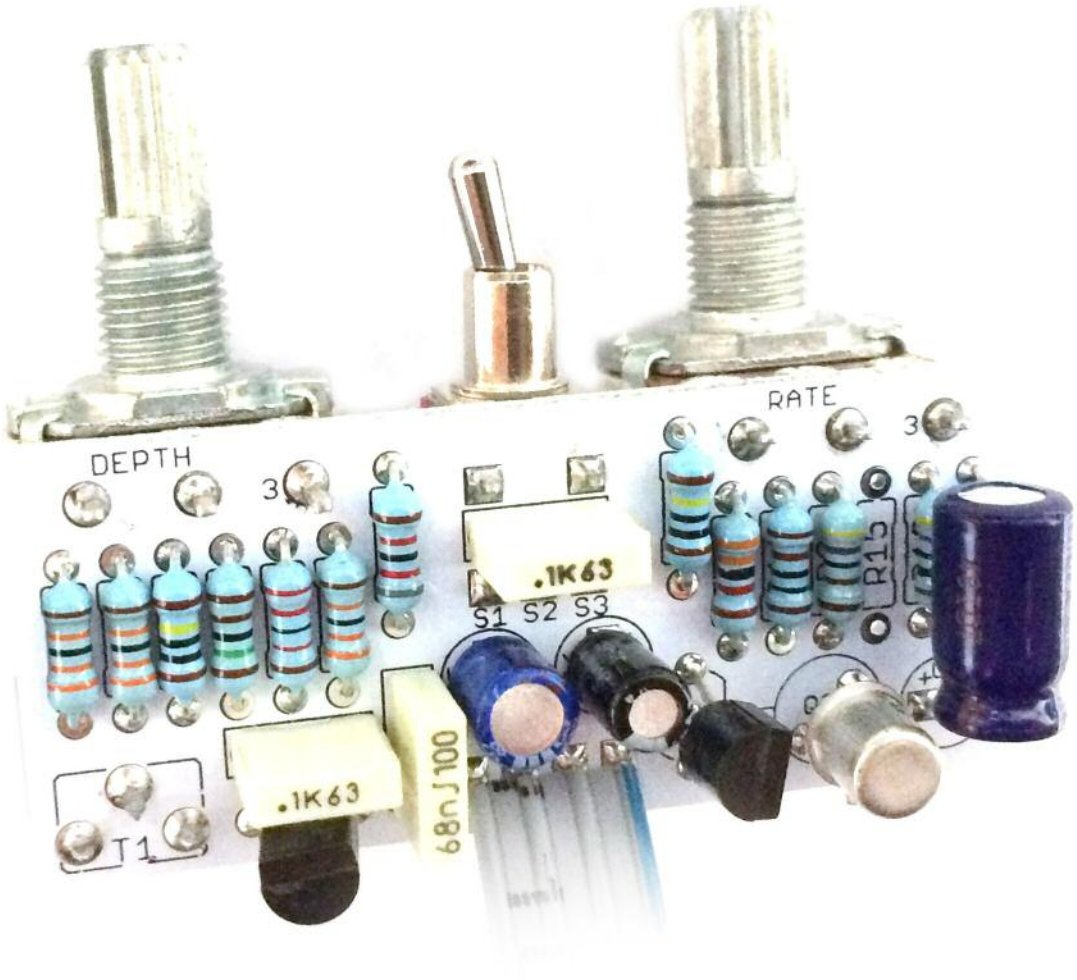
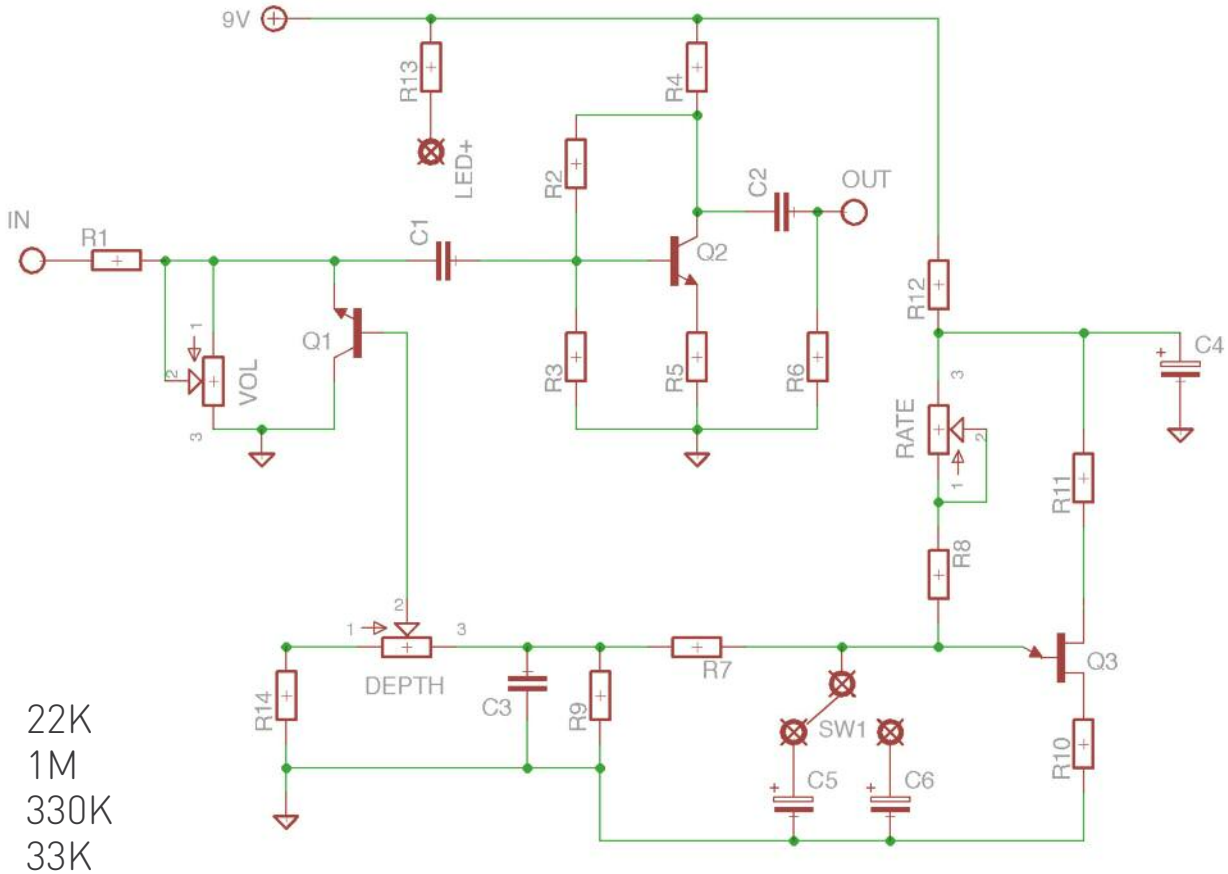


Repeater v3

Modded and updated Vox Repeat Percussion

Schematic + BOM

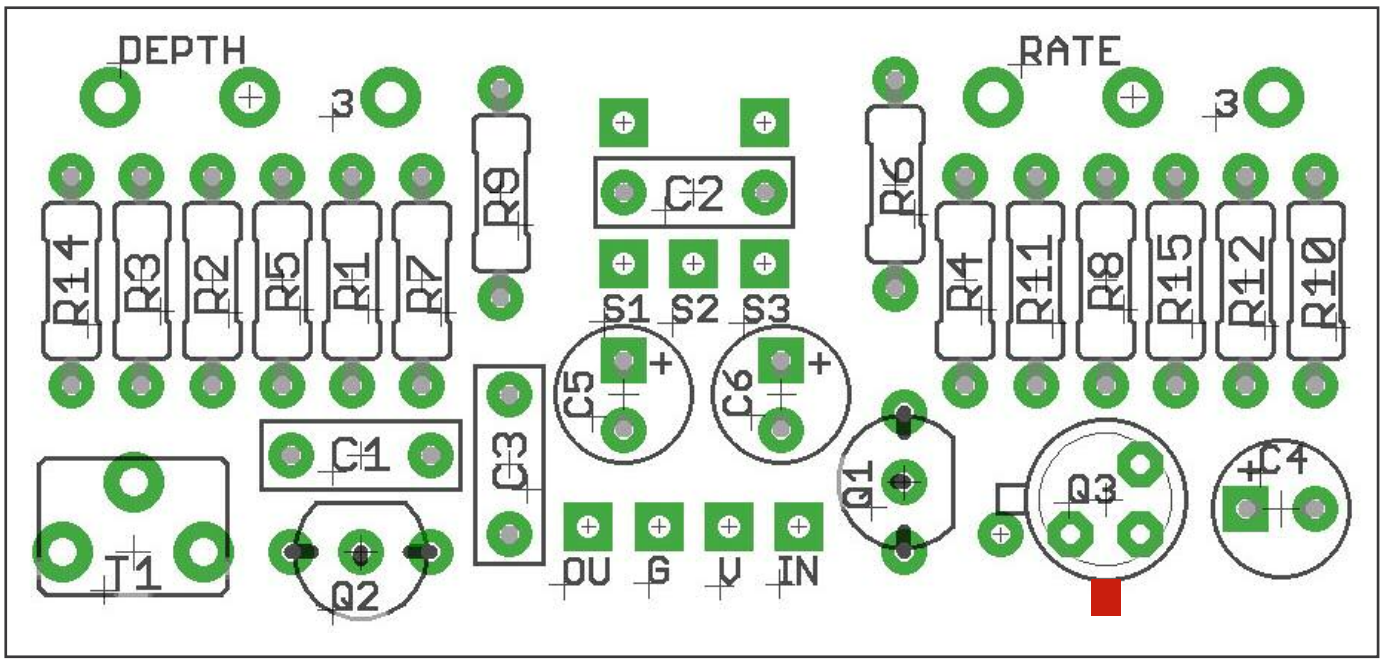


R1	22K			**Q1,2**	2N5088‡
R2	1M			**Q3**	2N2646
R3	330K				
R4	33K	**C1**	100n (4n7*)		
R5	1K5	**C2**	100n	**DEPTH**	500KC (or B)
R6	1M	**C3**	68n	**RATE**	100KC (or B)
R7	330K	**C4**	100u	**VOL**	47K Trimmer
R8	4K7	**C5**	10u		
R9	82K	**C6**	2u2**	**Switch**	SPDT ON-ON
R10	33R				
R11	1K				
R12	470R				
R13	2K2 (CLR)				
R14	330K				

* Original was 4n7, but this gives a really thin sound. Both caps are included.

** Added, along with switch, to give a bigger range.

‡ Many high gain NPN wil work here, e.g. 2N3904, MPSA18, 2N5089



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.

You can omit the depth pot altogether by connecting DEPTH pads 2 and 3 with a jumper.

You can mount the trimmer on either side of the board, but putting it on the back with the pots keeps it nicely out of the way.

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).

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

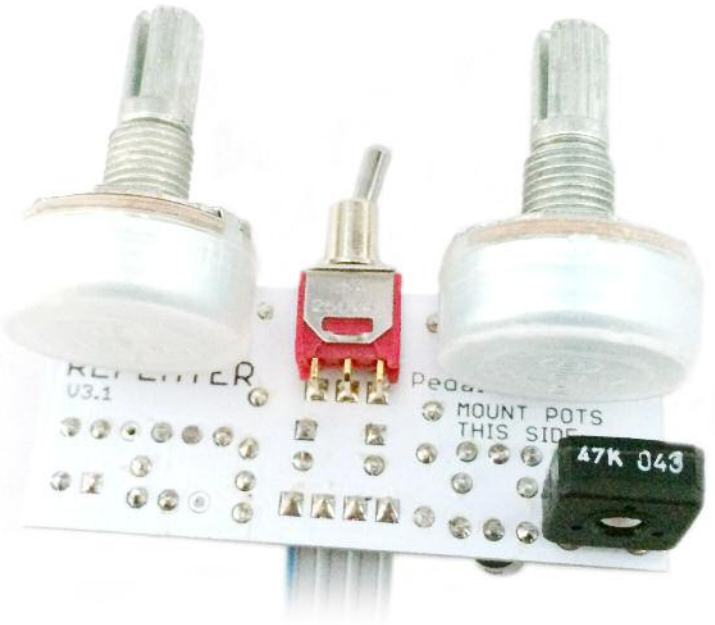
Snap the small metal tag off the pots so they can be mounted flush in the box.

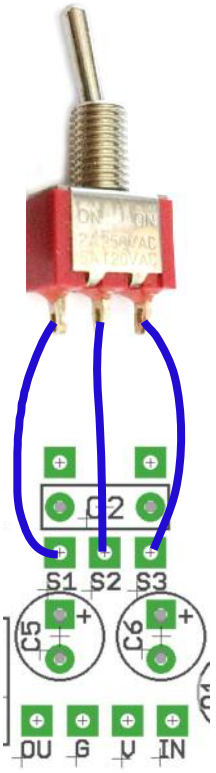
The small metal tag on Q3 should be positioned as shown above in red. the legs will sit naturally in the holes in this position.

SWITCH

If you're using a board-mounted micro toggle you're going to have to be very neat and careful. Solder in C2 first, and ensure you have very clean solder joints. Snip them down as close to the board as you can.

The switch sits on the other side of the board but there's a metallic surface that can short out the capacitor. Use something non-conductive in between the switch and the board, such as some flattened heat shrink. Or you can just ensure there's a gap between the switch and the capacitor joints.





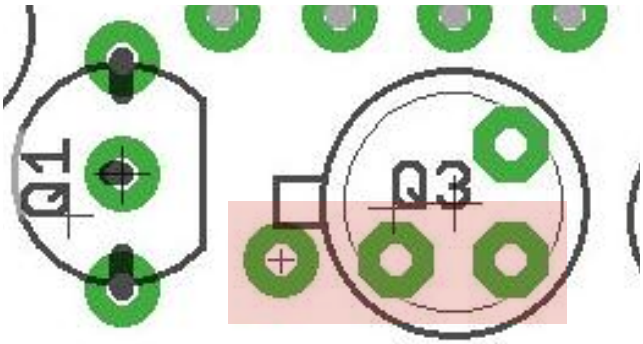
If you're using a wired switch, connect as shown. Ignore the two pads above C2 - they're only there as extra support for the board-mounted micro-toggle.

The board can accommodate a more readily available 2N6027 PUT (Programmable Unijunction Transistor) device instead of the increasingly hard to find 2N2646 UJT. This works ok, but after some experimentation the opinion at FDHQ is that it doesn't work as well. The sound is identical, but the PUT tends to lock up towards the extreme clockwise end of the range control. You could simply not bother turning the knob all the way.

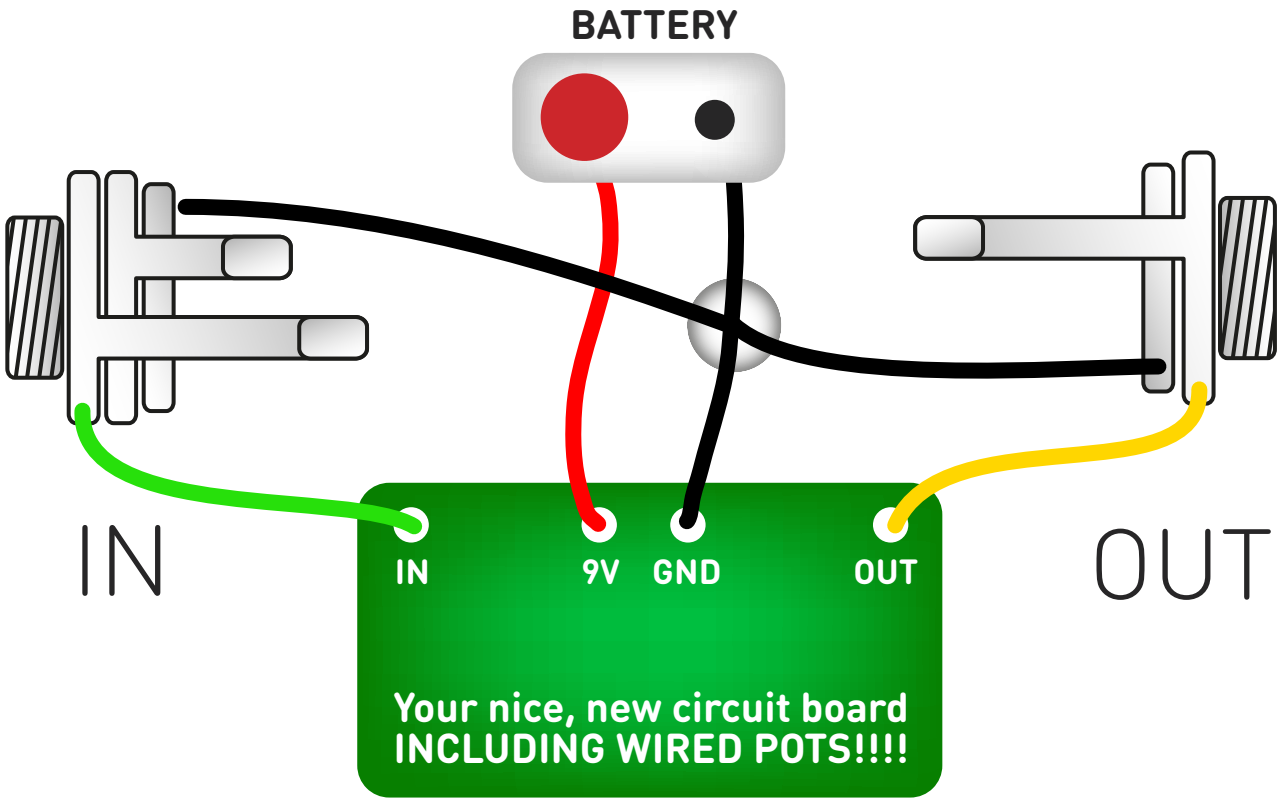
To use the PUT device you need to change R11 to 2K, and add R15 (3K9).

The PUT fits in the pads shown below.

This feature is taken from the Moosapotamus Skippy.



Test the board!



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

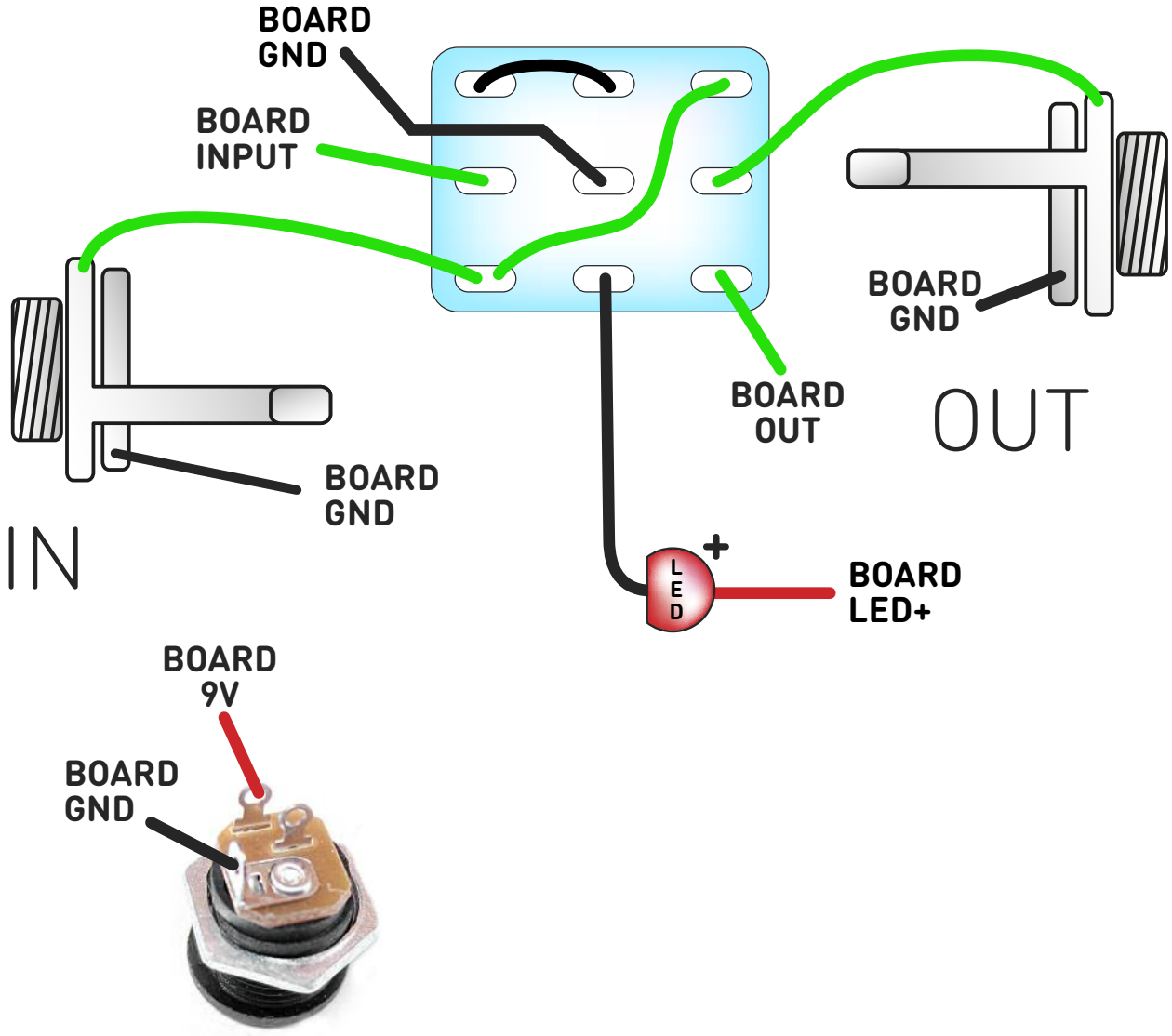
Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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 it works, crack 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)

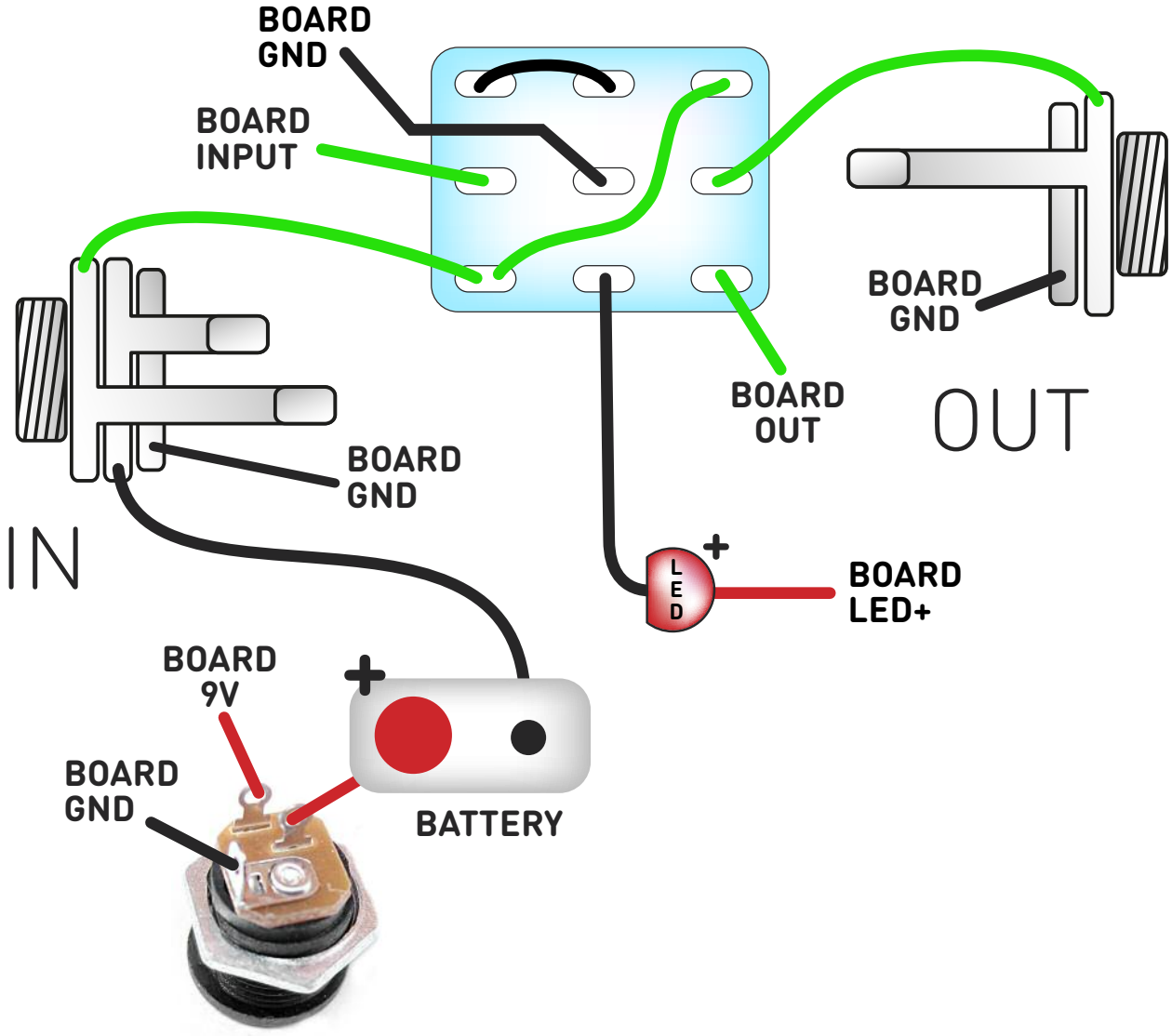


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

Wire it up - with battery

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



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Drilling template

Standard Switch

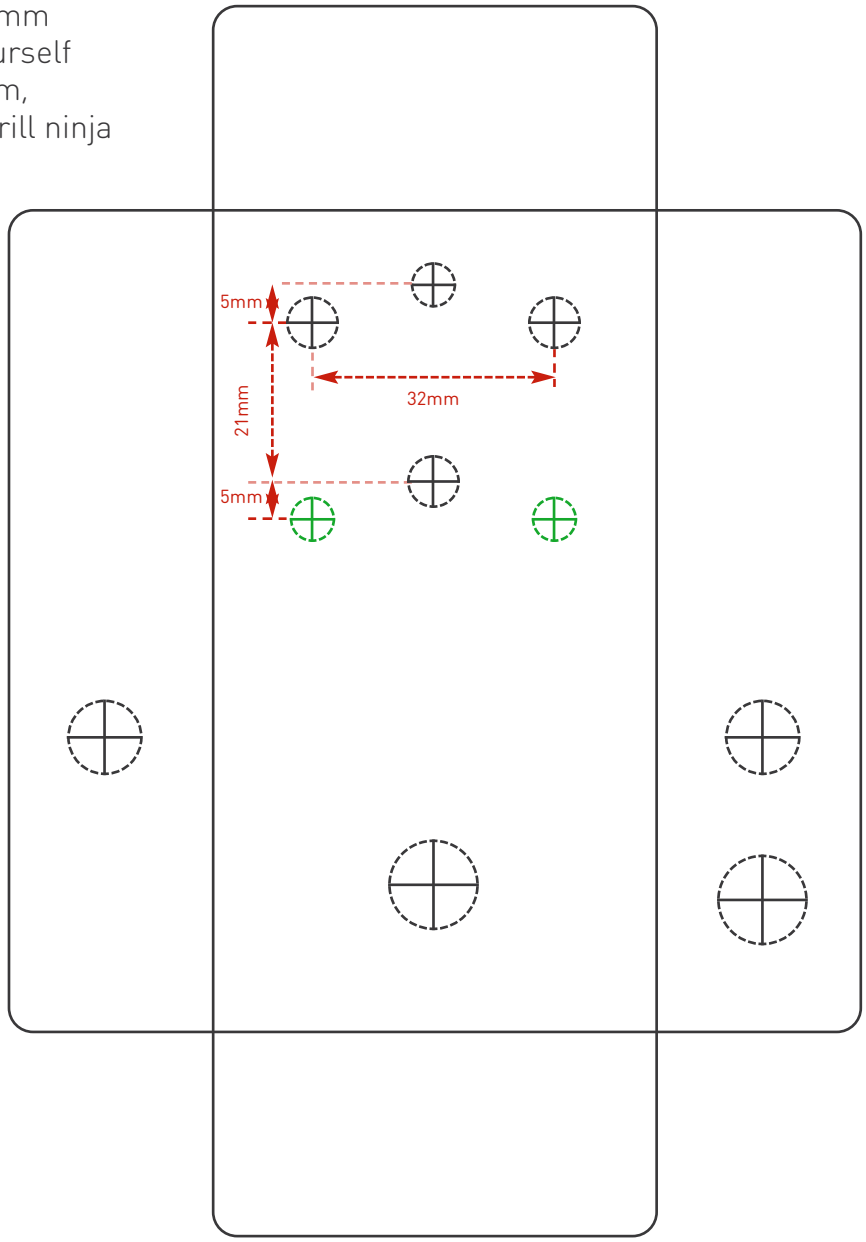
Hammond 1590B

60 x 111 x 31mm

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Standard Toggle Switch	6mm

It's a good idea to drill the holes for the board-mounted parts 1mm bigger to give yourself some wiggle room, unless you're a drill ninja



This template is a rough guide only. You should ensure correct marking of your enclosure before drilling. You use this template at your own risk.
Pedal Parts Ltd can accept no responsibility for incorrect drilling of enclosures.

PedalParts.co.uk