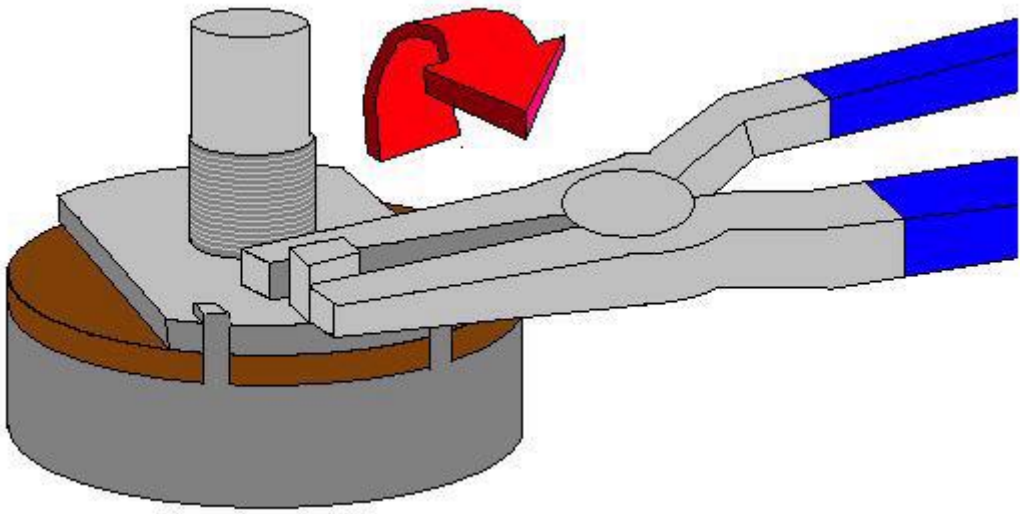
# B.Y.O.C.
# Compressor kit
# build instructions.

# Parts Checklist

**Resistors:**
2 1k (1%-brown/black/black/brown/brown)
1 2.2k (1% red/red/black/brown/brown)
1 4.7k (1%-yellow/purple/black/brown/brown)
1 7.5k (1% purple/green/black/brown/brown)
13 10k (1%-brown/black/black/red/brown)
2 27k (1% red/purple/black/red/brown)
3 47k (1% yellow/purple/black/red/brown)
1 56k (1% green/blue/black/red/brown)
2 150k (1% brown/green/black/orange/brown)
2 220k (1% red/red/black/orange/brown)
4 470k (1% yellow/purple/black/orange/brown)
4 1M (1%brown/black/black/yellow/brown or 5%brown/black/green/gold)
1 2.2M (1%red/red/black/yellow/brown or 5% red/red/green/gold)
**Pots: You need to snap off the little tab on the side of the pot with a pair of pliers.**



2 100kA pot (volume, tone)
1 250kC pot (attack)
1 500kB pot (sustain)
1 10kB pot (blend)
1 2k trimpot
**Capacitors:**
1 220pf silver-mica (220 - larger dipped yellow)
2 .001uf film(code will read 1000/100 or 104)
4 .01uf film(code will read 10nJ63 or 103)
6 .1uf film (µ1J63 or 104)
5 1uf tantalum caps (105 - small dipped yellow)
3 10uf aluminum electrolytic
1 100uf aluminum electrolytic
**Diodes:**
2 1N914 or 1N4148(small orange with black stripe)
1 1N4001 (large black with silver stripe)
1 5.1v zener (large orange glass with black strip)
**IC's:**
1 CA3080

1 BA6110
1 DIP 8 pin socket
37 snap-off SIP sockets

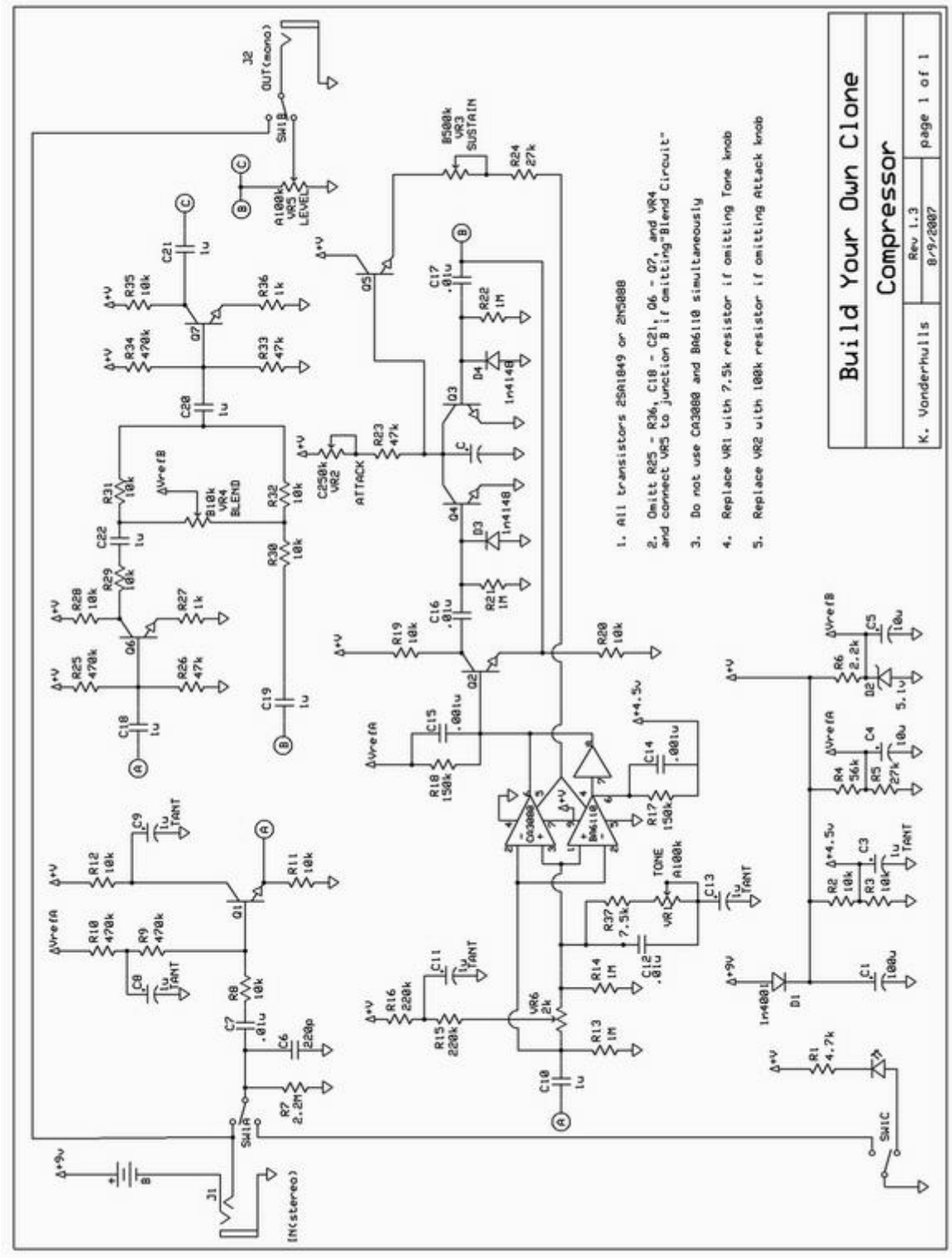
**Transistors:**

7 2SC1849
7 2N5088

**Hardware:**

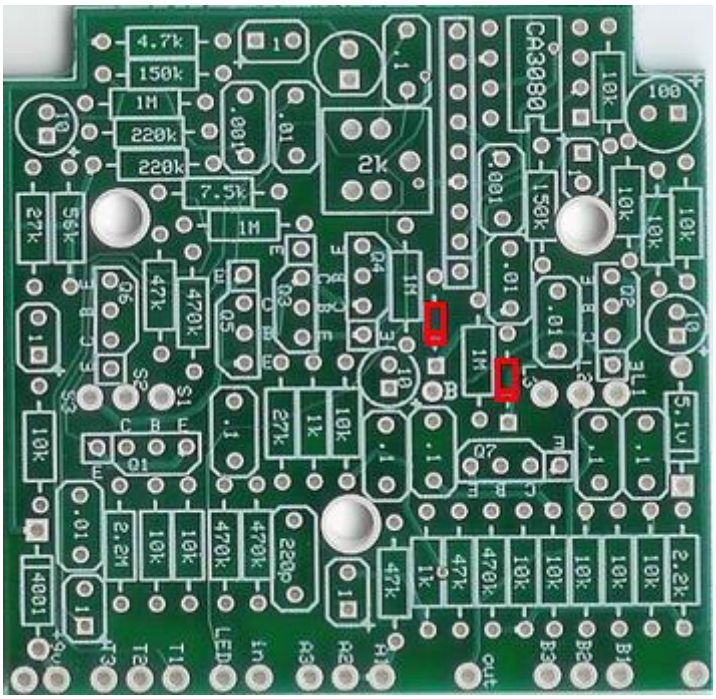
3 self adheasive nylon standoffs
5 knobs
1 heavy duty battery snap
1 Red T 1 3/4 (5mm)LED
1 3PDT footswitch
1 1/4" mono jack
1 1/4" stereo jack
1 AC adaptor jack
1 125b size enclosure
1 BYOC compressor PCB
Hook-up wire

# Schematic

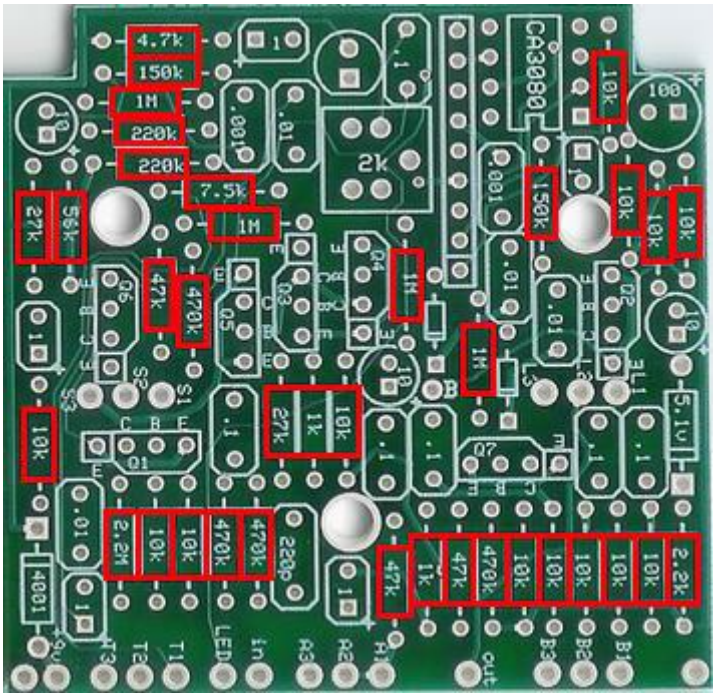


# Populating the Circuit Board

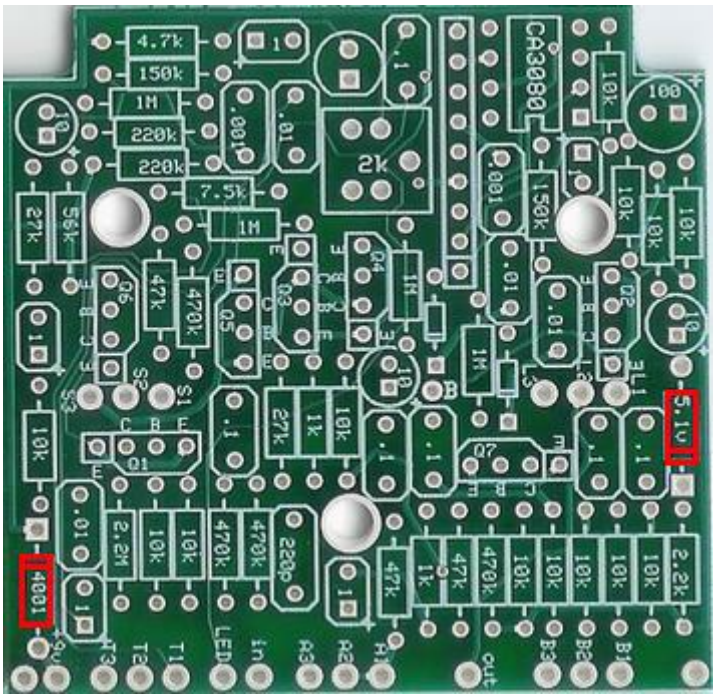
Step 1: Install the smaller 1N914 diodes. Be sure to line up the side with the stripe with the stripe on the PCB layout.



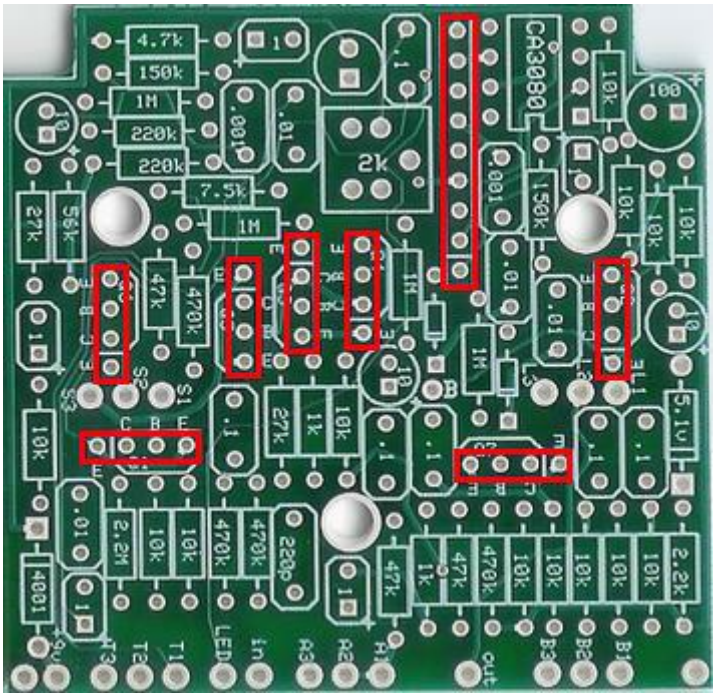

Step 2: Add all of the resistors. These are not polarized and can go in any direction. Color codes are in the parts checklist. Take your time...as always...but especially here. When people make cold joints, it's usually on this step



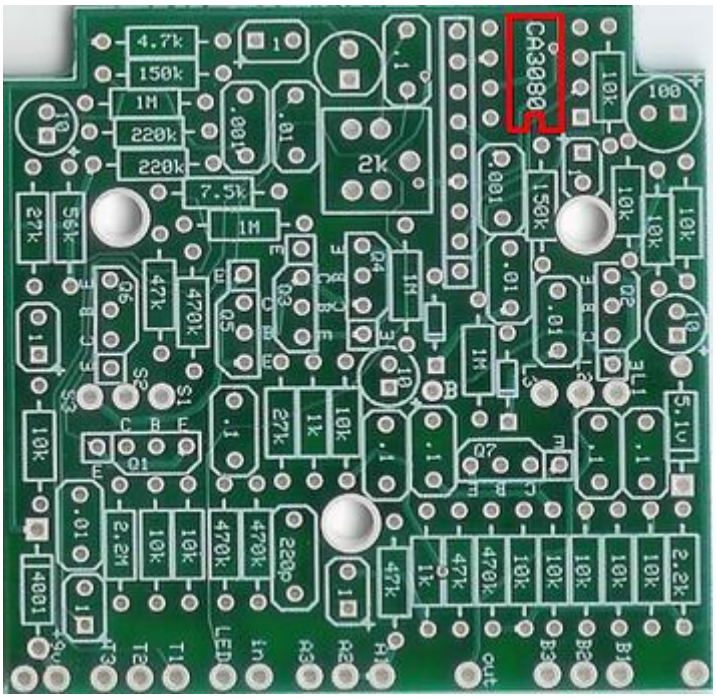
Step 3:  Add the other two larger diodes



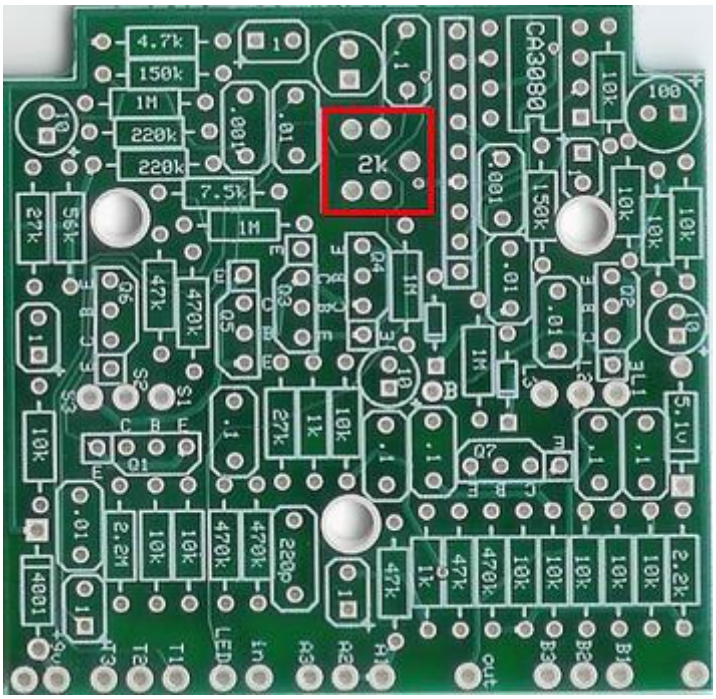

Step4:  Add the snap-off SIP sockets.  The space for the BA6110 gets 9 pins and all of the transistor spaces get 4 pins.  Your kit should come with a good amount of extra sockets.  Use a pair of pliers to snap the pins off.  If some of the black plastic casing breaks off, that is OK.  The metal pin is all that matters.



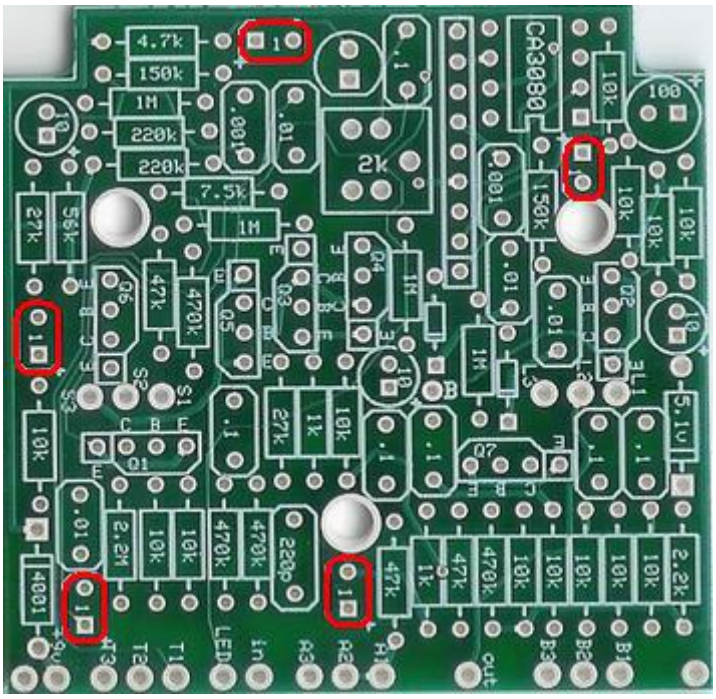
Step 5:  Add the DIP 8 socket.  So not add the actual chip.



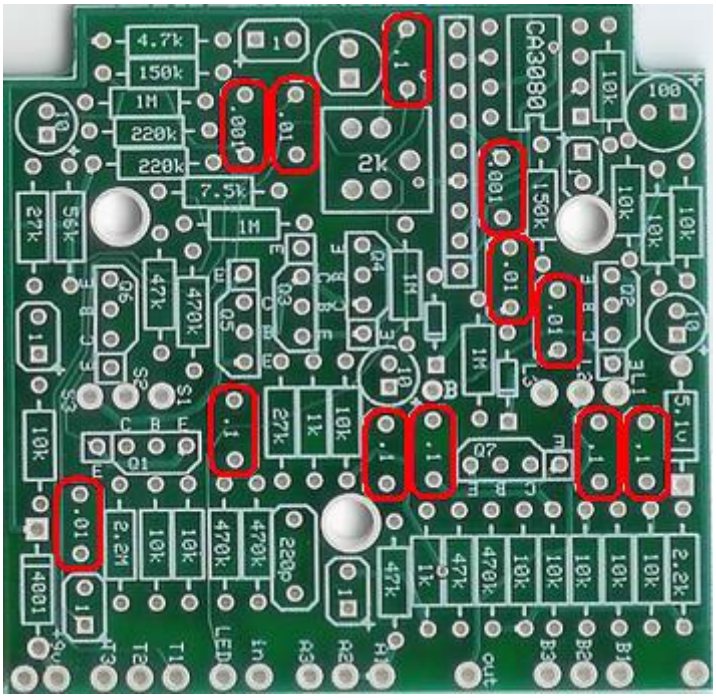

Step 6:  Add the trimpot.  The PCB has extra holes for the trimpot.  This is so that it can accomodate a variety of makes and models.  But there should only be one way in which your trimpot will fit.



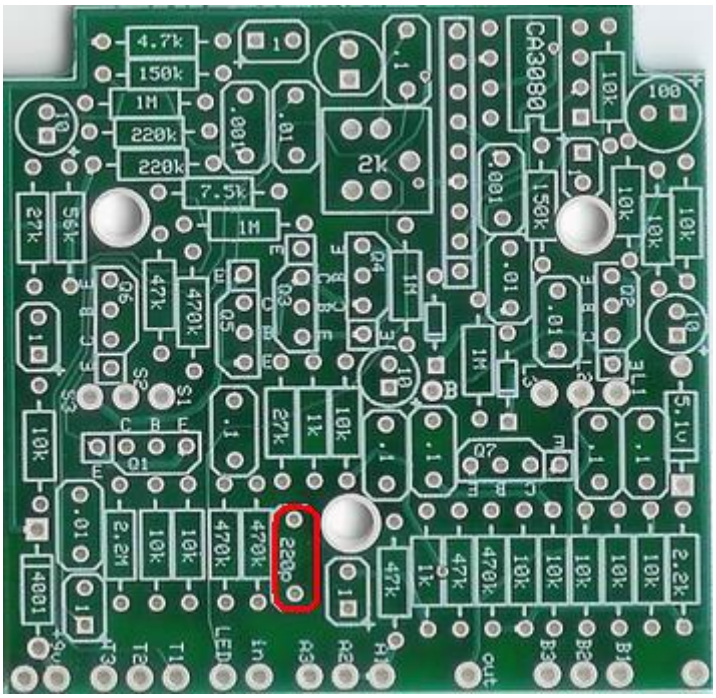
Step 7: Add the 1uf tantalum caps. Tantalum caps are polarized. The positive end will be marked with a "+" symbol and goes in the square solder pad.



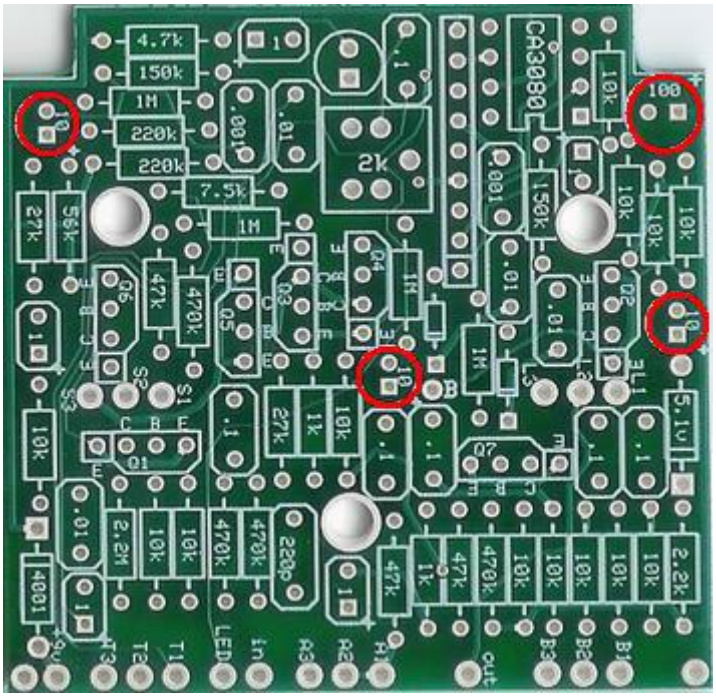

Step 8: Add the film caps. These are not polarized and can go in either direction.



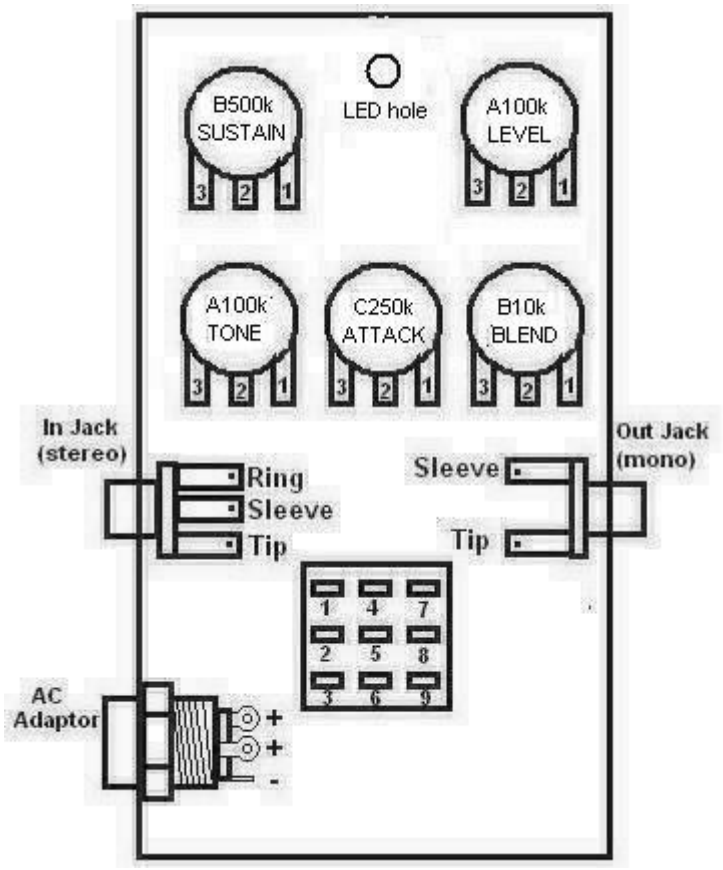
Step 9:  Add the 220p silver mica cap.  This cap is not polarized.



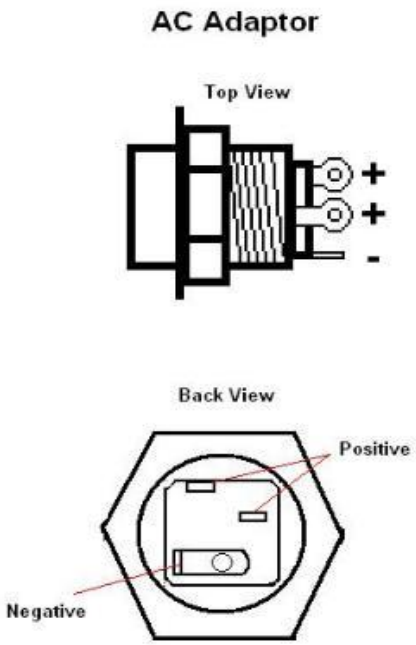

Step 10:  Add the aluminum electrolytic capacitors.  These are polarized.  The positve end will have the longer of the two leads and go into the square solder pad.  The negative end of the cap will have the shorter or the two leads and will have a stripe going down the side of the capacitor body.  The negative lead goes in the round solder pad.



# Assembly



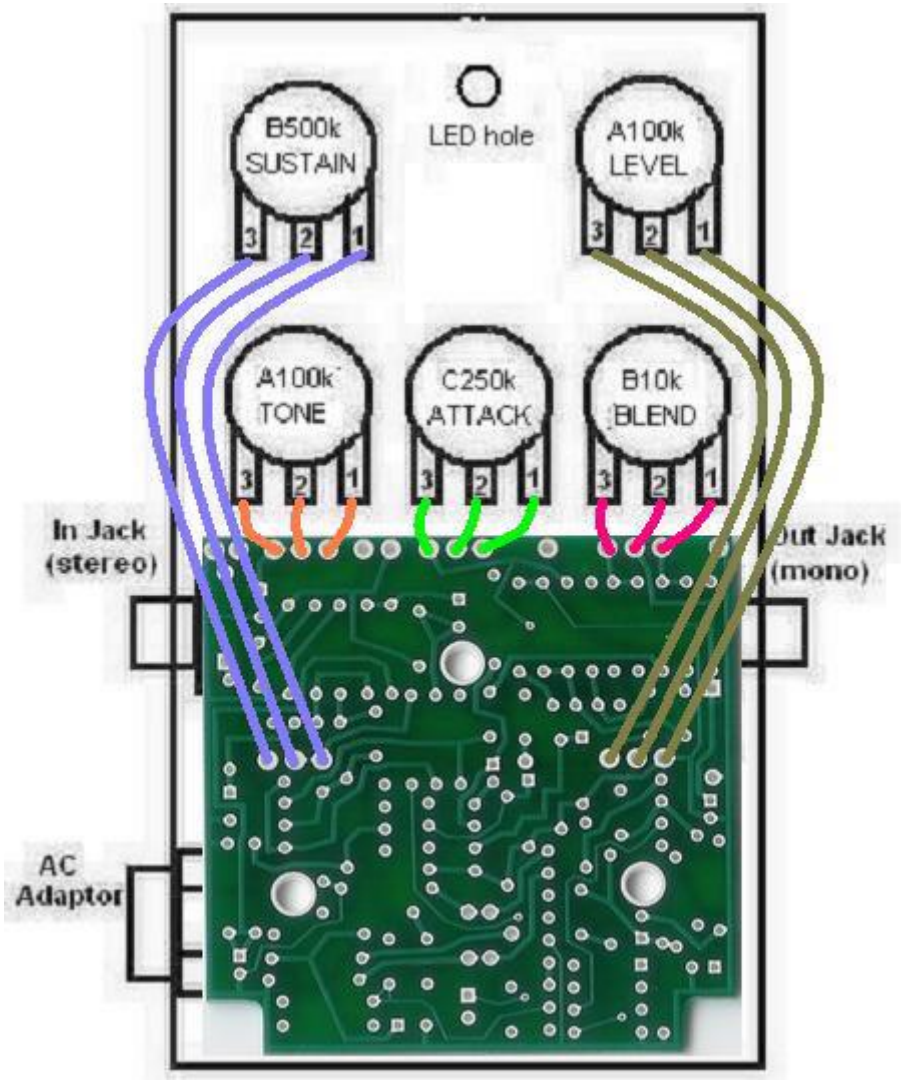

1. Install the jacks first. If you are looking down inside the enclosure, the mono jack goes on the right side and the stereo jack goes on the left. Place the washer on the outside of the enclosure. Use a 1/2" wrench to tighten.
2. Install the AC adaptor jack. The bolt goes on the inside. Use a 3/4" or 14mm wrench to tighten. Some newer kits may come with an AC adaptor jack that has the bolt threadedon the outside.




This is a “disconnect” ac adaptor jack. That means that when you have a battery connected and you plug in the adaptor, it will disconnect the battery. That is why there are 2 positive terminals. They are both connected when there is no plug in the jack, but when the plug is inserted only one of the terminals (the uppermost terminal in the “back view”) is connected to the sleeve of the adaptor. The advantage of this is that you can leave batteries in your pedals as a back up power source if you are a “working” musician and they will stay fresh even when you have the input jack plugged in as long as you keep the adaptor plugged in.

3. Install the potentiometers so that the solder lugs are pointing down towards the footswitch side of the enclosure. Use a 10mm wrench to tighten but only snug. Do not over tighten the pots.
4. Install the footswitch. The first bolt and metal washer go inside. The plastic washer and second bolt go on the outside. It does not matter which side you designate as the "leading edge" of the footswitch as long as you orientate it so that the flat sides of the solder lugs are aligned in horizontal rows, not vertical columns. Use a 14mm wrench to tighten.

# Wiring

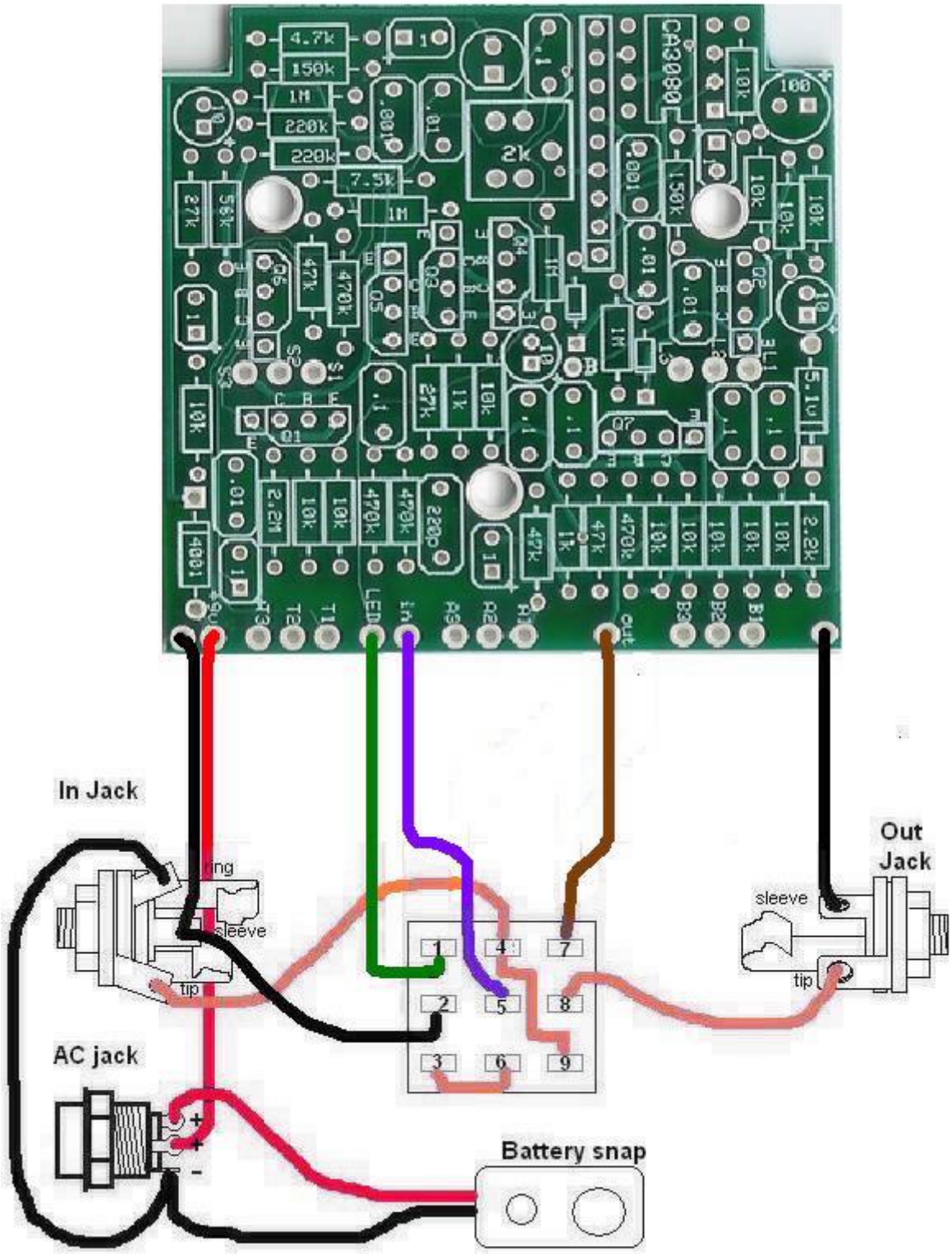



Step1: Wire the pots to the PCB. This diagram shows the wiring done from the bottom side of the PCB. The PCB eyelets are all double sided, so you can "thread" the wires in from the bottom side and solder on the top. But be careful to make sure that you are matching up the correct solder eyelet with the correct pot lug.

Lets take the Gain knob for example. The corresponding solder eyelets for the Blend pot all start with the letter "B". B1, B2, and B3. B1 gets connected to lug 1 of the gain pot. B2 gets connected to lug 2 of the gain pot. And B3 gets connected to lug 3 of the gain pot.

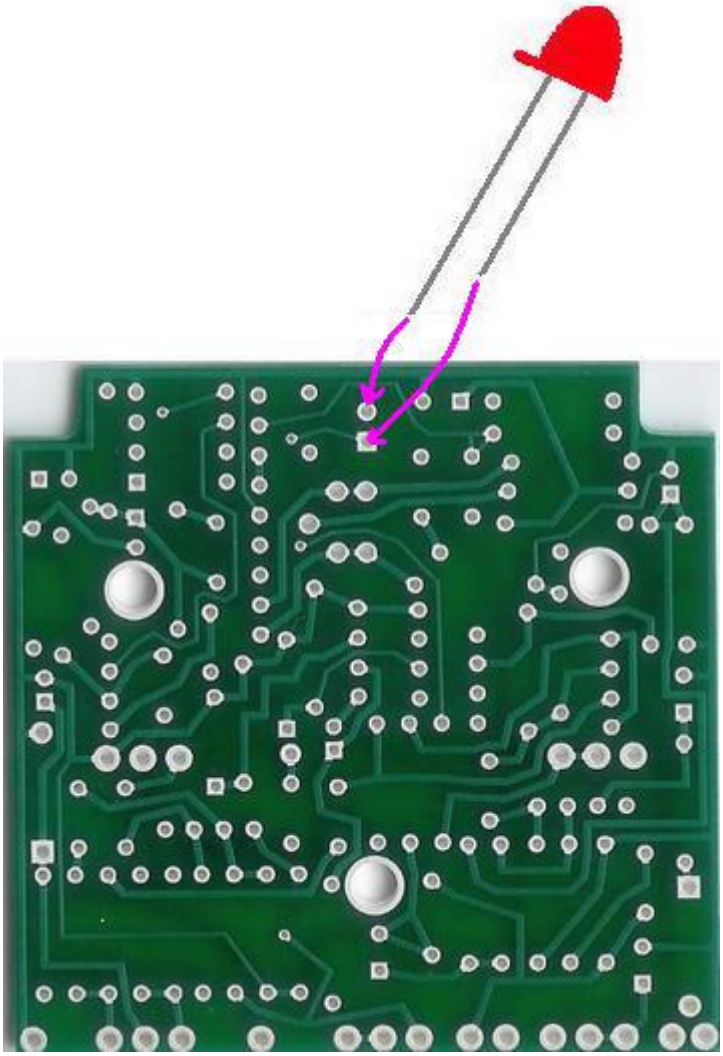
Then we have the Tone knob. All the corresponding solder eyelets for the Tone pot start with the letter "T". T1, T2, and T3. T1 gets connected to lug 1 of the tone pot. Ect, ect, ect.....

Step 2. Now wire up the rest of the pedal following the diagram below. The labelling on the solder eyelets should make it fairly intuitive.


In Jack
ring
sleeve
tip
Out Jack
sleeve
tip
AC jack
+
+
-
Battery snap
1
4
7
2
5
8
3
6
9

# Installing the LED and mounting the PCB

Insert the LED into the UNDERSIDE of the PCB, but DO NOT SOLDER IT. Make sure the longer lead goes in the round hole and the shorter lead goes in the square hole. No, this is not a typo. Yes, this is contradictory to the way most other componets go in the circuit board.



The positive end will have the longer lead just like the other components, but this time it goes in the round solder pad. The negative lead will have the shorter lead, but this time it will go in the square solder pad. Notice that the negative side is flat. On diodes the negative side is called the cathode and the positive side the annode.

1. Insert the LED into its slot on the underside or "solder side" of the circuit board,but DO NOT SOLDER it yet.
2. Once you have the LED in place, bend the leads a little bit so that it will not fall out when you turn the PCB over.
3. Install the nylon circuit board standoffs into the mounting holes.
4. Remove the paper backings on the standoff to expose the self-adhesive tape.
5. Insert the LED bulb into the LED hole in the enclosure.

6. Secure the Standoffs to the back of the potentiometers.
7. Your LED should still be free to move up and down slightly. You probably do not want your LED sticking all the way out of the hole. So pull up on the LED legs till you have it properly positioned and then solder.
8. Clip off the excess LED leg wire.
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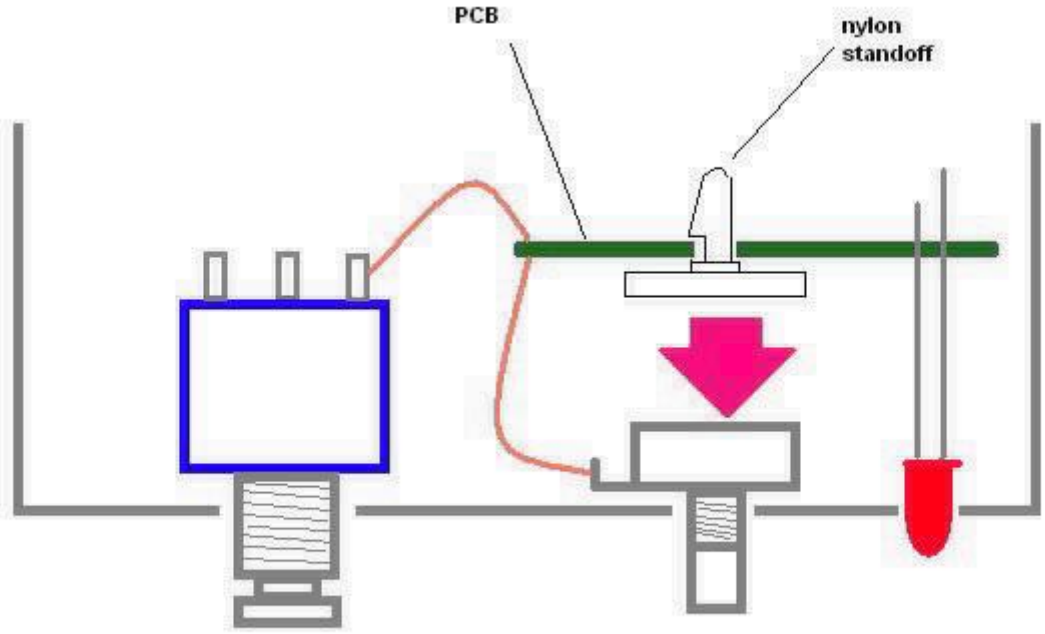
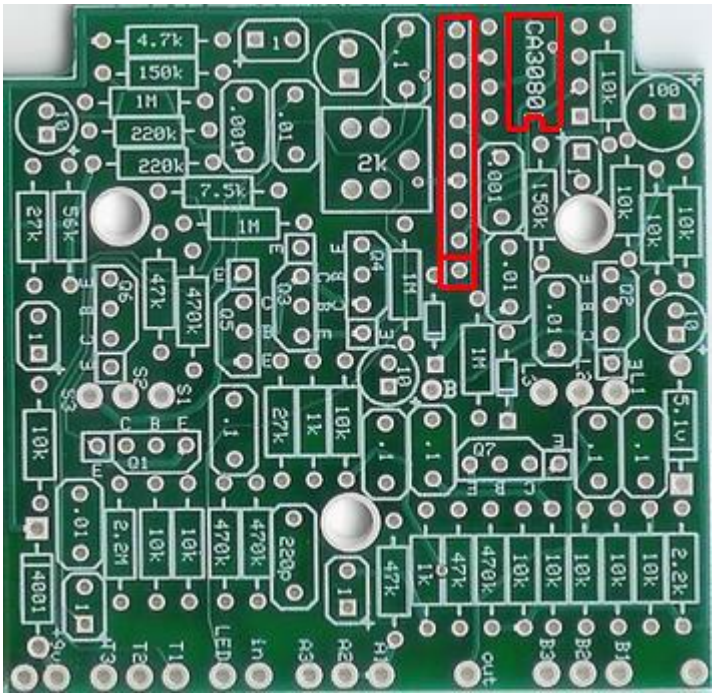
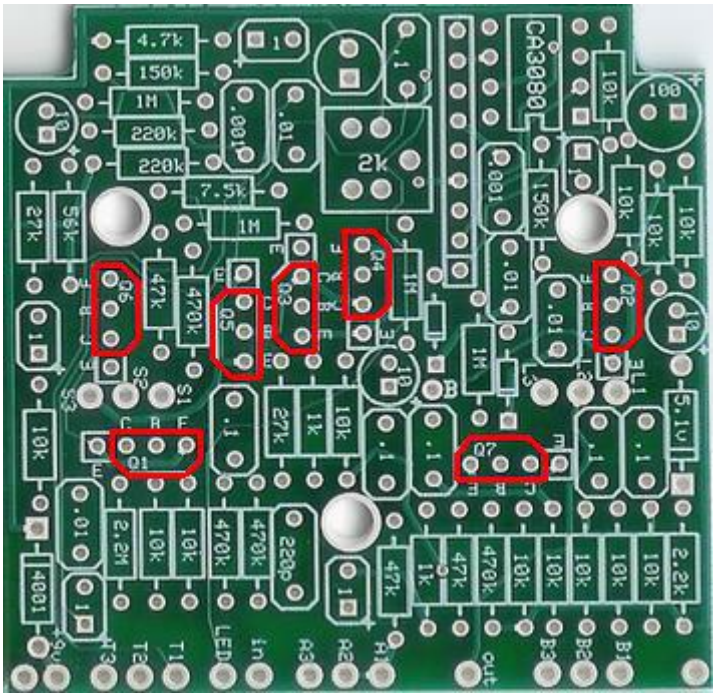


# Finishing Touches

1. Install the IC into its socket. **You can only use one at a time!!!!.** If you are using the the CA3080, you must line up the U-Shapes!!!! Some IC's won't have a U-shape. If they don't then they will have a small dot in one corner. This dot represents pin #1. The dot on the IC should be on the same side as the U-shape of the socket. IF YOUR IC HAS BOTH A U-SHAPED NOTCH AND A DOT ALWAYS USE THE U-SHAPED NOTCH FIRST TO ORIENTE THE IC. If you are installing the BA6110, there will be a notch on the top between pin 1 and 2. Match this notch up with the line between pin 1 and 2 on the layout.



2. Install the transistors into their sockets. If you are using the 2N5088's **OR** 2SC1849's that have the entire model # "2SC1849" printed on the transistor, install the transistors according to the layout. They will both have the same E-B-C pinout.




3. Adjust the trimpot. Just use your ears for this. You want to set it to the sweet spot. Turn the sustain knob all the way up. Turn the blend knob all the way "wet" or full turn counter clockwise. And set the attack knob at noon. You'll want to set the trimpot probably somewhere around noon. Turn it till you hear a nice smooth compression with very little distion. Then turn the attack knob full turn clockwise and check for distortion. If you get any extra distortion when you turn up the attack knob, adjust the trimpot to take it out. But you certainly shouldn't have a full on distortion pedal.

4. Install the base of the enclosure with the 4 screws that came with your kit.

5. Add the rubber bumper feet...unless you're a velcro person.

If you've got any problems that you can't figure out yourself, visit

Build Your Own Clone Forum
for technical support.