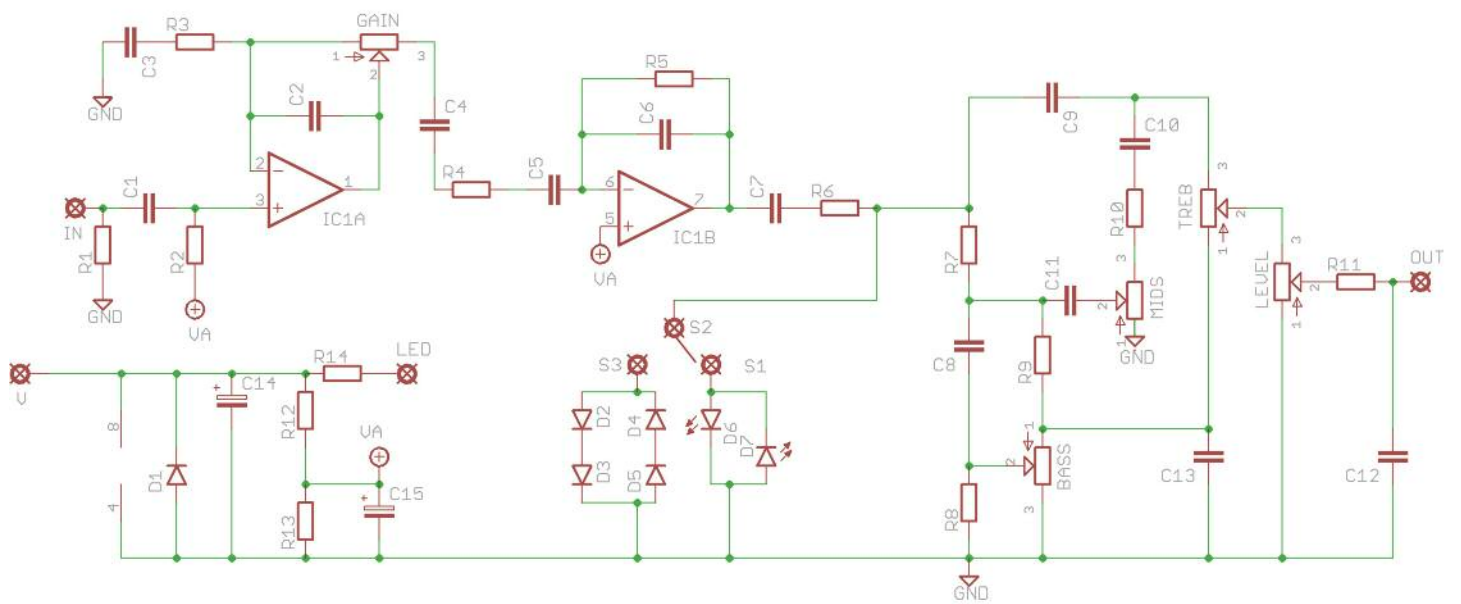


GUV

Marshall-esque distortion
with versatile tone controls



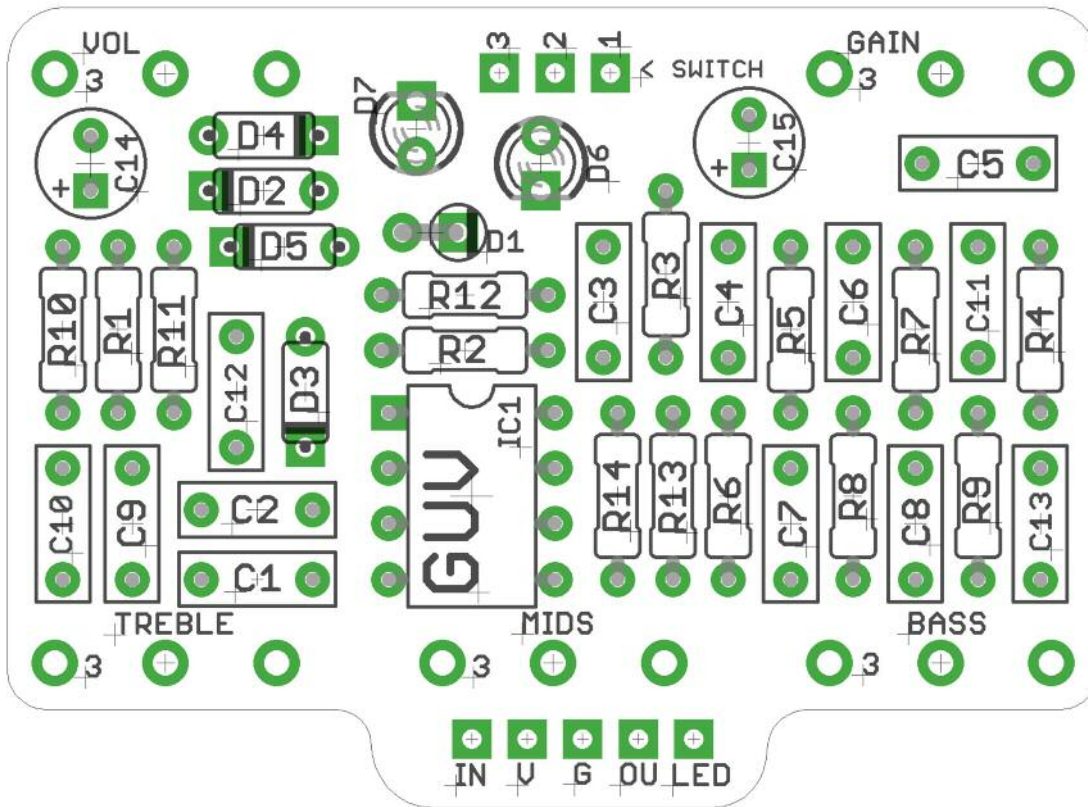
Schematic



BOM

		C1	10n		
R1	2M2	C2	100p	IC1	TL072
R2	1M	C3	100n	D1	1N4001
R3	2K2	C4	220n	D2-5	1N4148*
R4	10K	C5	100n	D6-7	3MM Red LED*
R5	680K	C6	220p		
R6	1K	C7	220n	GAIN	100KB
R7	1K5	C8	100n	LEVEL	100KB
R8	680R	C9	4n7	TREB	10KB
R9	680R	C10	10n	MID	10KA
R10	100R	C11	220n	BASS	10KA
R11	22K	C12	470p		
R12	47K	C13	68n	SWITCH	SPDT*
R13	47K	C14	100u elec		
R14	2K2 (CLR)	C15	10u elec		

*The switch, extra 1N4148 and red LEDs give optional extra clipping configurations. See later in the document.



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.

Be very careful when soldering the diodes and LEDs. 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 striped leg (cathode) of the diodes goes into the square pad.

The long leg (anode) of the electrolytic capacitors go into the square pads. There's space to lay C14 flat over the resistors (see pic on the first page). This will give you plenty of clearance in the enclosure.

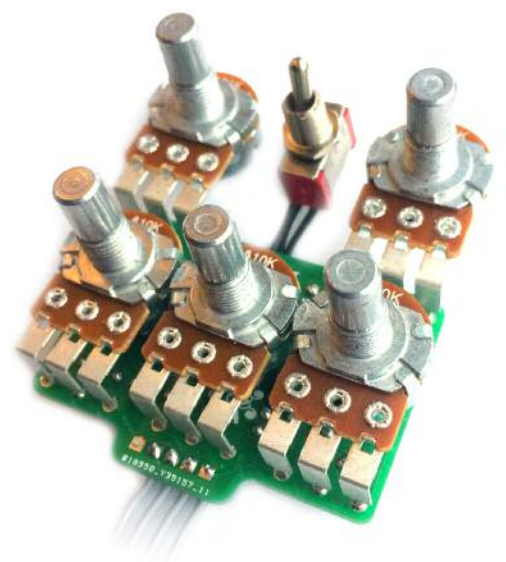
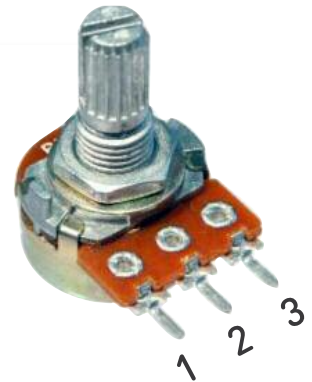
Snap the small metal tag off the pots so they can be mounted flush in the box.

Pot mounts on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones. It's a good idea to place the pots in their holes in the enclosure when you're soldering them in place on the PCB. That way you know they're going to line up ok. Best way to do it is to solder a single pin of each pot in place, then do a visual check to see that they're all sitting at the same height. If not, melt the joints and readjust any that are off.

If your pots don't have protective plastic covers you'll have to keep a decent gap between them and the underside of the board. Place a strip of thick card between them and the board when soldering to keep them even.

You should solder all other board-mounted components before you solder the pots. Once they're in place you'll have no access to much of the underside of the board.

Pots should be placed as shown >>>

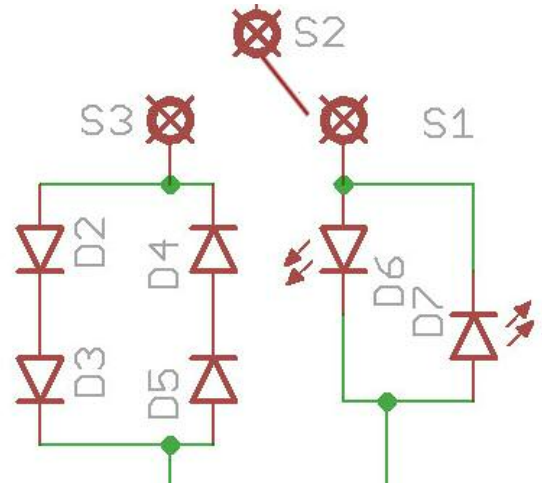


Clipping options

Extra pads have been added to the PCB to allow experimentation with clipping, and even the option to have two different configurations selectable with a toggle switch.

STOCK CLIPPING

To go with standard Guv clipping, you should use a 1N4148 in both D2 and D4, placing jumpers across D3 and D5. A further jumper should then be placed across switch pads 2 and 3.



THE BOARD IS YOUR OYSTER...

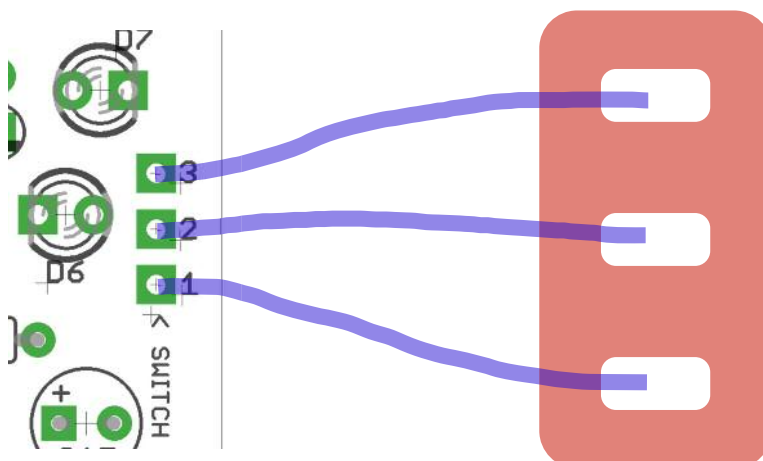
You can also experiment within that clipping network. Try adding a single extra 1N4148 in D5, leaving a jumper in D3, to give asymmetrical clipping. Filling all four diode spots in this network will give you a more compressed tone. You don't have to use 1N4148. Different diodes will yield totally different results. Try combinations of germaniums, BAT41, 1N4001 - pretty much anything you can get your hands on. You should always have at least one diode in each direction, i.e. at least D2 and D4, not just D2.

There's a second, independent clipping network consisting of D6 and D7. These spots are meant for LEDs, but there's nothing stopping you putting 'normal' diodes in those spots if you prefer.

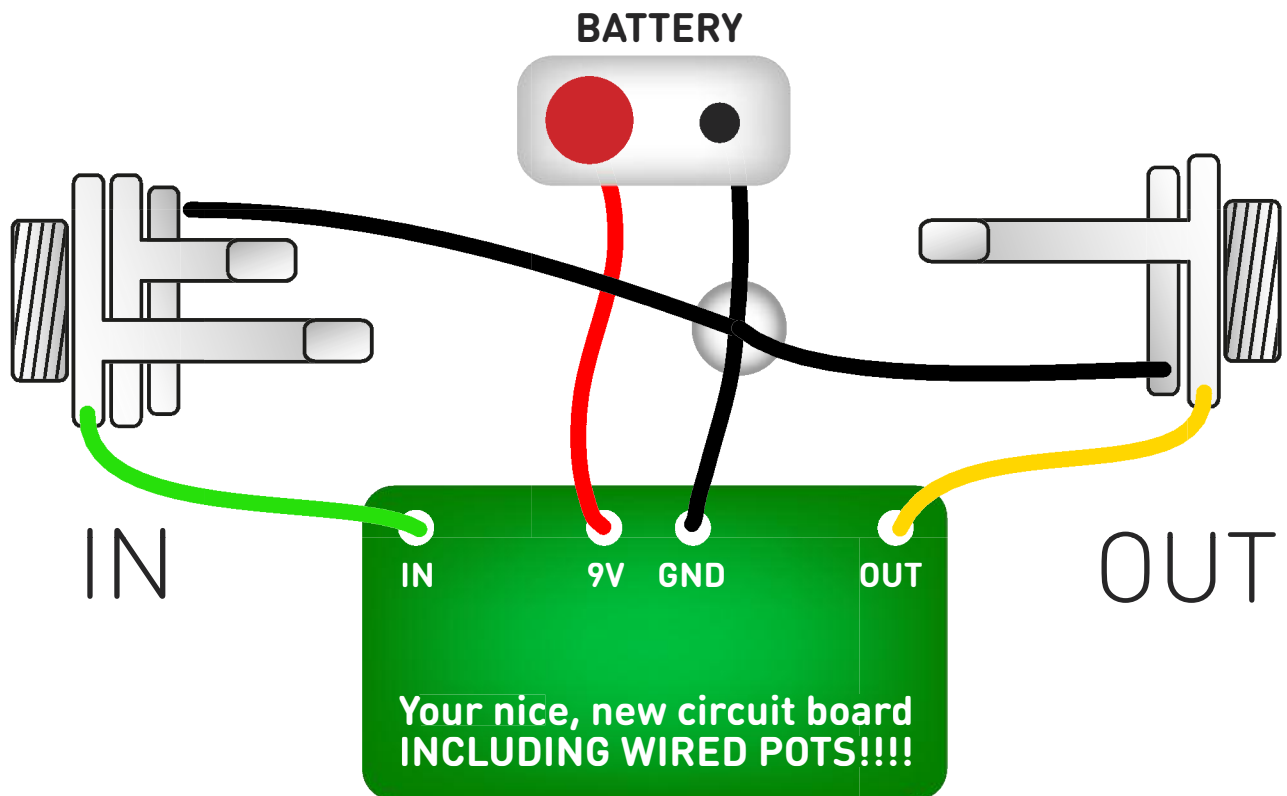
If you're ONLY using the D6-D7 clipping section, put a jumper across switch pads 1 and 2.

I WANT IT ALL ...

Sure. Why not? You can have two different clipping set-ups at selectable with a SPDT toggle switch. Just place your diodes as you want them and wire up the switch (shown from bottom):



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.

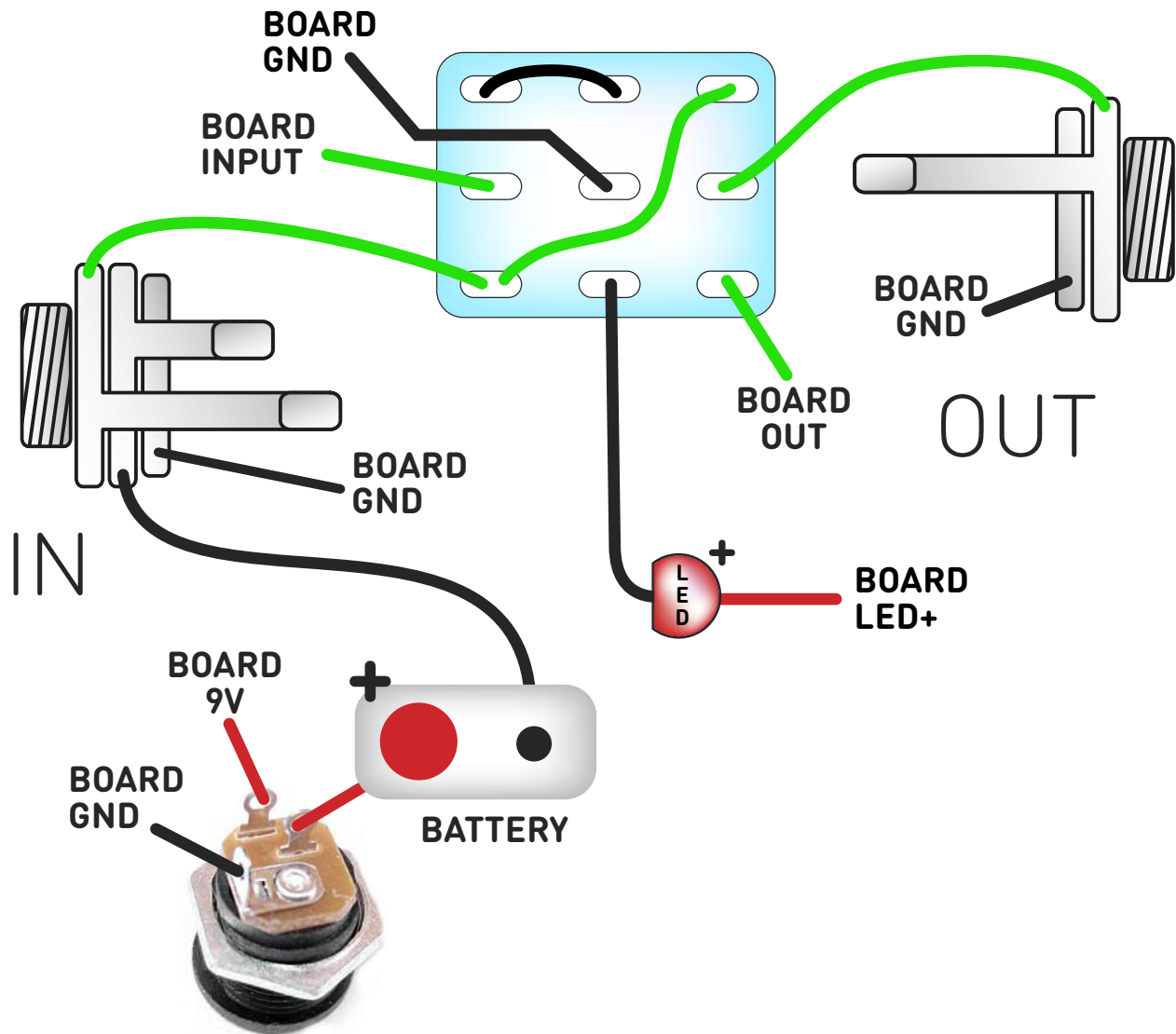
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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 - with battery

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

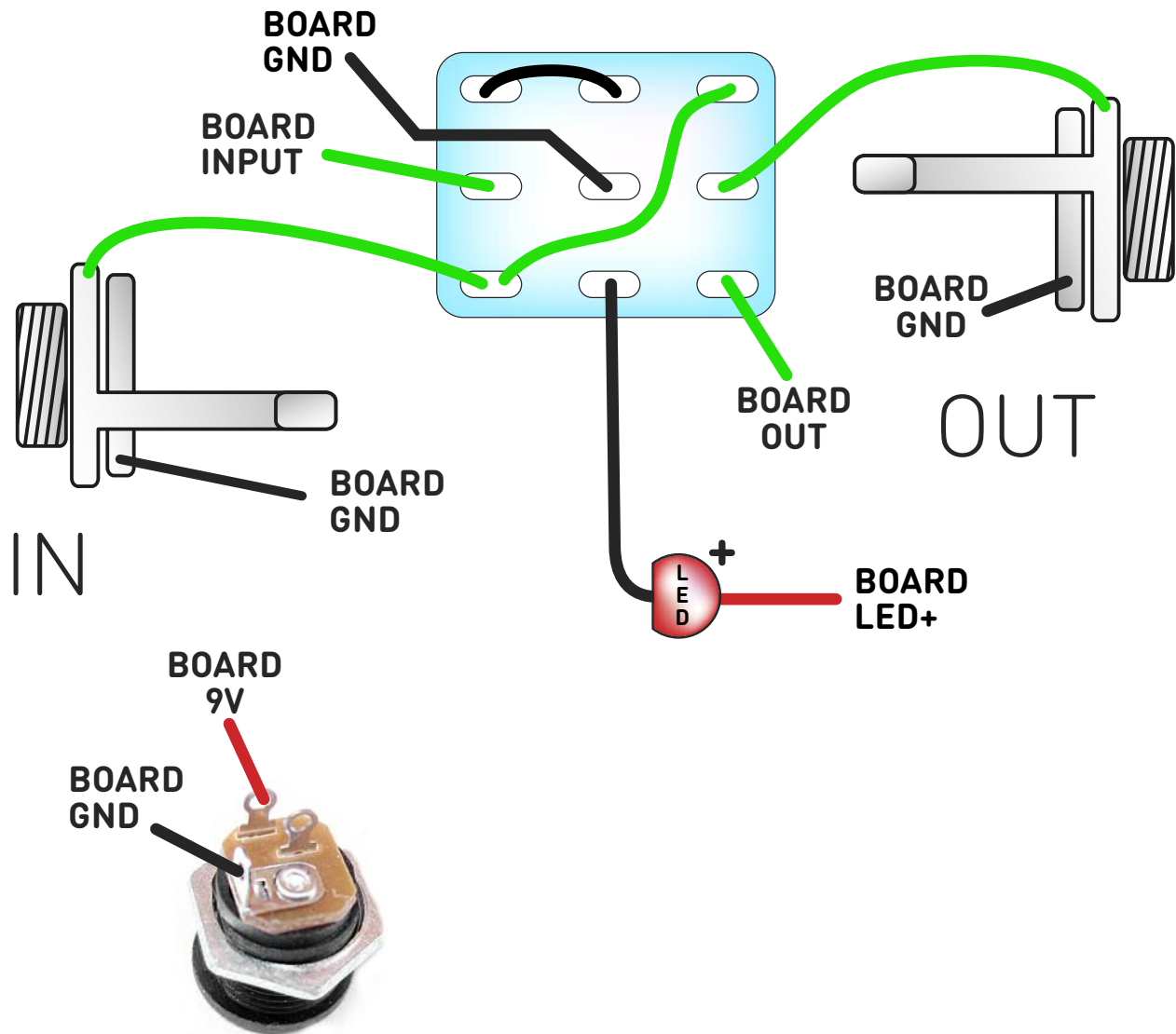


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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 - 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.

PedalParts.co.uk

Drilling template

Guv

Hammond 1590B

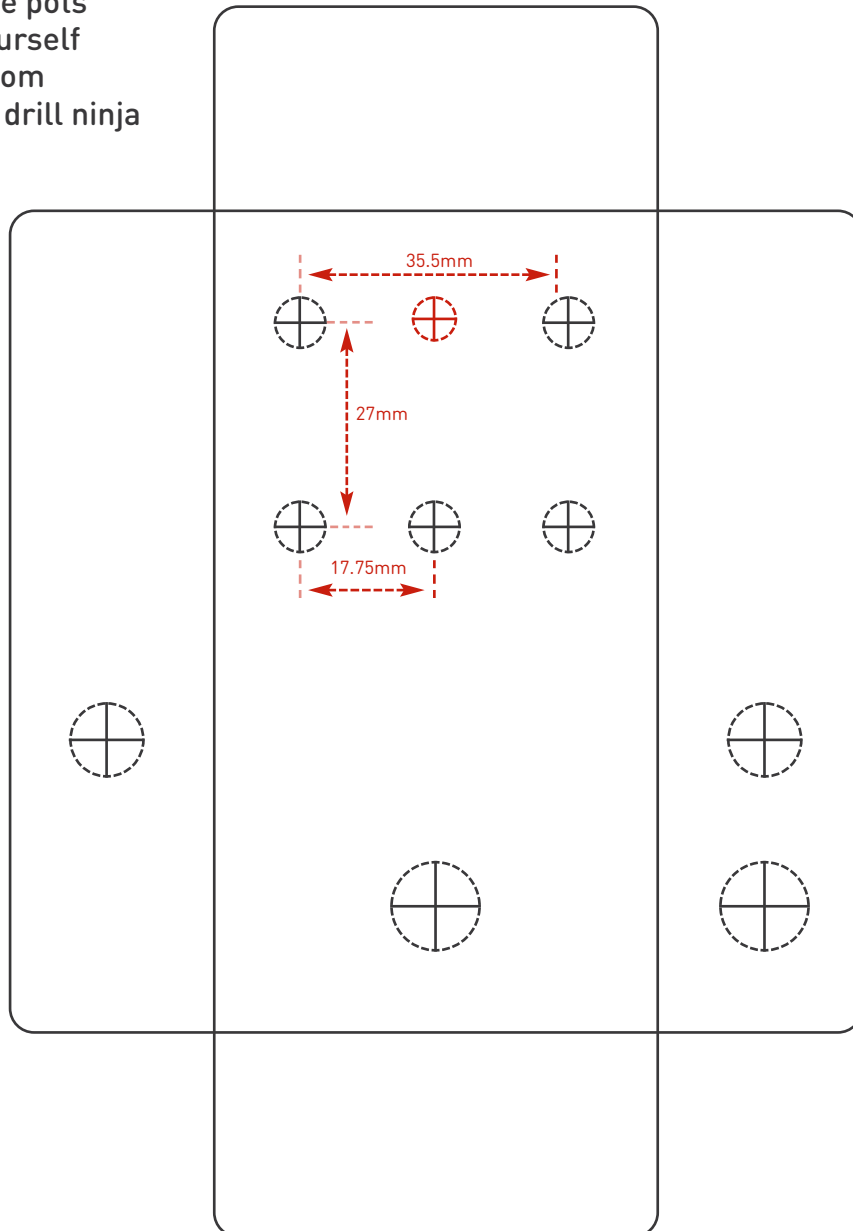
60 x 111 x 31mm

Recommended drill sizes:

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

It's a good idea to drill the holes for the pots 8mm to give yourself some wiggle room unless you're a drill ninja

Switch hole can be in line with the top pots or a little further down if you prefer.



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