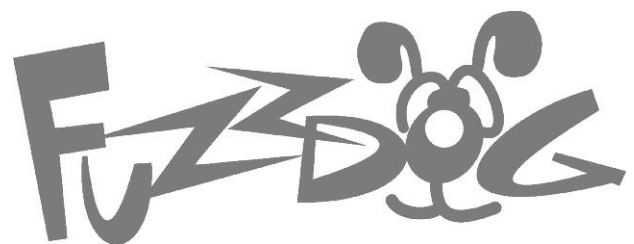
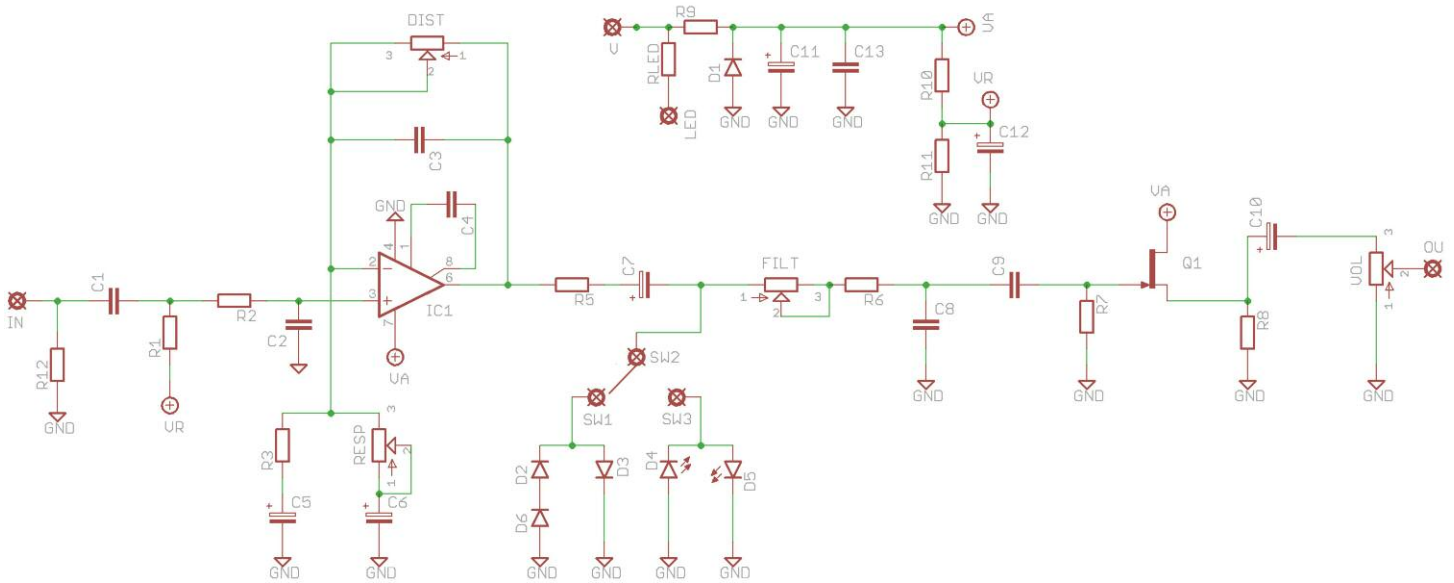


Rodent

Gnawingly-good distortion
with switchable clipping



Schematic

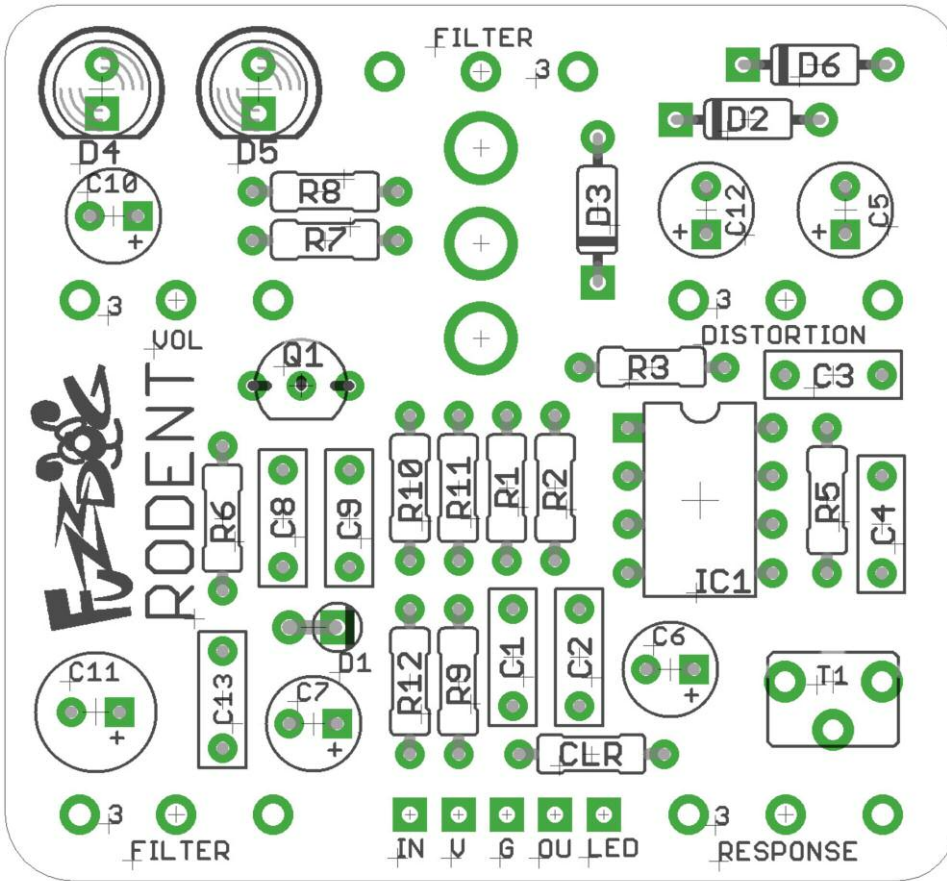


BOM

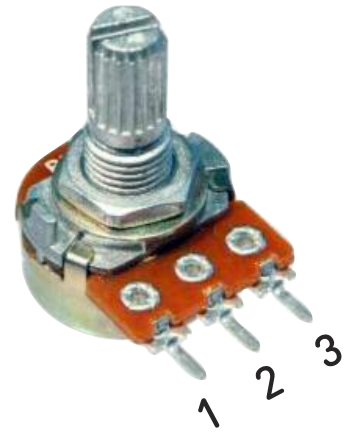
R1	1M	C1	22n	Q1	2N5458
R2	1K	C2	1n	IC	LM308N or OP07
R3	560R	C3	100p	D1	1N4001
R4	47R*	C4	33p	FILT	100KA
R5	1K	C5	4u7	DIST	100KA
R6	1K5	C6	2u2	VOL	100KA
R7	1M	C7	4u7	RESP	1KB
R8	10K	C8	3n3	D2,3	1N4148
R9	47R	C9	22n	D4,5	3mm Red LED
R10	10K	C10	1u	D6	1N4148**
R11	10K	C11	100u		
R12	1M	C12	47u		
CLR	2K2	C13	47n		

* R4 goes in place of the RESPONSE pot if you're going stock without the Ruetz mod. See next page.

**CLIPPING DIODES - see next page



PCB Layout ©2014 Pedal Parts Ltd.



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.

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

Pot mounts on the back side of the board, along with the toggle switch. You can use a vertical-mount pot or just wire up 'normal' ones.

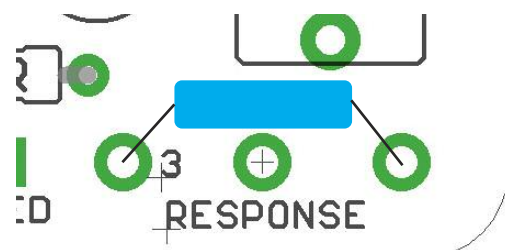
The striped leg (cathode) of the diode goes into the square pad.

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

RUETZ / RESPONSE MOD

The Ruetz mod flattens the frequency response of the circuit and gives you extended but tight low end. You can simply leave out R4 and C6 if you want to have this non-adjustable and permanent. However, its more rewarding to make it adjustable. To do this add either the RESPONSE pot (1KB) or put a 1K trimmer in T1. Now twiddle until you get the result you want.

To make a stock circuit without the mod, place R4 (47R) across the RESPONSE pads like this:



CLIPPING DIODES

There are two sets of clipping diode pads on the board, along with pads for an optional clipping selection switch.

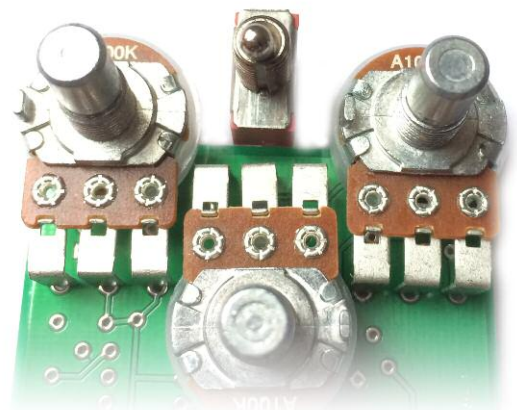
Stock clipping:

Standard Rodent:	D2-3	1N4148
Turbo Rodent:	D4-5	3mm Red LEDs
You Dirty Rodent:	D2-3	1N34A

Notice there's an extra spot - D6. You can add an extra diode along with D2-3 to get asymmetrical clipping. It doesn't have to be 1N4148. Mix and match. Experiment with different diode combinations in any of the spots and find your own favourite.

NOTE: YOU MUST PUT A JUMPER WIRE ACROSS D6 IF YOU AREN'T USING IT FOR A DIODE.

If you're using the diode selection switch, just put a SPDT ON-ON switch in there. If you're making a 3-knob version you can't put the switch directly into the pads - you'll have to wire it offboard and place it as shown >>>

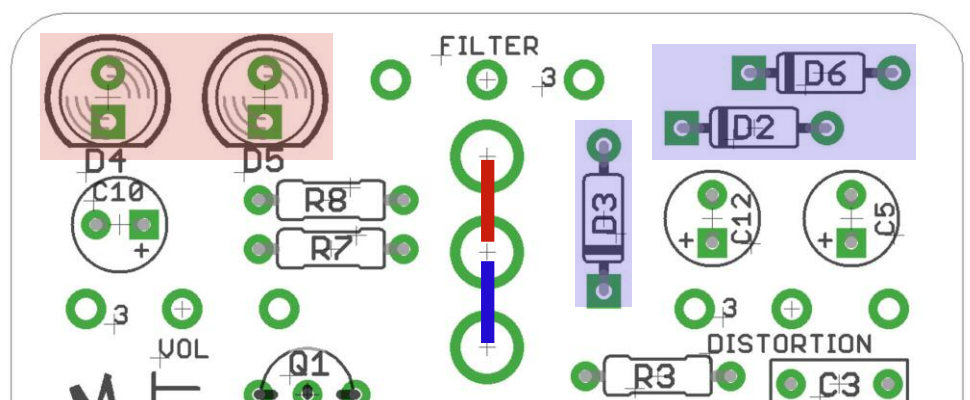


HARD WIRING A SINGLE CLIPPING OPTION

If you want to dispense with the clipping switch you'll have to place a jumper wire across the switch pads, depending on which set of diode pads you're using.

RED for D4-5

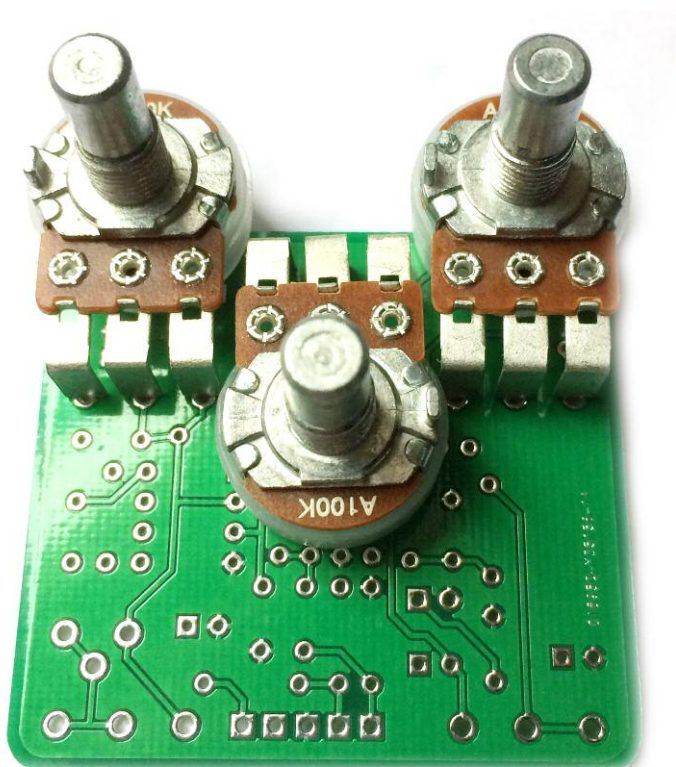
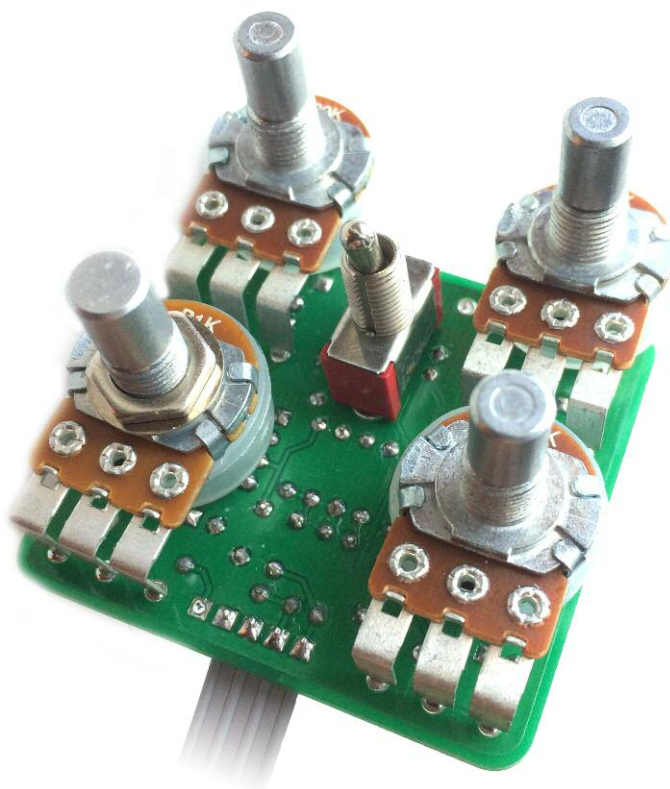
BLUE for D2-3(-6)



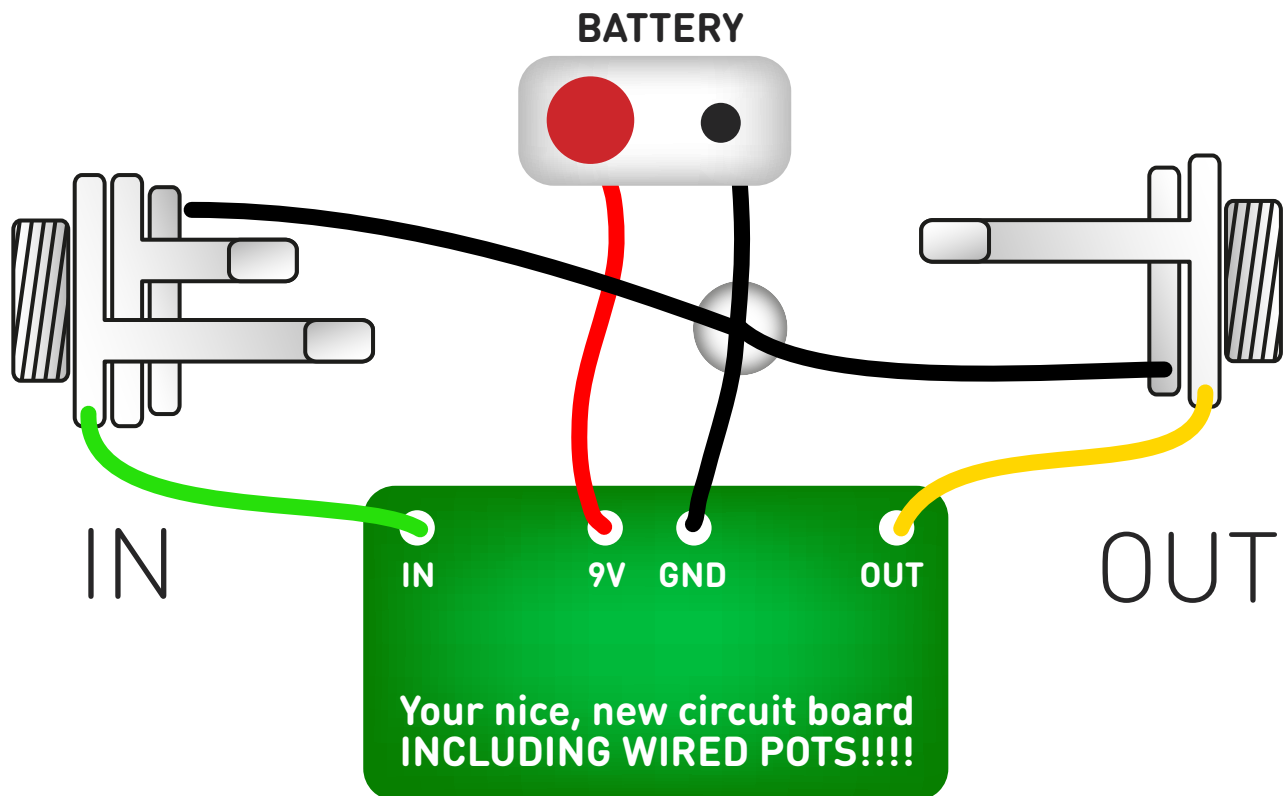
POT CONFIGURATIONS

There are two spots for the FILTER pot. Use one or the other depending on whether you're making a 3 or 4 pot version.

The filter control works backwards in the three-post configuration, with the tone becoming brighter when turned clockwise. If you want it as per the original you'll have to wire the pot in reverse.



Test the board!



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

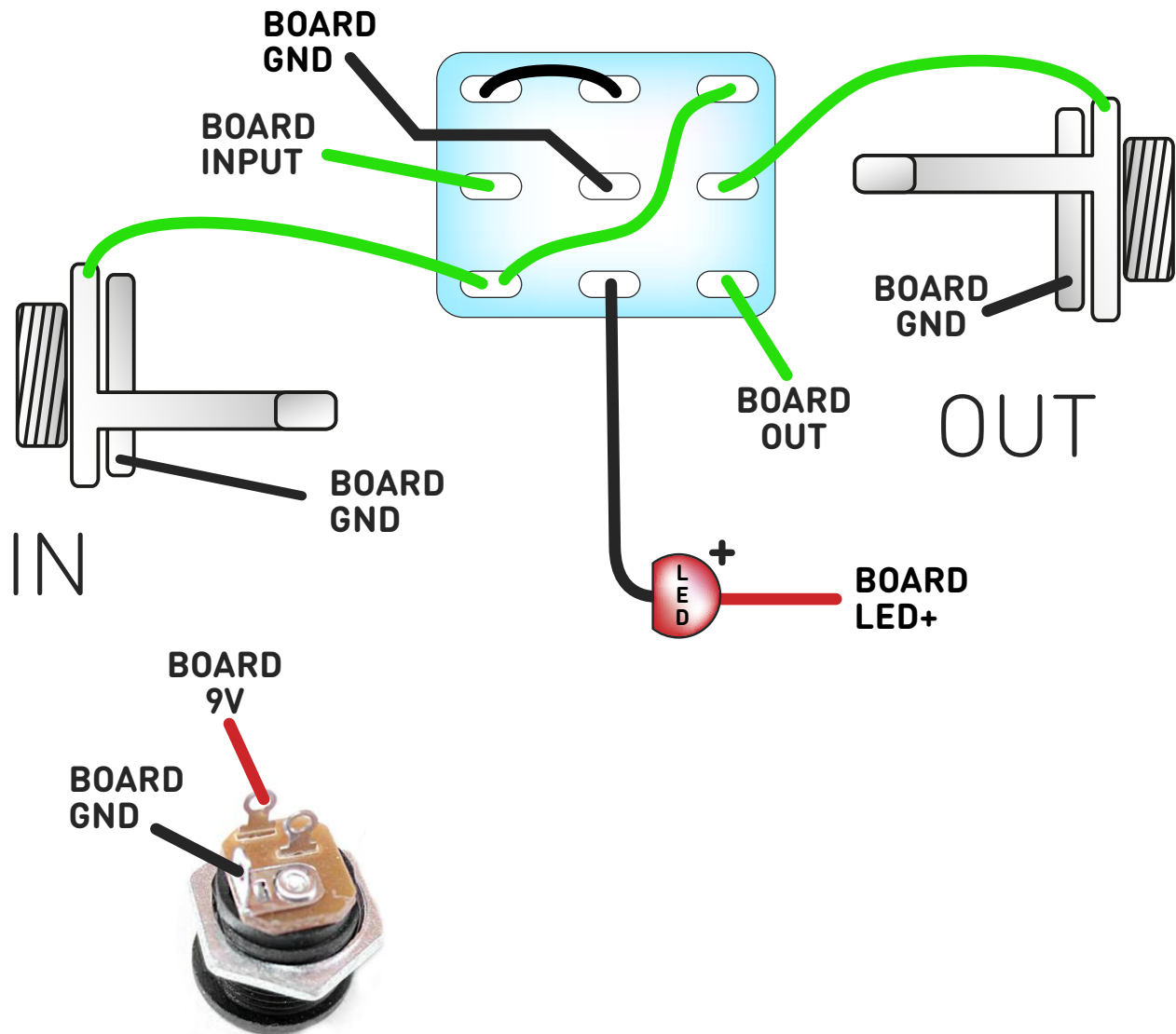
Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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 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)

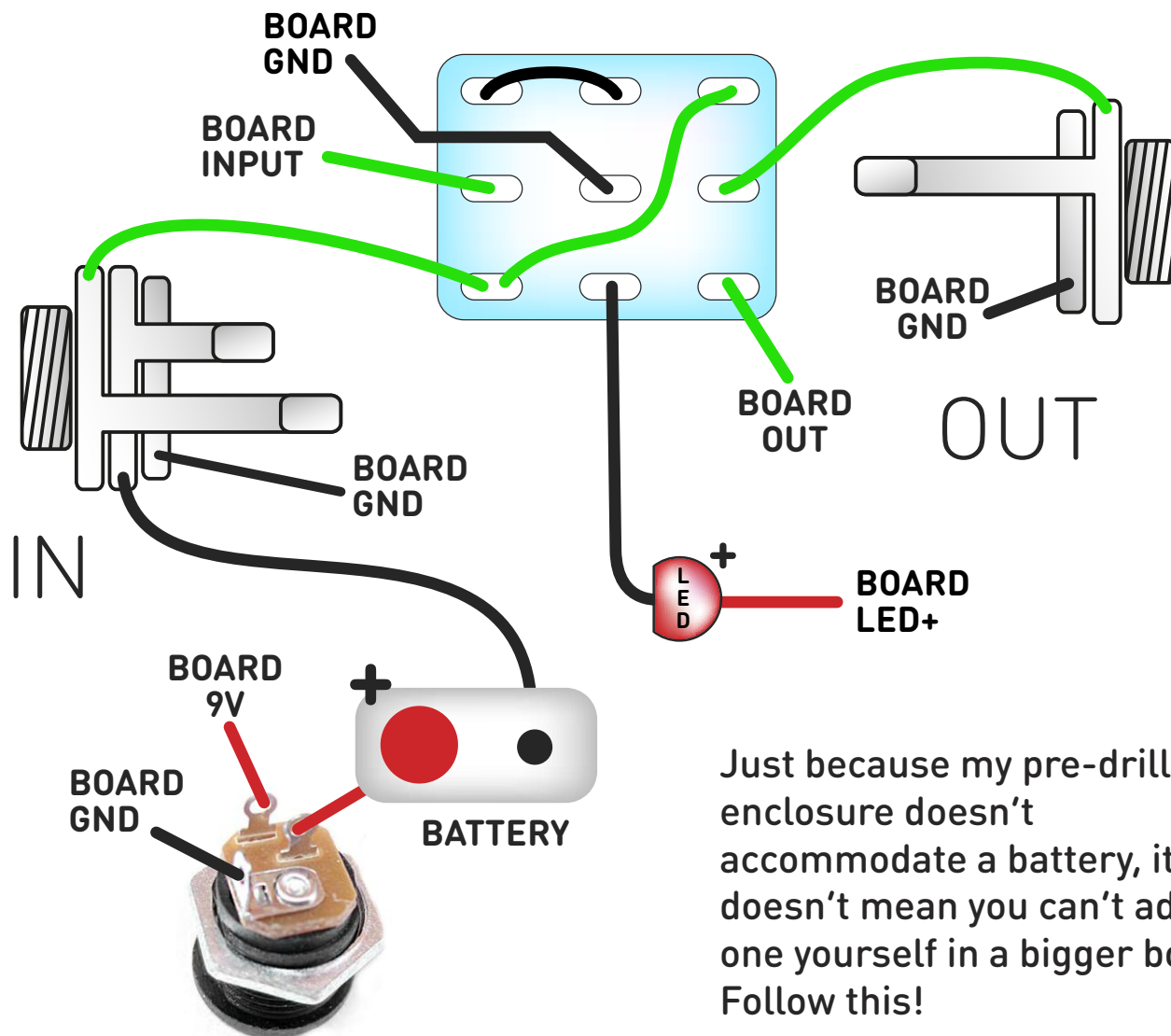


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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)



Just because my pre-drilled enclosure doesn't accommodate a battery, it doesn't mean you can't add one yourself in a bigger box. Follow this!

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.

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