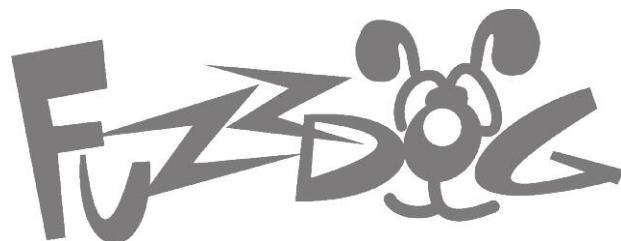


Filthy Fack!

Famous germanium
5-knobbed fuzz clone



Important notes

If you're using any of our footswitch daughterboards, DOWNLOAD THE DAUGHTERBOARD DOCUMENT

- Download and read the appropriate build document for the daughterboard as well as this one BEFORE you start.
- DO NOT solder the supplied Current Limiting Resistor (CLR) to the main circuit board even if there is a place for it. This should be soldered to the footswitch daughterboard.

COMPONENT SPECS

Unless otherwise stated in this document:

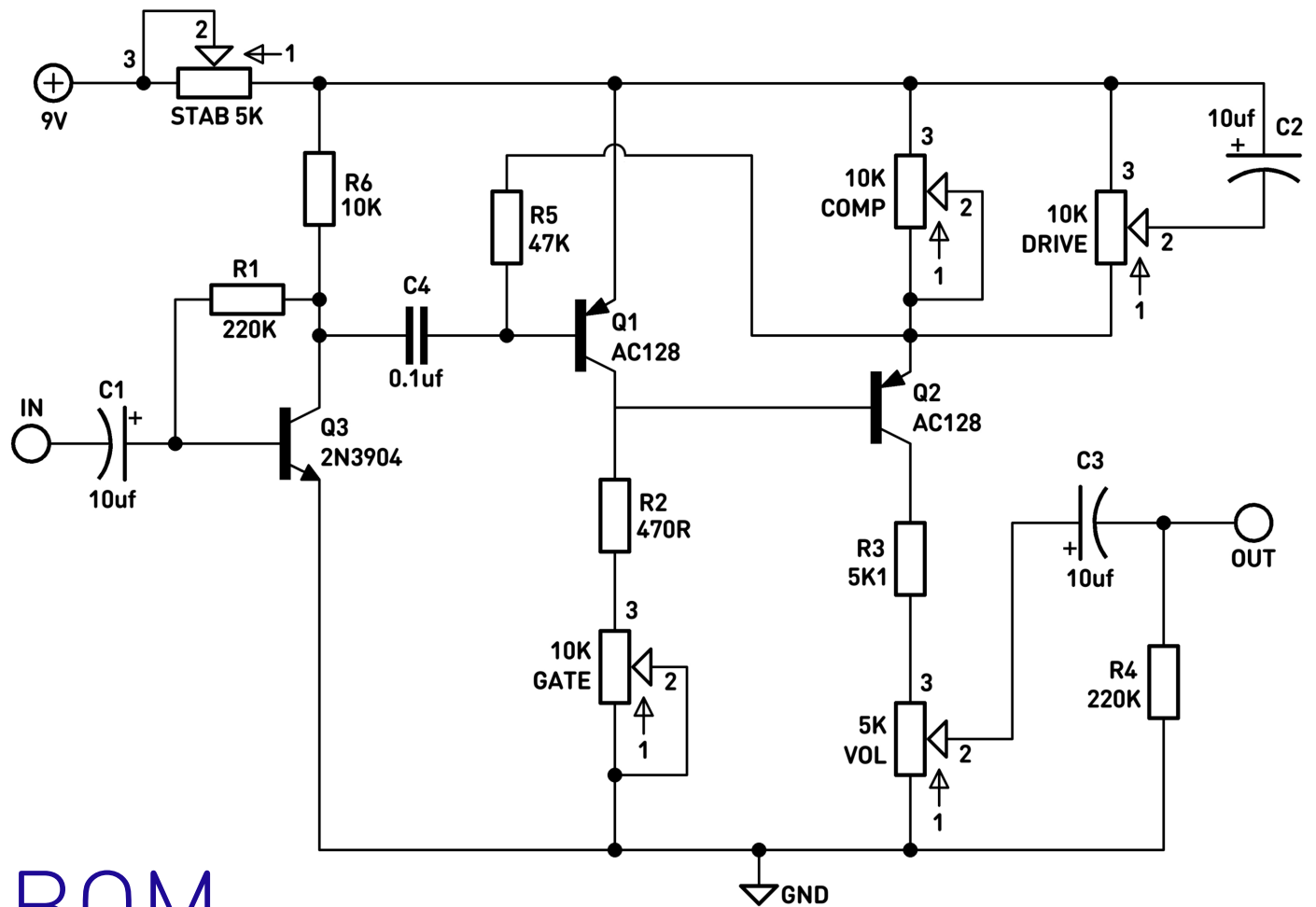
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

LAYOUT CONVENTIONS

Unless otherwise stated in this document, the following are used:

- **Electrolytic capacitors:**
Long leg (anode) to square pad.
- **Diodes:**
Striped leg (cathode) to square pad.
- **ICs:**
Square pad indicates pin 1.

Schematic

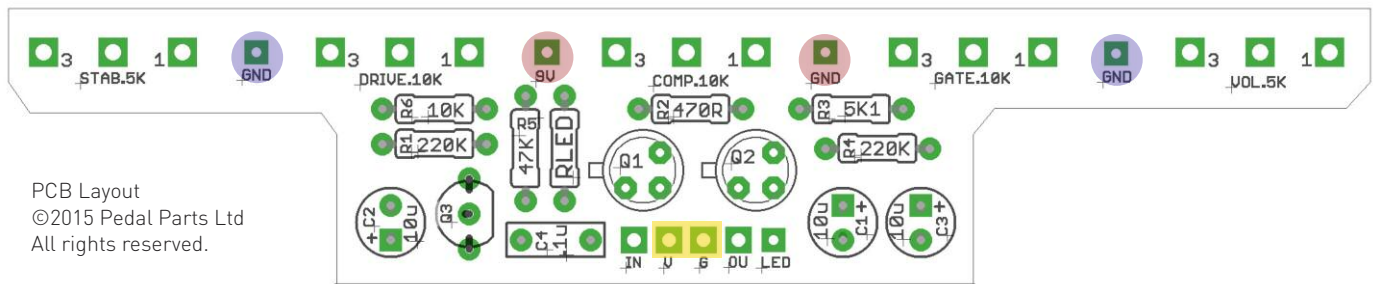


BOM

R1	220K	Q1,2	AC128/2N404* or other PNP
R2	470R	Q3	2N3904
R3	5K1	STAB	5kC (B will work)
R4	220K	DRIVE	10kB
R5	47K	COMP	10kB
R6	10K	GATE	10kB
RLED	2K2 (CLR)	VOL	5kB
C1,2,3	10u		
C4	0.1u		

RLED not shown on the schematic - it connects directly to the 9V supply.

*You can try any PNP transistors, germanium or silicon. No rules.



General Notes

The power and signal pads on the PCB conform to the FuzzDog Direct Connection format, so can be paired with the appropriate daughterboard for quick and easy offboard wiring

Be very careful when soldering the LED and, transistors. They're very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds).

Snap the small metal tag off the pots so they can be mounted flush in the box.

Positive (anode) leg of the electrolytic capacitors go into the square pads.

Pots mount on the same side of the board as the other components. Leave them until last otherwise you'll find it difficult to get in to the other parts.

The board has extra pads for the jack GND connections to make wiring easier (marked in blue above). Give some thought to where the wires will be connected before soldering them to the PCB. The 9V and GND pads marked above in red should be on the same side as the components, as they'll attach to the DC socket located on that side in the enclosure. The IN and OUT wires should go on the opposite side as they'll be heading to the footswitch.

NOTE: The V and G pads on the Direct Connect strip (marked in yellow above) only need to be used if you're using a daughterboard. You can of course use the G pad as your main GND connection for the switch wiring shown later in the document, but the V pad is redundant.

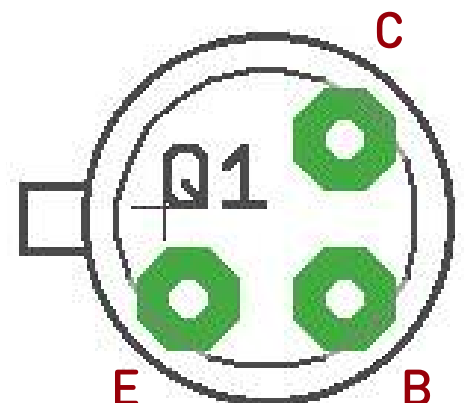
If you have a mini DC socket with only two pins, the longer pin is +ve.

TRANSISTORS

The legend on the PCB shows the pins/body for AC128 transistors as shown far right >>>

If you're using different transistors check your pinout and match the legs to the pads.

2N558B pinout is >>>



Not FAT enough for ya?

Turning the Filthy Fack! into a FAT Filthy Fack!

is pretty easy, though it's an offboard mod. Finding space in the enclosure to accommodate it is another matter if you're sticking with a 1590B. Top edge is the best bet.

You'll need:

- A DPDT ON-OFF-ON toggle switch
- Two extra caps, value depends on how much fatter you want it to be. These will be in parallel with the 100n cap, so keep that in mind. If you add a 220n you'll actually have 320n in play when selected. FuzzDog's personal recommendations are 220n and 2u2.

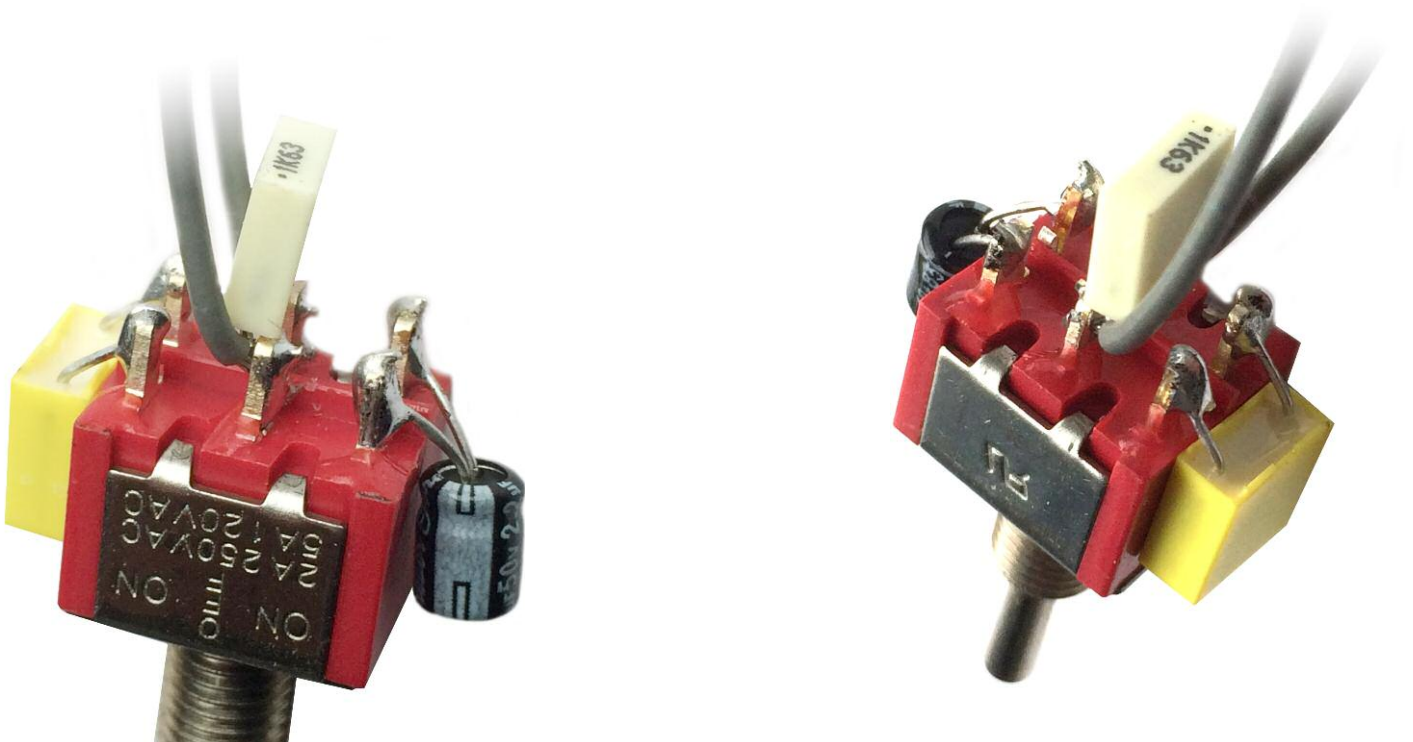
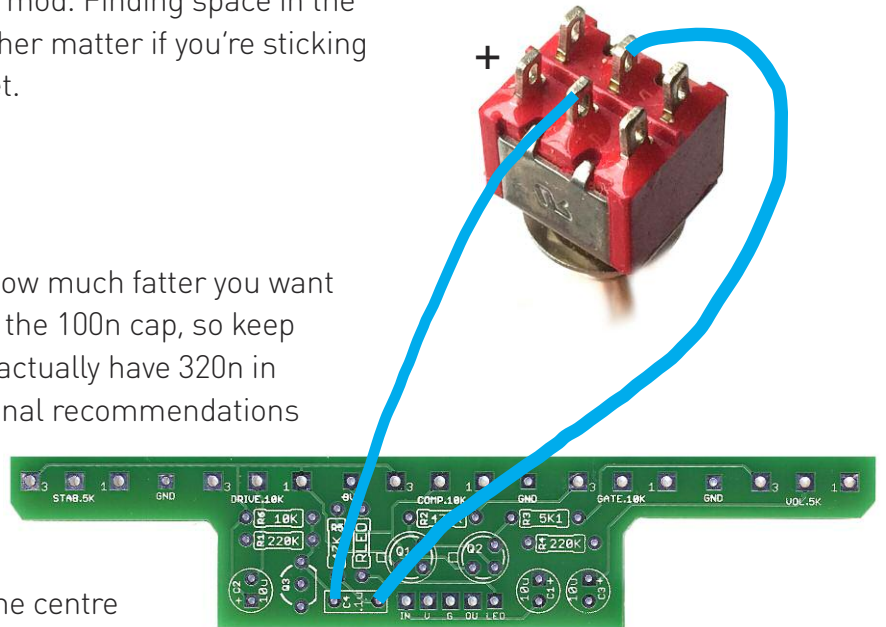
Solder two lengths of wire to the pads where the 100n cap would normally go. Take the other ends to the centre lugs of the DPDT switch but don't solder them yet.

Get the legs of your 100n cap into the centre lugs along with your wires and solder them in.

Now get your other caps in place across the outer lugs of the switch as shown. If you've gone for an electrolytic its best to put the + leg into the lug that goes to the bottom pad on the PCB as shown above.

If you want to modify an existing build you can try to attach the wires to the solder side of the board where the 100n cap is, and forget about putting it across the middle switch lugs.

That's it. Centre position = standard FF, one side is 320n, one side is 2u3. Enjoy!



Test the board!

Check the relevant daughterboard document for more info before you undertake this stage.

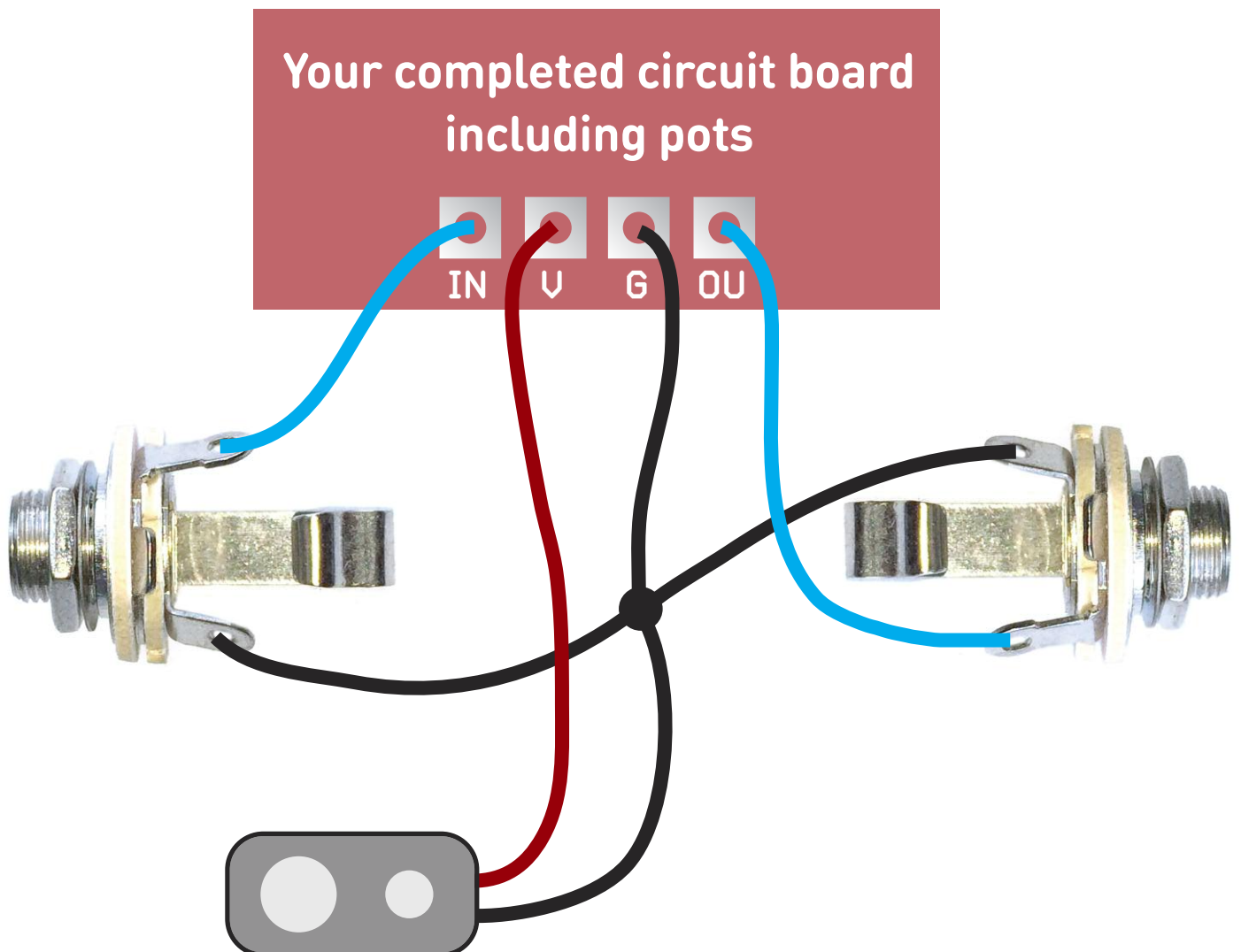
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

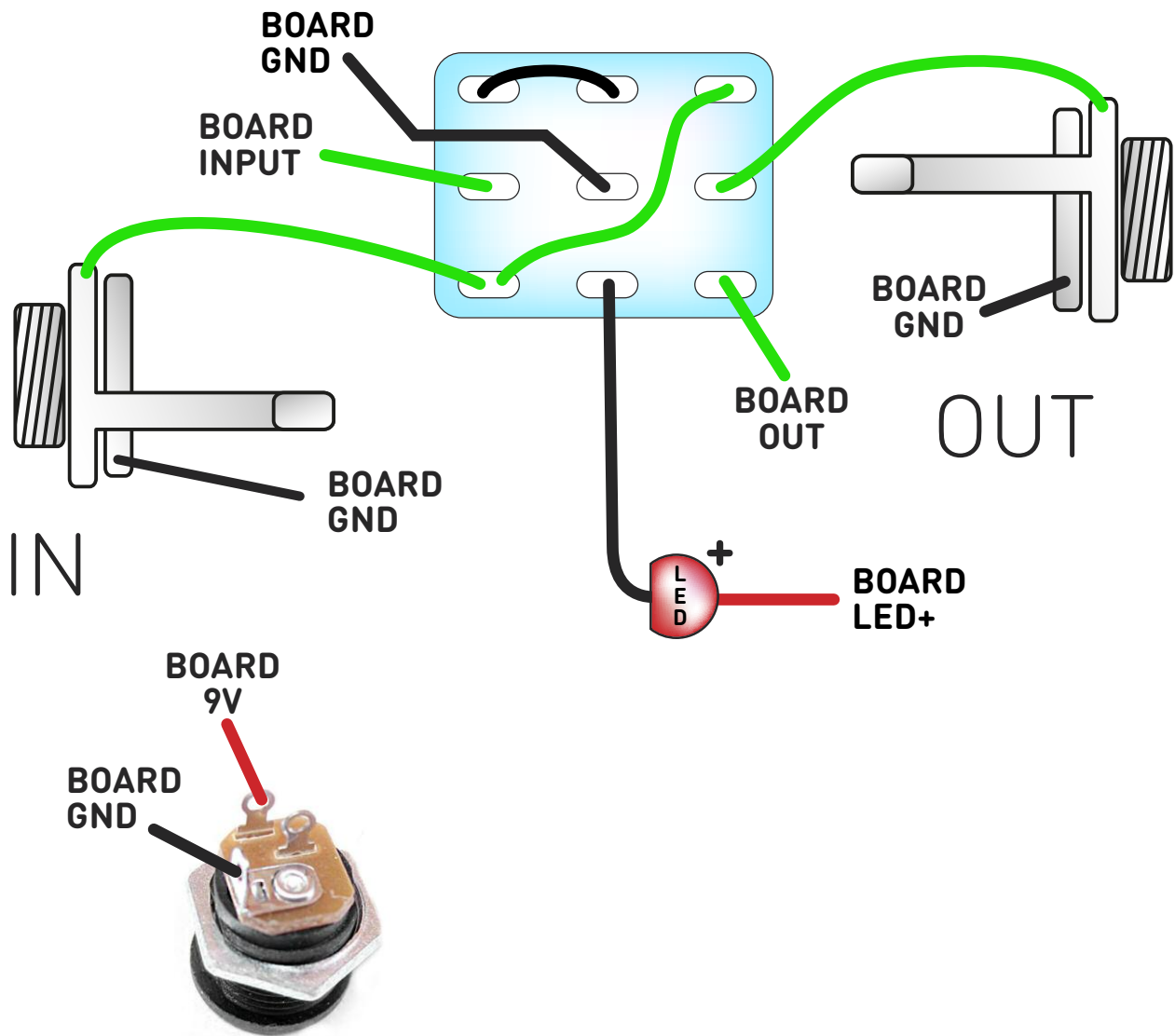
If you're using a ribbon cable you can tack the wires to the ends of that. It's a lot easier to take them off there than it is to desolder wires from the PCB pads.

If it works, carry on and do your switch wiring. If not... aw man. At least you know the problem is with the circuit. Find out why, get it working, THEN worry about the switch etc.



Wire it up - DC only version

(if using a daughterboard please refer to the relevant document)



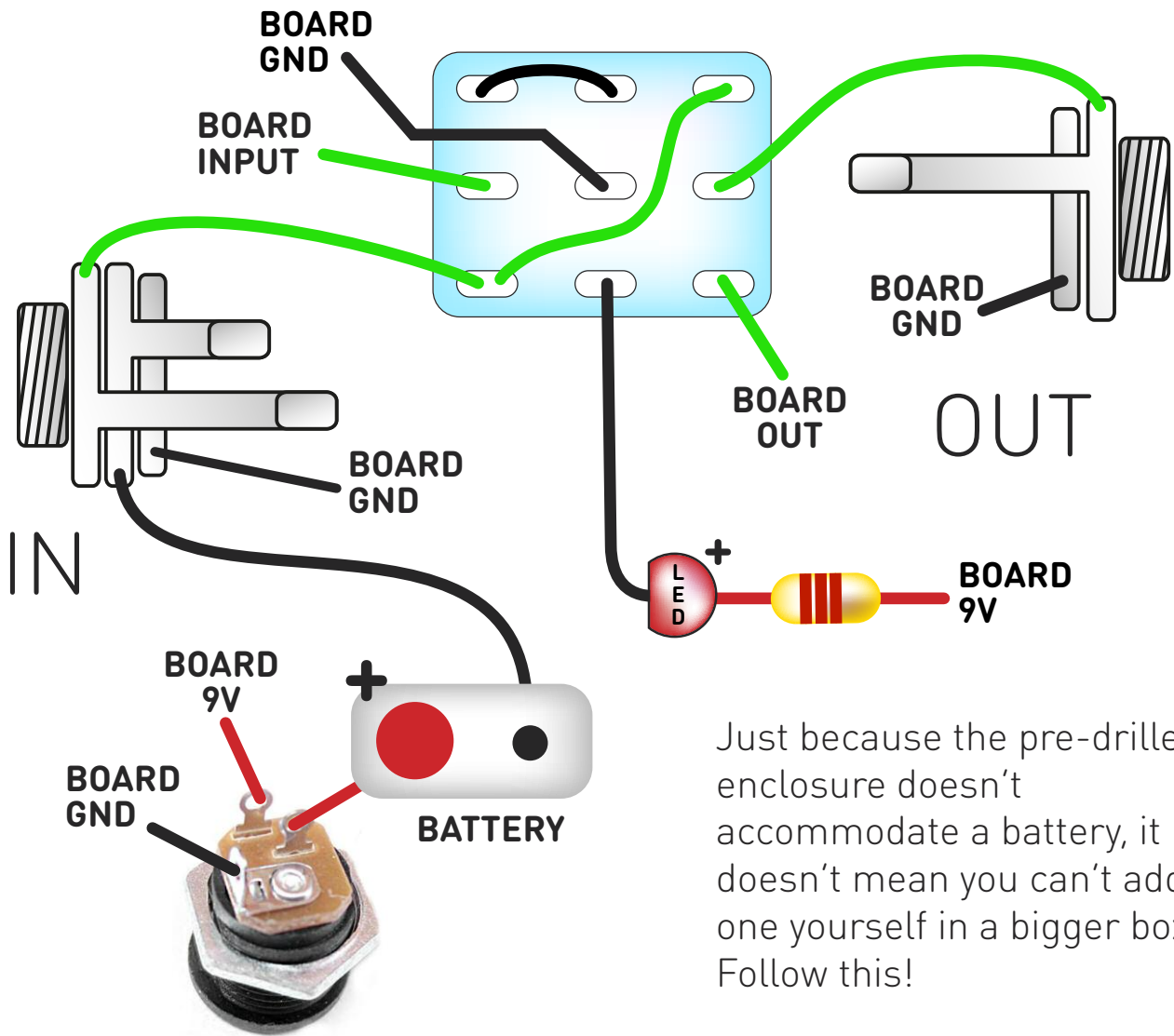
There are GND connections for both jacks at either end of the board.

All the GND pads are connected to each other in the traces on the PCB, and all of them are connected to both sides of the board.

This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

Wire it up - with battery

(if using a daughterboard please refer to the relevant document)

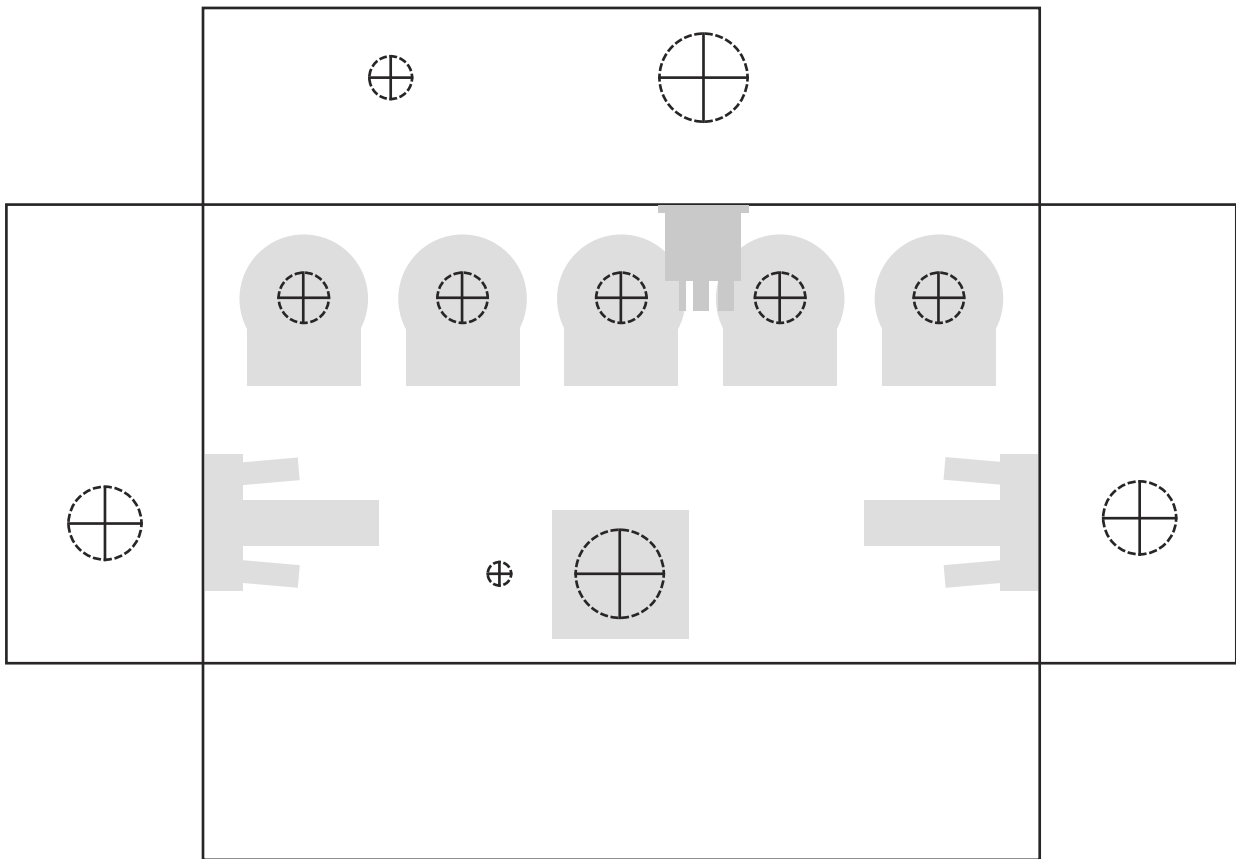


There are GND connections for both jacks at either end of the board.

All the GND pads are connected to each other in the traces on the PCB, and all of them are connected to both sides of the board.

This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

Drill template



Please check positioning before drilling - those holes are your responsibility and these templates are just a guide.

The best way to mark holes for the pots is to lay the PCB on the box before you start soldering anything and mark at the centre pad of each.

The DC socket needs to be quite close to the edge of the box so it comfortably clears the pots.

Recommended drill sizes:

Footswitch, DC	12mm
Jack sockets	9.5-10mm
Pots	7mm
Toggle switch	6mm

FuzzDog.co.uk