

B.Y.O.C. 250+ Kit Instructions

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Parts Checklist for 250+ Kit

Resistors:

- 2 - 4.7k (yellow/purple/red/gold) or (yellow/purple/black/brown/brown)
- 2 - 10k (brown/black/orange/gold) or (brown/black/black/red/brown)
- 2 - 20k (red/black/orange/gold) or (red/black/black/red/brown)
- 1 - 47k (yellow/purple/orange/gold) or (yellow/purple/black/red/brown)
- 4 - 1M (brown/black/green/gold) or (brown/black/black/yellow/brown)

Capacitors:

- 1 - 10pf ceramic disc
- 2 - .001uf film (102)
- 1 - .01uf film (103)
- 1 - .047uf film (473)
- 2 - 1uf aluminum electrolytic
- 2 - 10uf aluminum electrolytic

Diodes:

- 2 - 1N914 (small orange)
- 2 - 1N34A (clear glass)
- 2 - 1N4001 (black with silver stripe)

IC:

- 741 single op amp.

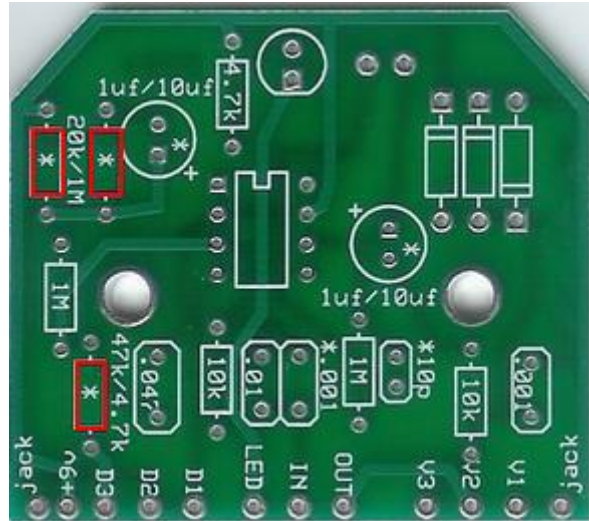
Potentiometers:

- 1 - A100K Audio Volume pot
- 1 - C500K Reverse Audio Drive pot

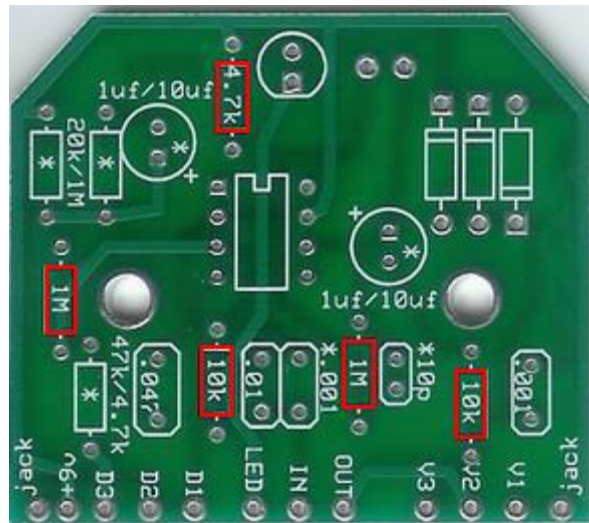
Hardware:

- 1 - enclosure w/ 4 screws
- 1 - 250+ circuit board
- 1 - 3pdt footswitch
- 2 - knobs
- 1 - AC adaptor jack
- 1 - 1/4" stereo jack
- 1 - 1/4" mono jack
- 1 - battery snap
- 1 - red LED
- 2 - nylon standoffs
- hook-up wire

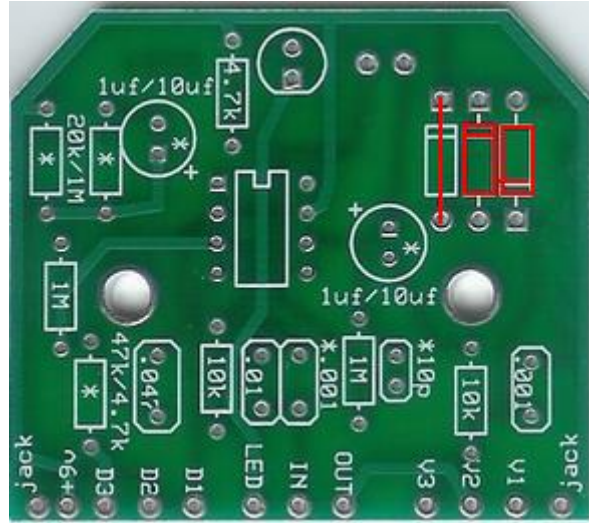
Populating the Circuit Board



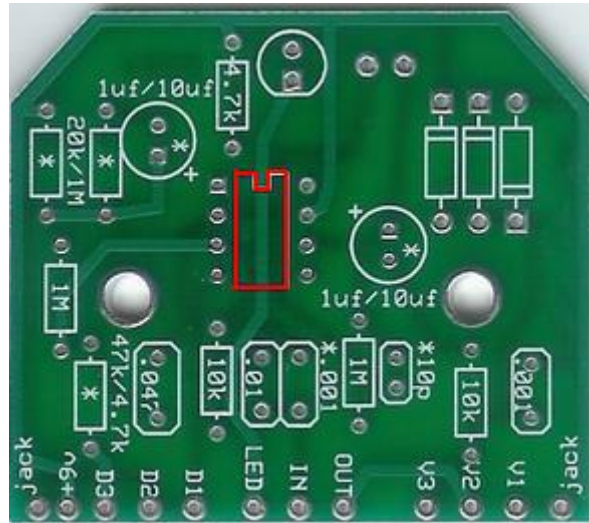
Step1: Add the first 3 resistors. Use the 20k, 20k, 47k for 250 specs or use the 1M, 1M, 4.7k for Dist+ specs. Resistors are not polarized so they can go in either direction.



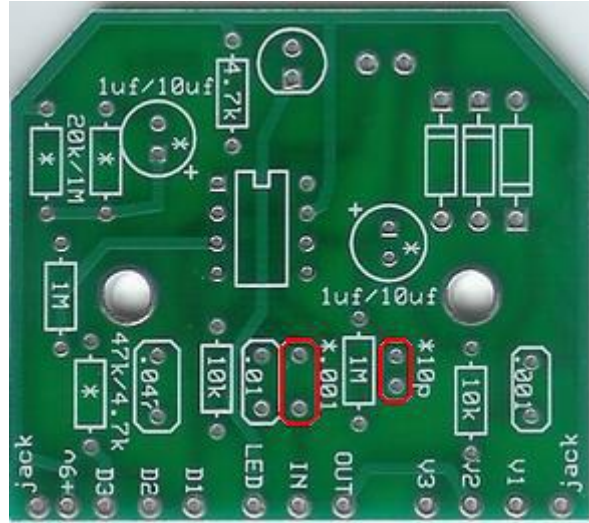
Step 2: Add the rest of the “common” resistors.



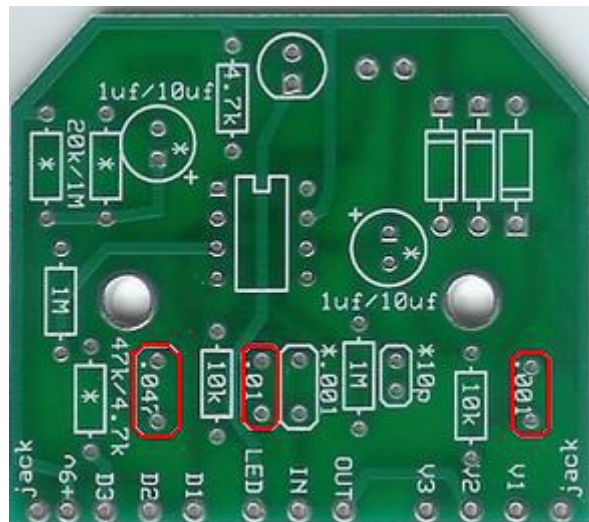
Step 3: Add the diodes. For 250 specs add the two 1N914 (small orange with black stripe) with the jumper. For Dist+ specs add the two 1N34A (clear glass germanium) with the jumper. You can experiment with your own “asymmetrical” clipping by using one of the extra diodes in place of the jumper. Be sure to install the diodes in their sockets so that the stripes match up.



Step 4: Add the 741 single op amp. Match up the notch on the IC with the notch on the layout. If your IC does not have a notch it will have a small dot in one corner that indicates pin #1. Match up pin #1 with the square solder pad.

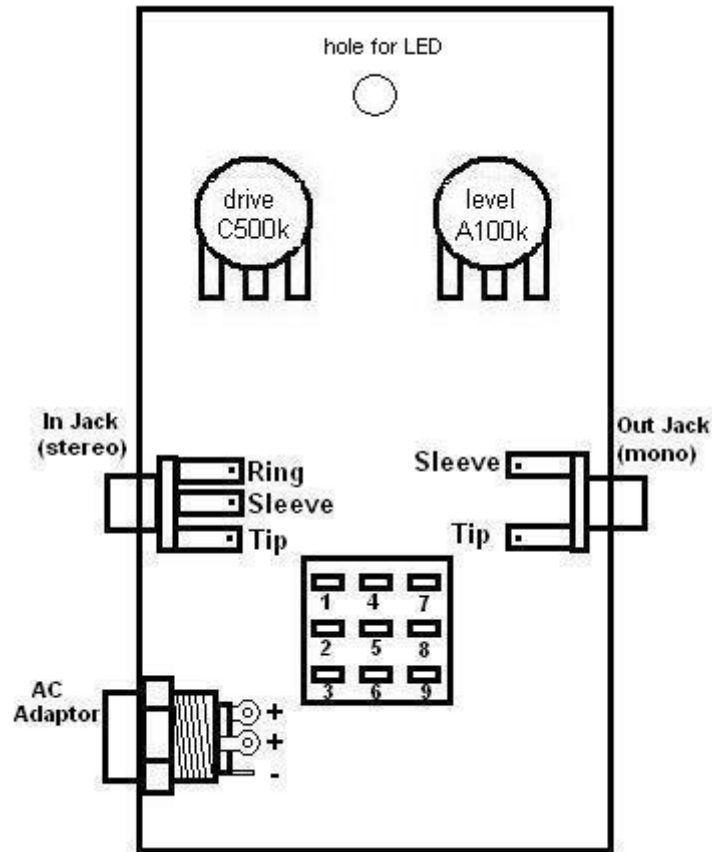


Step 5: Add the first two caps or omitt them. If you are building to 250 specs, do not add these caps. If you are building to Dist+ specs, then add them. Film and ceramic disc capacitors are not polarized so they can go in either direction.



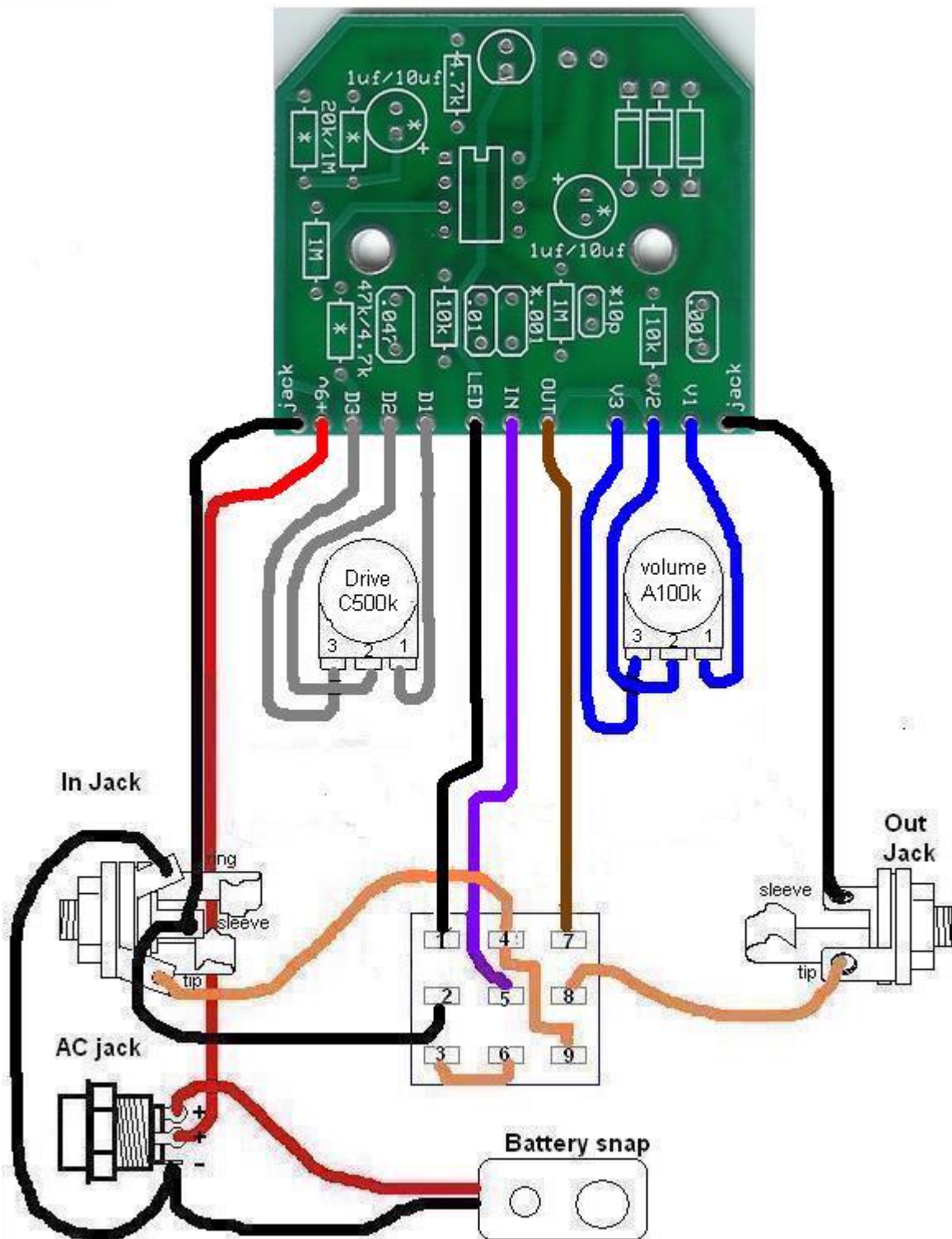
Step 6: Add the rest of the “common” caps.

Assembly



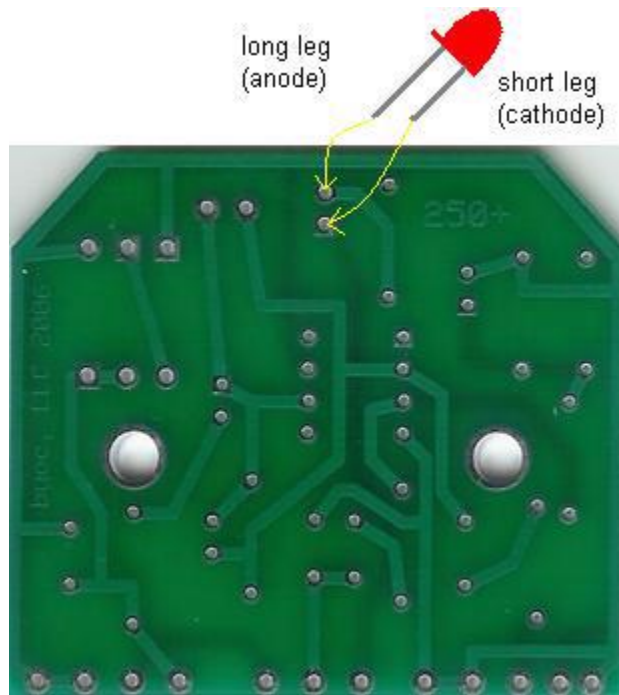
1. Install the jacks first. If you are looking down inside the enclosure, the mono jack goes on the right side and the stereo jack goes on the left. Place the washer on the outside of the enclosure. Use a 1/2" wrench to tighten.
2. Install the AC adaptor jack. The bolt goes on the inside. Use a 3/4" or 14mm wrench to tighten.
4. Install the potentiometers so that the solder lugs are pointing down. The C500k drive pot goes on the left side and the A100k (volume) pot goes on the right. The washers go on the outside. 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.

Wiring

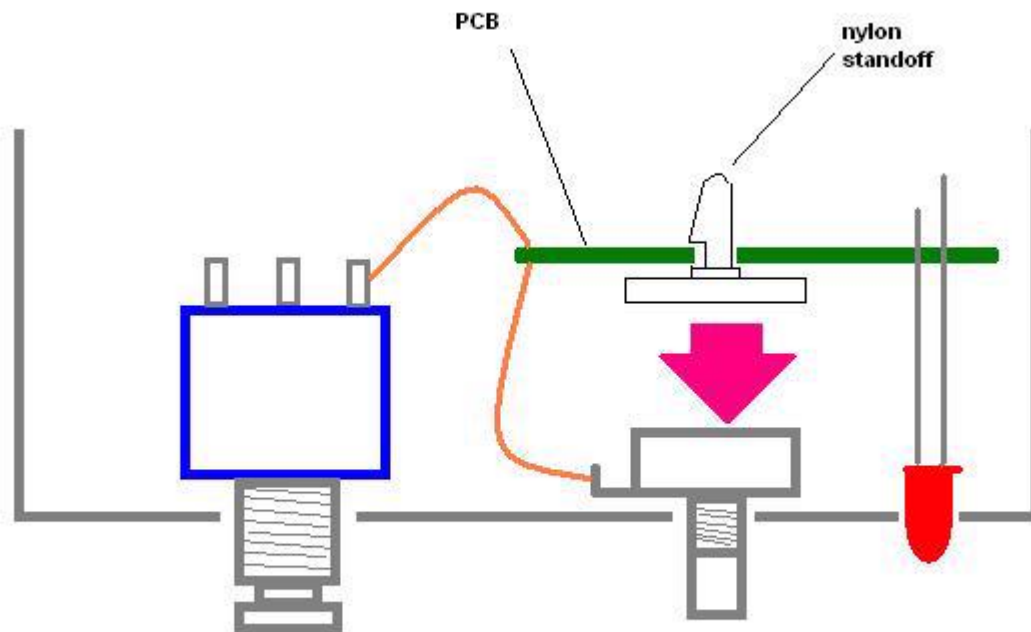


Installing the LED and Mounting the Circuit Board

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.
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.

Finishing Touches

Install the base of the enclosure with the 4 screws that came with your kit. 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 board.buildyourownclo.com for technical support

Schematic

