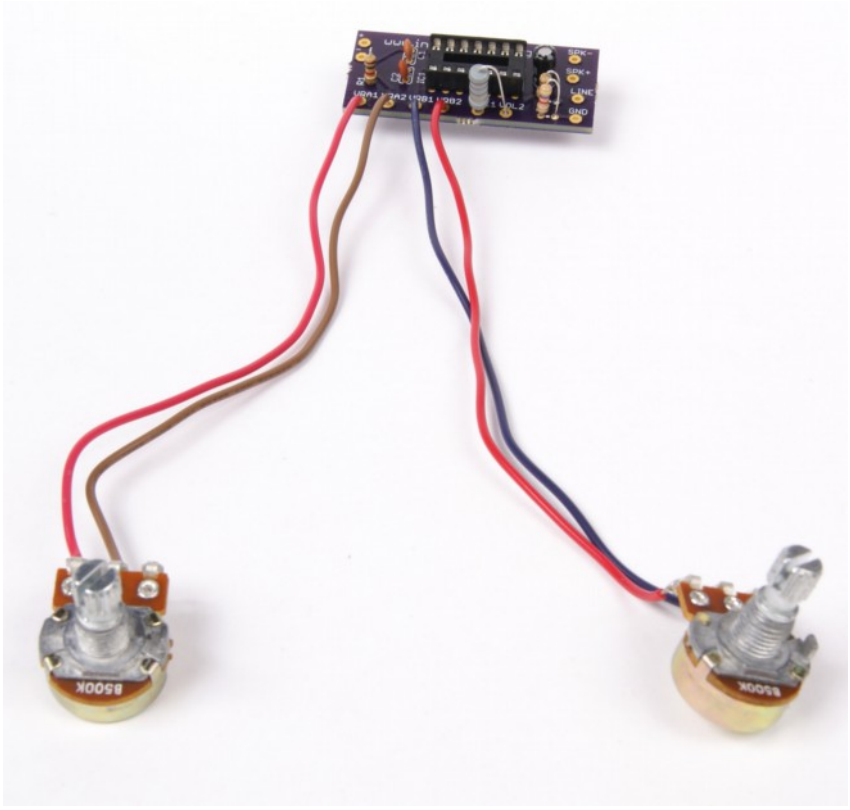
Now cut 4 pieces of the wire each 6 cm long, and strip the ends about 5 mm or so. Be careful not to nick the wire. Use needle-nose pliers to form a hook in the end of the wire.



Solder a pair of wires to the terminals of each of the potentiometers as shown. Note that one terminal is left free. **Do not mistake the rivet hole in the terminal (if there is one) for a hole to put the wire through. This will ruin the potentiometer!**

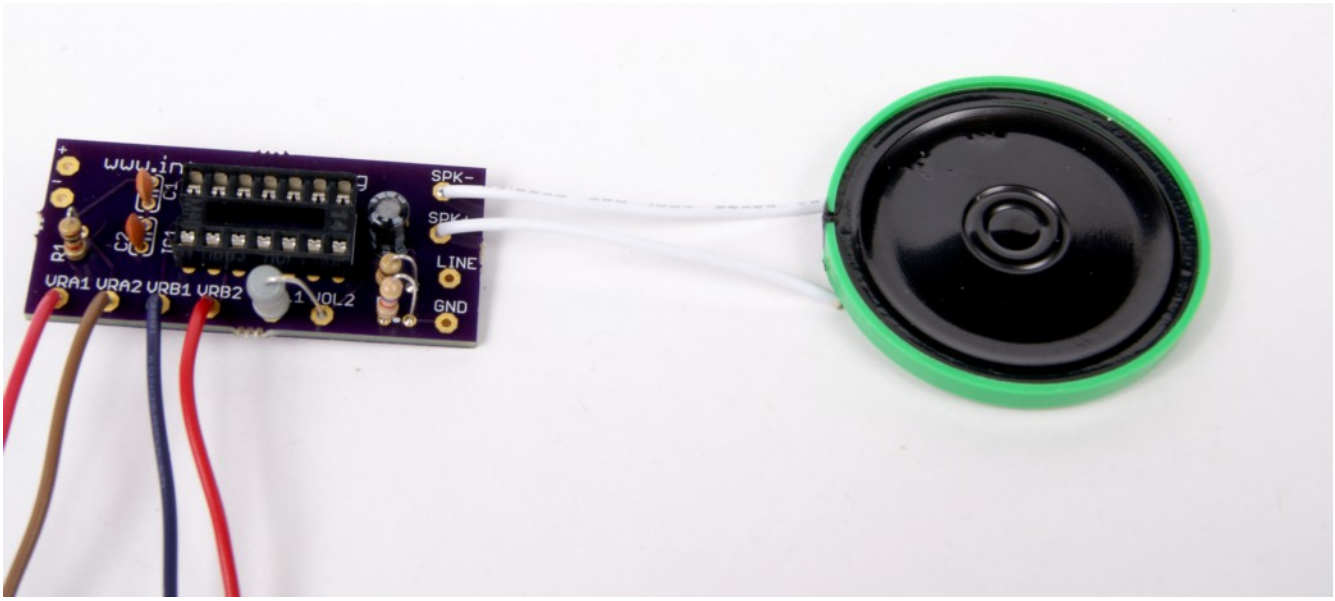


Solder the pair of wires from one of the 500 kohm potentiometers to the holes marked **VRA1 and VRA2.** It doesn't matter which wire goes in which hole.



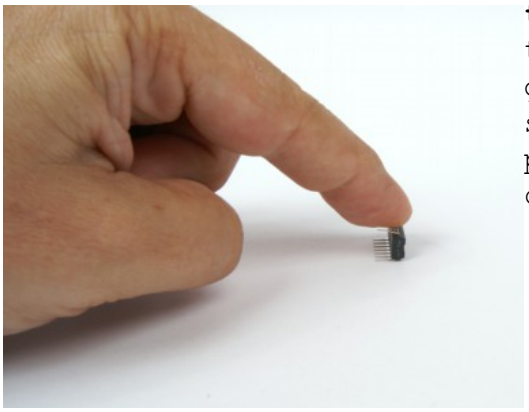
Solder the pair of wires from the other 500Kohm potentiometer to the holes marked **VRB1 and VRB2.** Again, it doesn't matter which goes where.

Solder the pair of wires from the speaker to the holes marked **SPK+ and SPK-.** It doesn't matter which goes where.

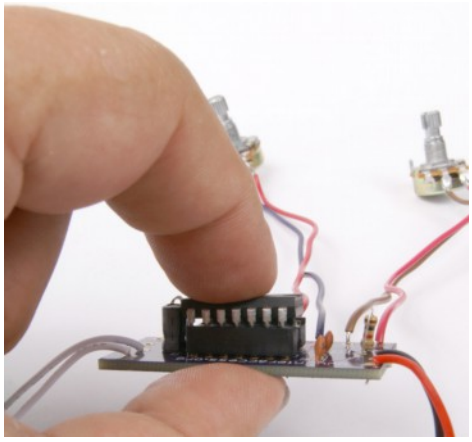


Now solder the red wire of the battery clip in the spot marked **"+"** on the edge of the board, and solder the black wire to the spot marked **"-"**. (don't connect the battery yet)
This completes the soldering assembly. We will now install the 556 IC chip in the socket. We first need to straighten the pins of the chip by carefully pressing it on the table surface, as shown:

Do this in a few stages, pressing both sides of the chip until it fits into the holes in the socket. Make sure that the semi-circular indent on one end of the chip lines up with the indent on the socket, and with the marking on the board! This is really important! Also make sure that all the legs fit into their holes! Press the chip gently in until it is fully seated in the socket.



Be very careful that you are not bending any of the pins. If you need to take the chip out, pry it gently with a small screwdriver, alternately prying both ends of the chip.



That's it! You're done!
Now hook up the battery and make a racket.
If it doesn't work, immediately unhook the battery, and check your work. The most common problem is a chip in backwards, or with a bent pin!