B.Y.O.C.
Script 90 Phaser
Build Instructions.

These instructions are for the newer 2 knob version. Please use http://buildyourownclone.com/1knobphaser.pdf if you kit only has one knob.

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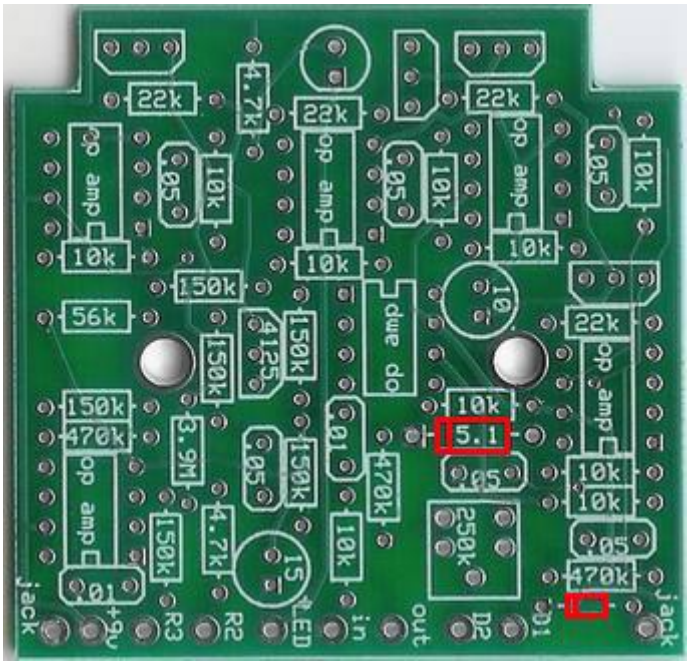
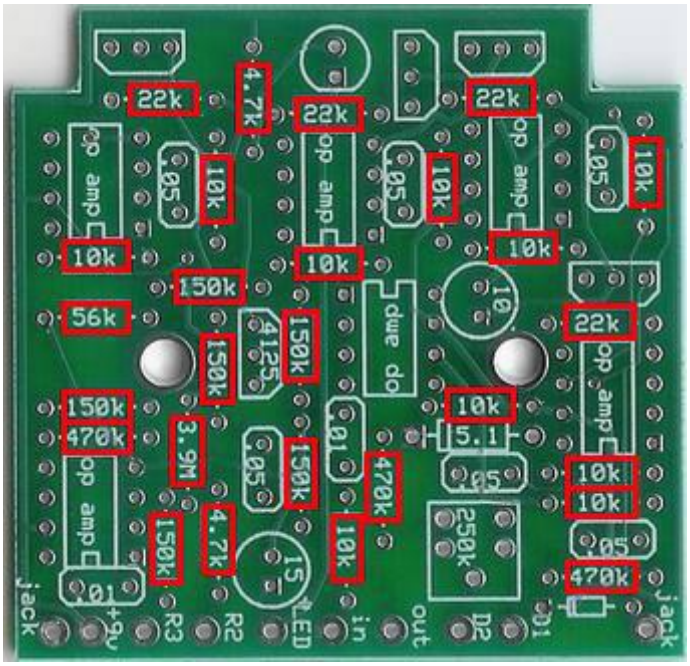
Parts Checklist

Resistors:
2 4.7k (yellow/purple/red/gold)
4 22k (red/red/orange/gold)
1 56k (green/blue/orange/gold)
10 10k (brown/black/orange/gold)
6 150k (brown/green/yellow/gold)
3 470k (yellow/purple/yellow/gold)
3.9Meg (orange/white/green/gold)
1 250k trimpot
1 500kC pot (rate)
1 500kB pot (depth)
Capacitors:
2 0.01uf (103)
6 .05uf (503)
1 10uf electrolytic
1 15uf electrolytic (may be substituted with a 2nd 10uf)
Diodes:
1 1N914 (small orange with black stripe)
1 5.1v Zener (larger orange with black stripe)
1 Red T 1 3/4 (5mm)LED
Transistors:
1 2N4125
4 2N5952
IC's:
6 TL071 or 741 single op amp
Hardware:
2 self adheasive nylon standoffs
2 knobs
1 heavy duty battery snap
1 3PDT footswitch
1 1/4” mono jack
1 1/4” stereo jack
1 AC adaptor jack
1 125b size enclosure
1 circuit board
hook-up wire

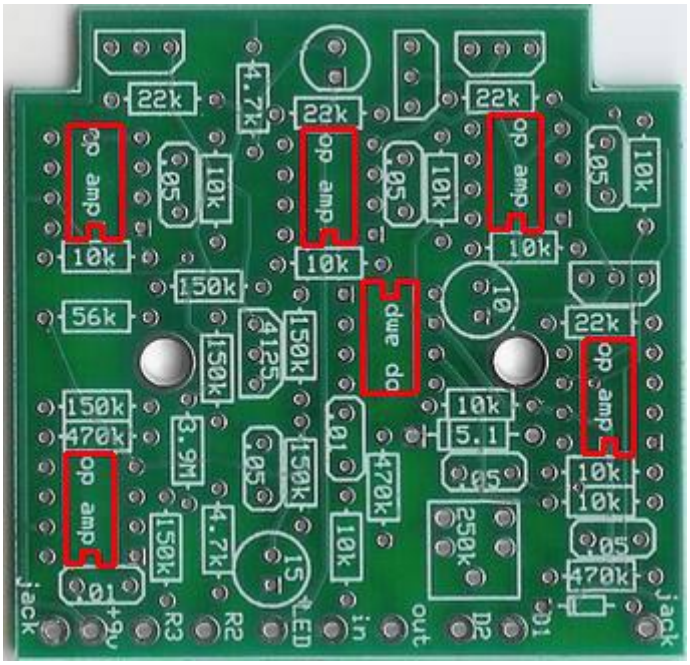
Populating the Circuit Board



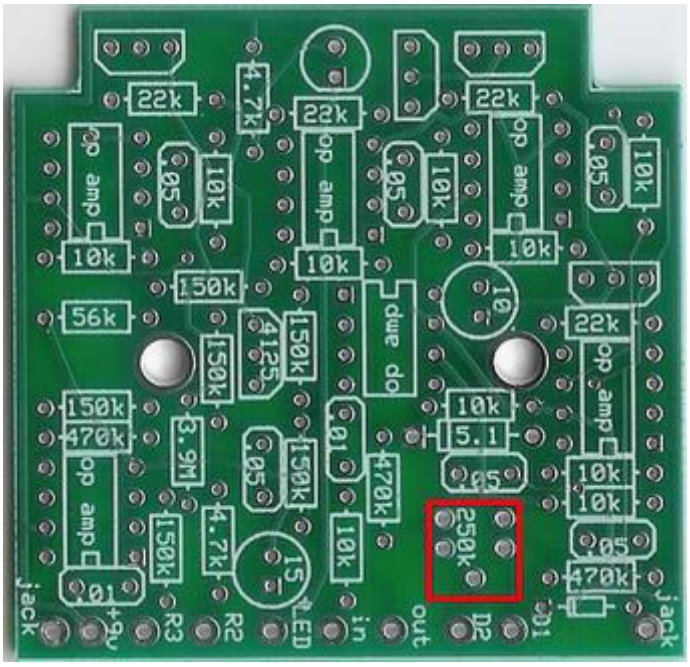
Step1: Add the diodes. The 1N914 goes in the smaller slot. The 5.1v Zener goes in the larger slot. make sure the black stripes line up with the layout.



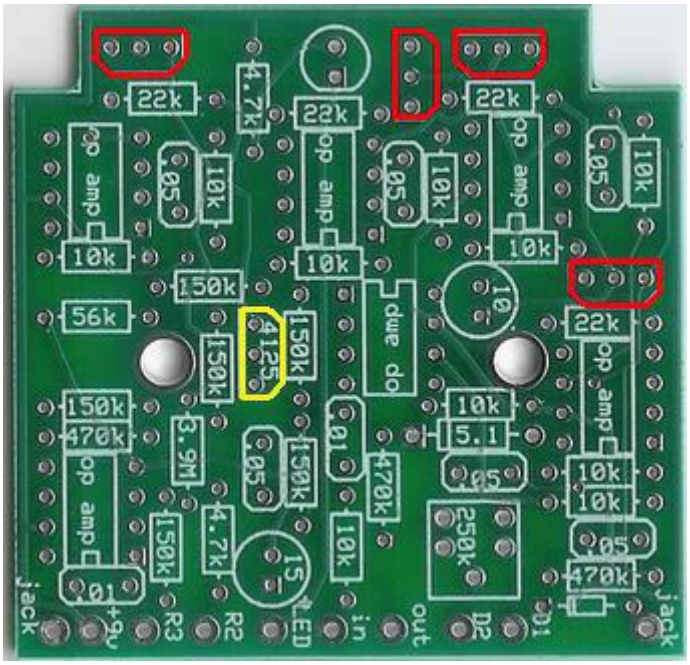
Step 2: Add the resistors. Resistors are not polarized so this means you can put them in either direction.



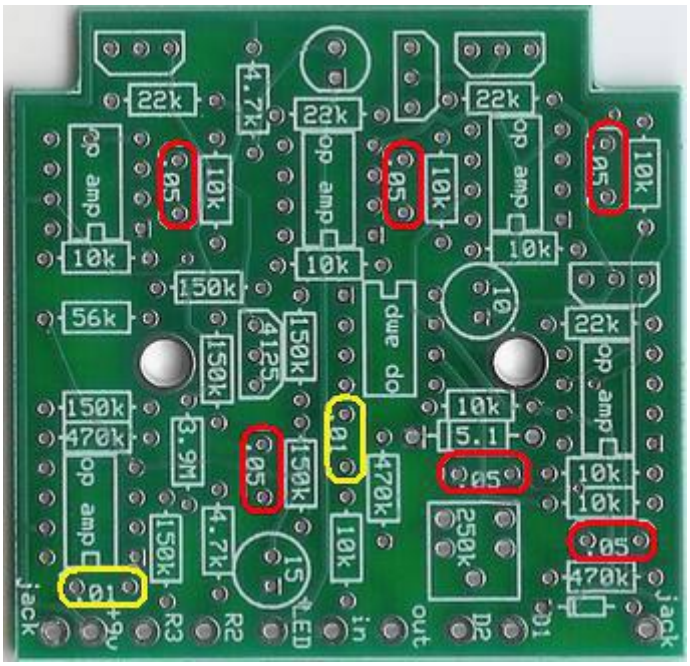
Step 3: Add the ICs. There are two standard methods that manufacturers give you to orientate your ICs. The first indicator you should look for is the "u-shape" on one end of the IC. If you IC has a u-shape on one end, match it up with the u-shape on the circuitboard layout. If your ICs do not have u-shapes, the second indicator you should look for is a small dot in one corner. This marks pin 1. Orientate the IC so that the dot is in the same corner as the square solder pad on the circuit board which is also on the same side as the u-shape.



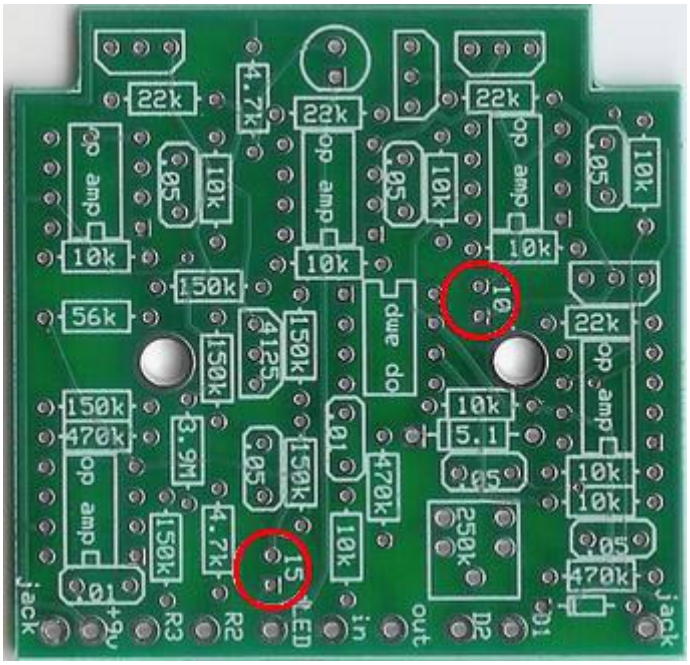
Step 4: Add the 250k trimpot. There should be only one what that this component will fit in the board. When you are finished with your phaser kit, you will need to adjust this trimpot till you hear a phasing sound. Your phaser may work the very first time you plug it in, but still adjust this pot for the best sounding phase.



Step 5: Add the transistors. Make sure you orientate them so that the flat sides match up with the layout. The 2N5952 are highlighted in red. The 2N4125 is highlighted in yellow.

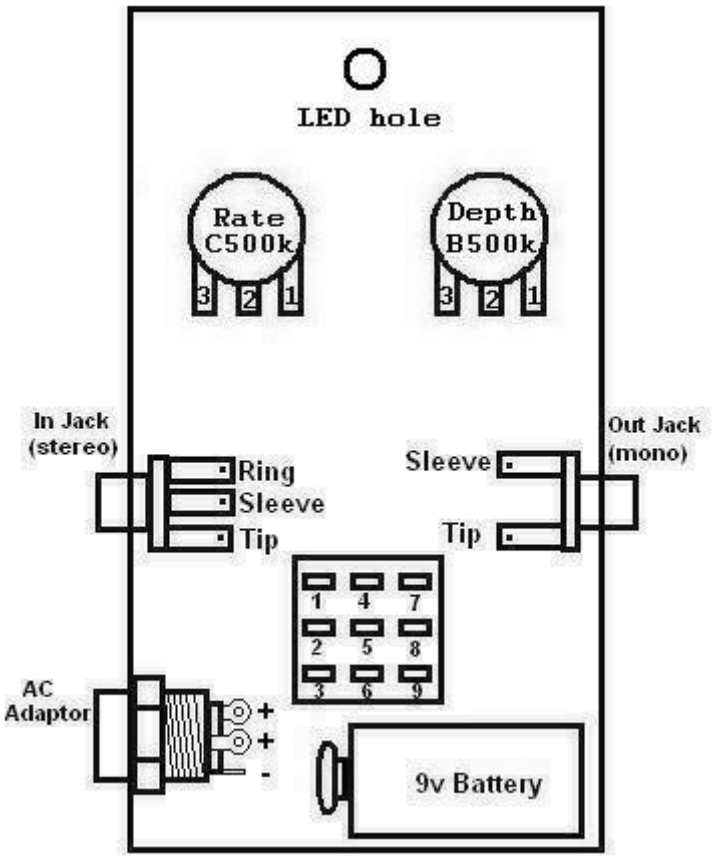


Step6: Add the film caps. These are not polarized.

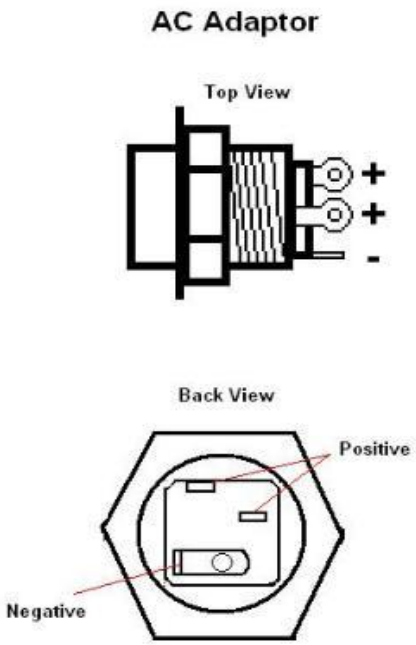


Step 7: Add the electrolytic caps. NOTE your kit may not come with a 15uf cap. If it doesn't have a 15uf cap it should have two 10uf caps. The 15uf cap can be replaced with the 10uf. Electrolytic caps are polarized. The positive end will have a longer lead and should go in the square solder pad.

Assembly



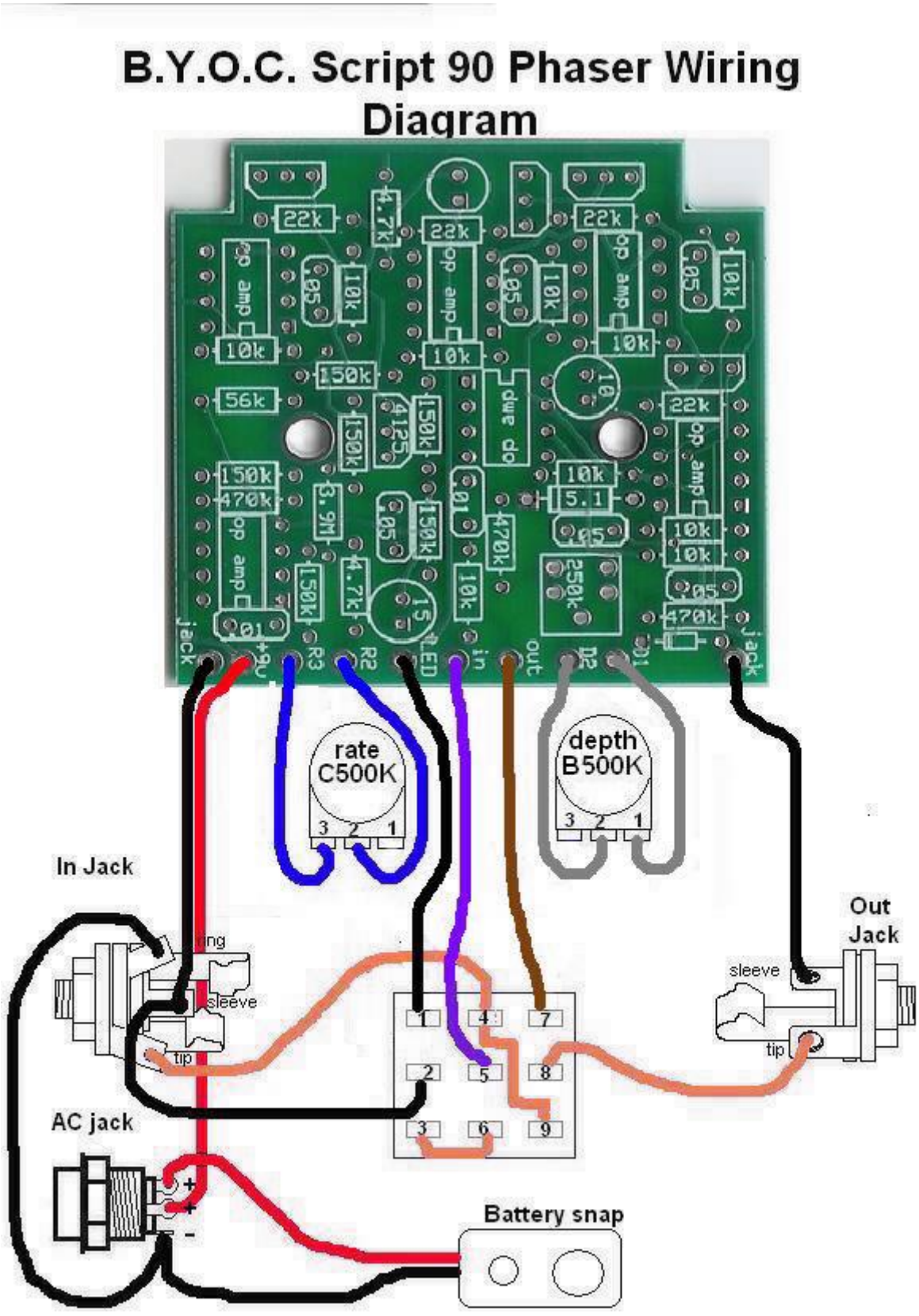
1. Install the jacks first. If you are looking down inside the enclosure, the mono jack goes on the right side and the stereo jack goes on the left. Place the washer on the outside of the enclosure. Use a 1/2" wrench to tighten.
2. Install the AC adaptor jack. The bolt goes on the inside. Use a 3/4"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



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.

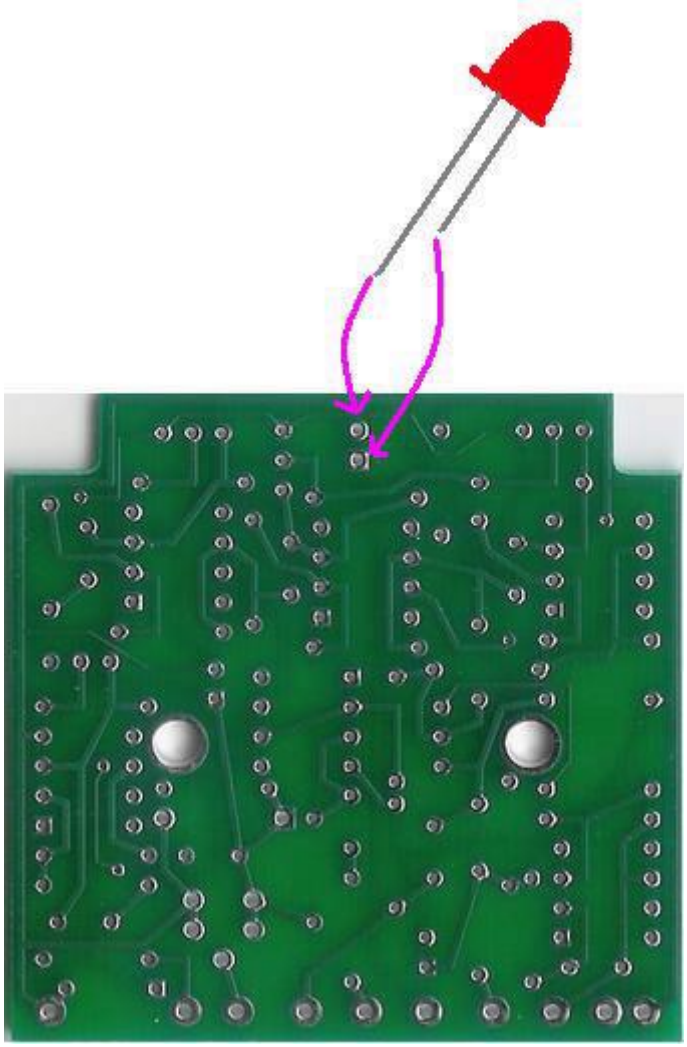
3. Install the potentiometers so that the solder lugs are pointing down towards the footswitch side of the enclosure. Use a 10mm wrench to tighten but only snug. Do not over tighten the pots.
4. Install the footswitch. The first nut and metal washer go inside. The plastic washer and second nut go on 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


B.Y.O.C. Script 90 Phaser Wiring Diagram
rate C500K
depth B500K
In Jack
Out Jack
AC jack
Battery snap
ring
sleeve
tip
sleeve
tip
+
-

Installing the LED and mounting the circuit board

1. Insert the LED into its slot on the underside or solder side of the circuit board,but DO NOT SOLDER it yet. Make sure the anode(the long leg) goes in the round solder pad and the cathode(the short leg)goes in the square solder



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 on the underside of the board.

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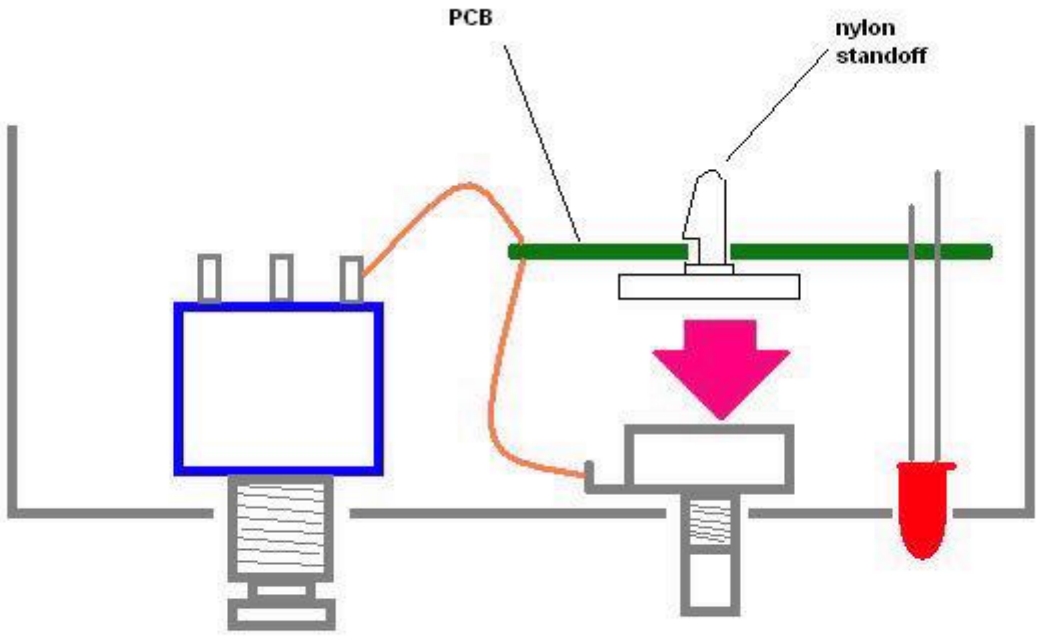
4. Remove the paper backings on the standoff to expose the self-adhesive tape.



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. If you've applied a thick layer of paint or powdercoat to your enclosure, the hole may not be wide enough for you LED and you will have to scrape some of the finish off.

8. Clip off the excess LED leg wire.

Finishing Touches

1. Plug in and test it out. It probably won't work properly till you adjust the trimpot. This biases the JFETs. It is very very sensitive. Set it to where you think sounds the best.

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

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

If you've got any questions or problems that you can't figure out yourself, visit www.board.buildyourownclone.com for technical support.