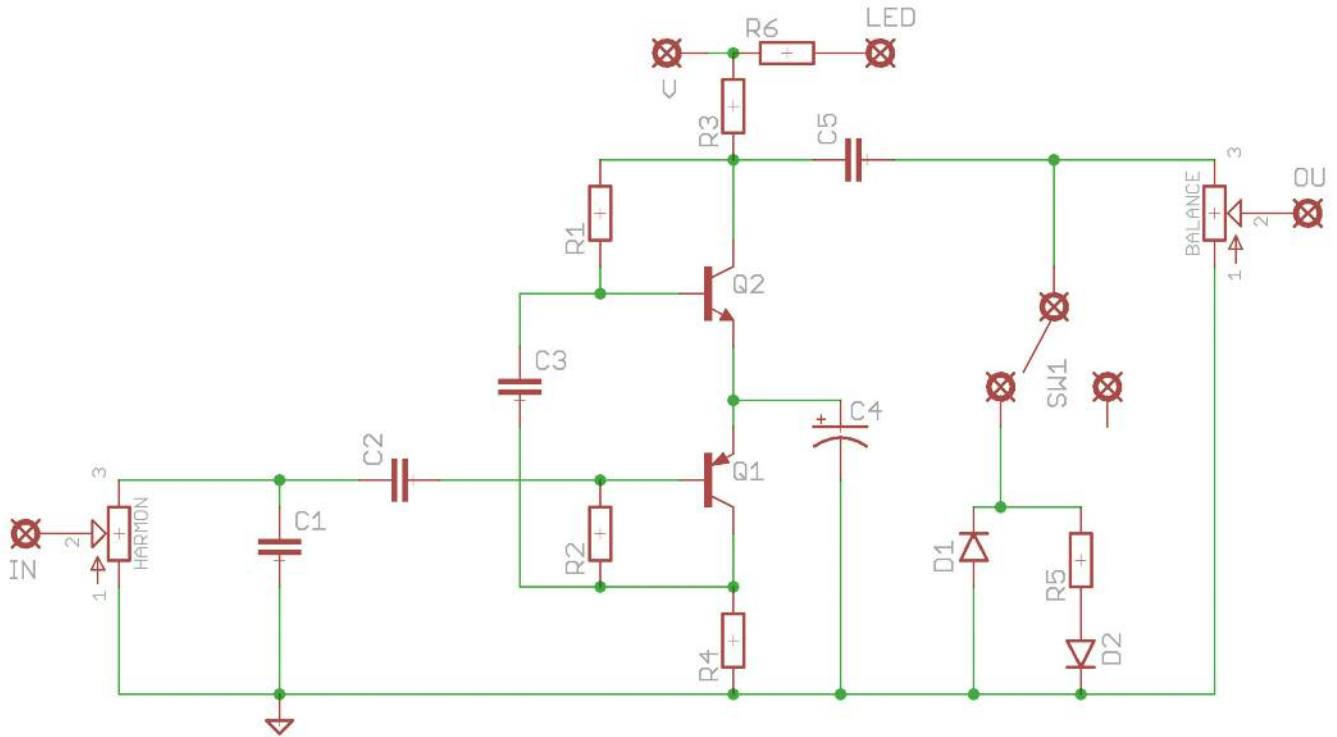


Harmonic Percolator v3

Your very own clone
of the Interfax HP-1



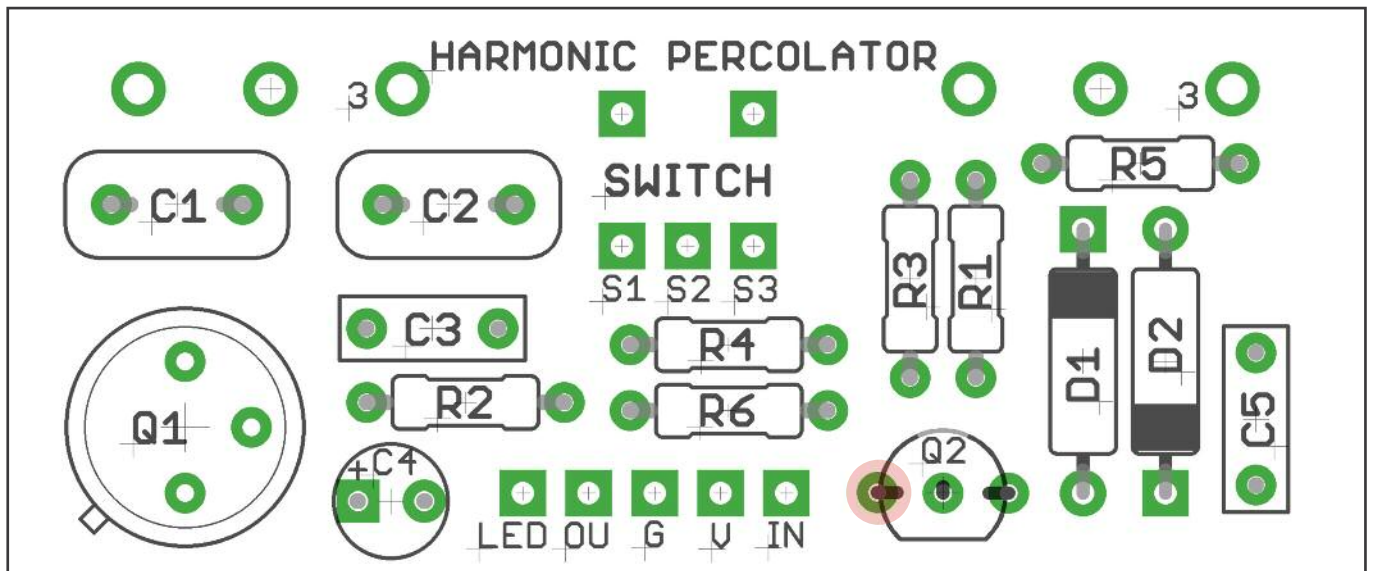
Schematic + BOM



BOM

R1	750K	Q1	2N404
R2	220K	Q2	2N3565
R3	91K	D1,2	Germanium (1N695, 1N60P, 1N34A etc)
R4	91K	P1	100KA (Harmonics)
R5	4K7	P2	50KA (Balance)
C1	100p silver mica		
C2	47n greencap		
C3	100n ceramic		
C4	47u tantalum		
C5	100n ceramic		

SW1 is an optional SPDT toggle switch to take the diode clipping section in or out of the circuit. Taking them out gives a crunchier sound and much louder output. To build the circuit stock without the switch, just leave it out and put a jumper wire between pads S1 and S2. Ignore the two holes above S1 and S3 - these are locator holes if you're using a micro-toggle.



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, transistors and LED. 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 glass case on the germanium diodes is very delicate and can be easily cracked. Use some needle-nosed pliers to hold the leg, right up against the glass casing. Now bend the leg to 90° with your fingers. The pliers will prevent strain where the leg meets the case.



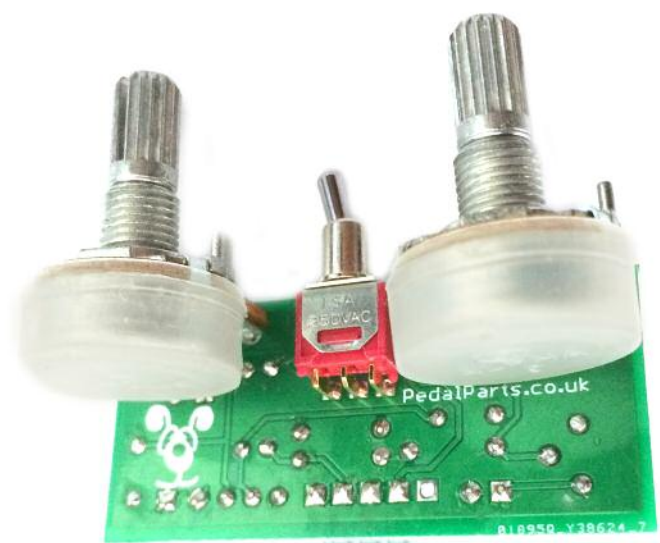
If you have a 2N3565 in a TO-106 case (which looks like a small black pill with a rounded top - see left), the emitter is the leg next to the small flattened edge. This should go into the pad marked in red above. A standard TO-92 case version should mount with the flat edge as shown on the PCB.

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

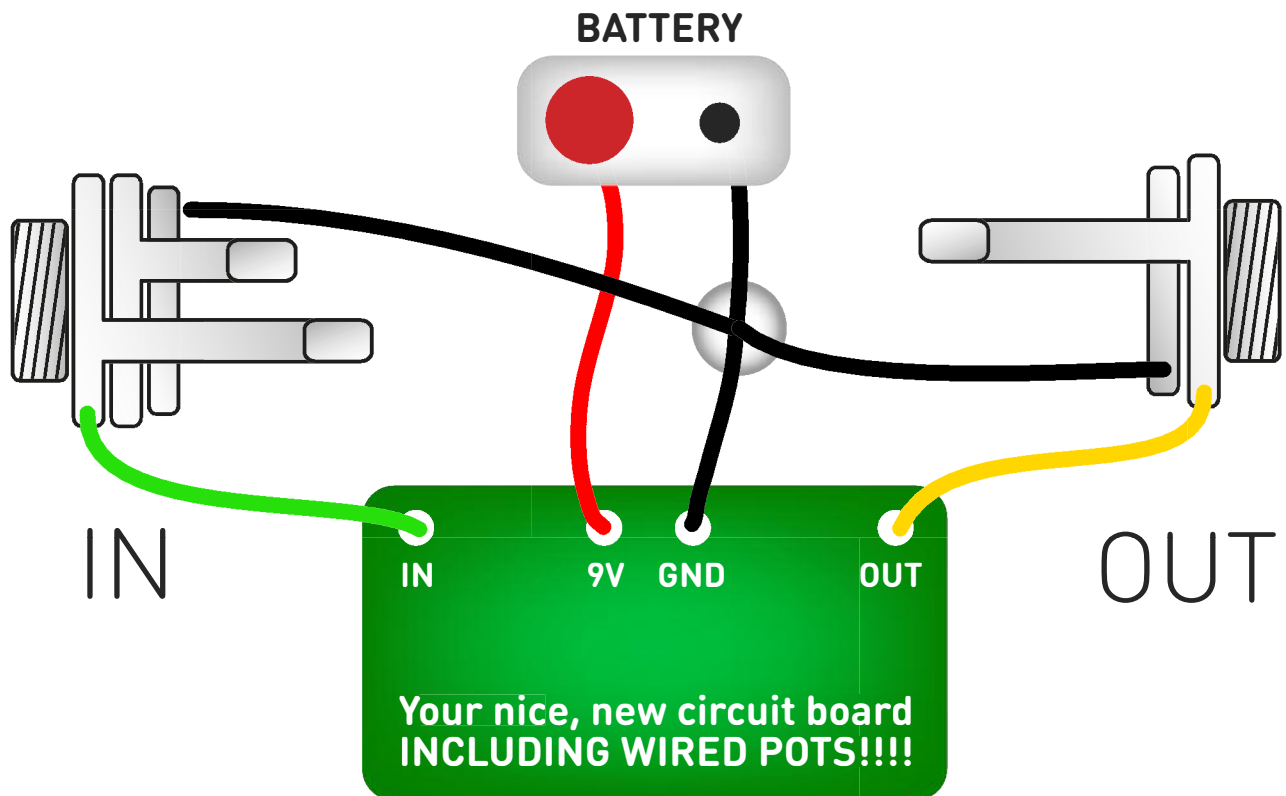
The long leg (anode) of the electrolytic capacitors go into the square pads.

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

The toggle switch can mount on either side of the board, depending how far you want it to be from the pots. If you're using a normal, wired toggle switch, connect pad S2 to the centre lug, S1 and S3 to the outer lugs.



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.

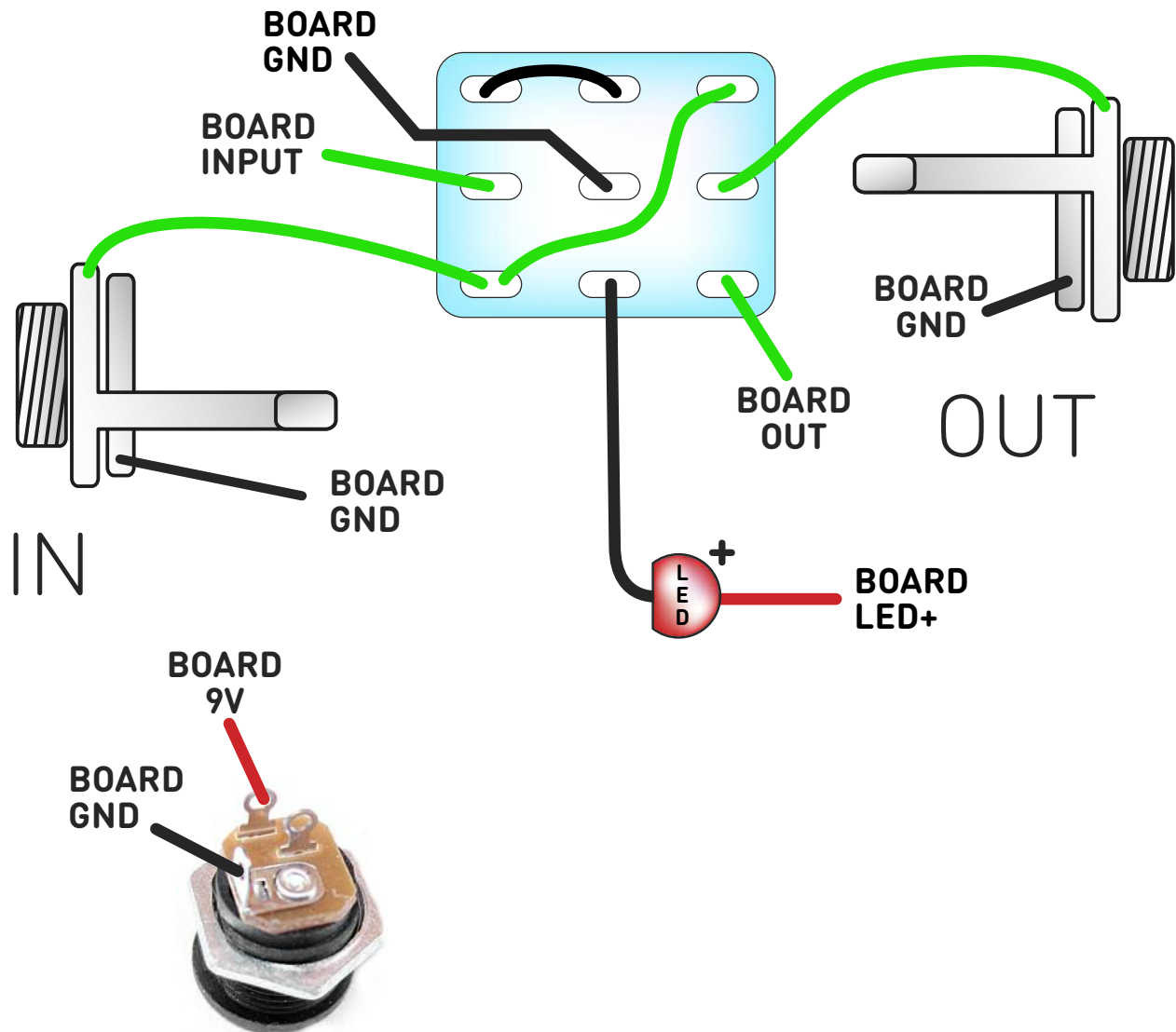
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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)

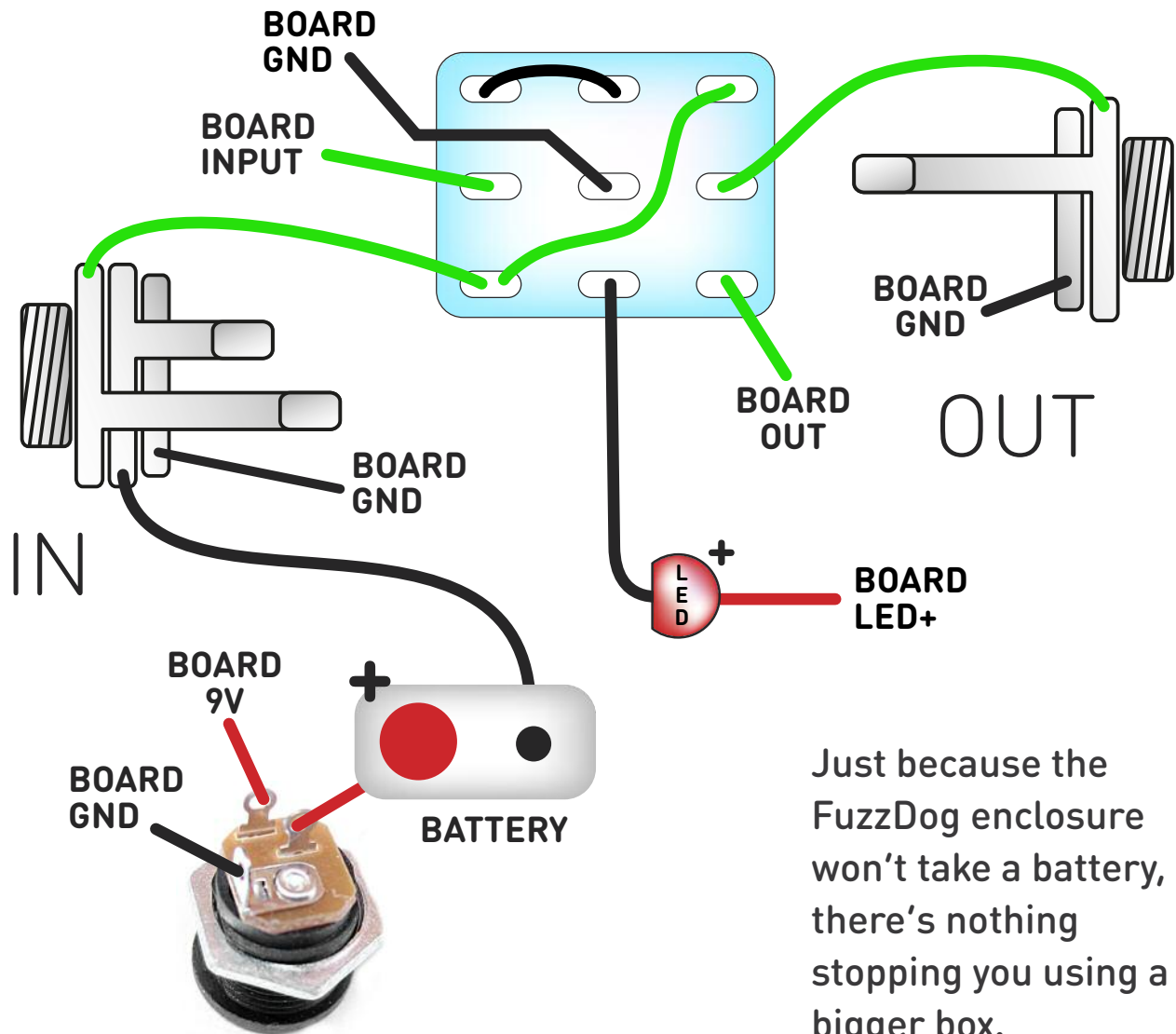


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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)



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

Harmonic Percolator Micro Toggle Switch

Hammond 1590B

60 x 111 x 31mm

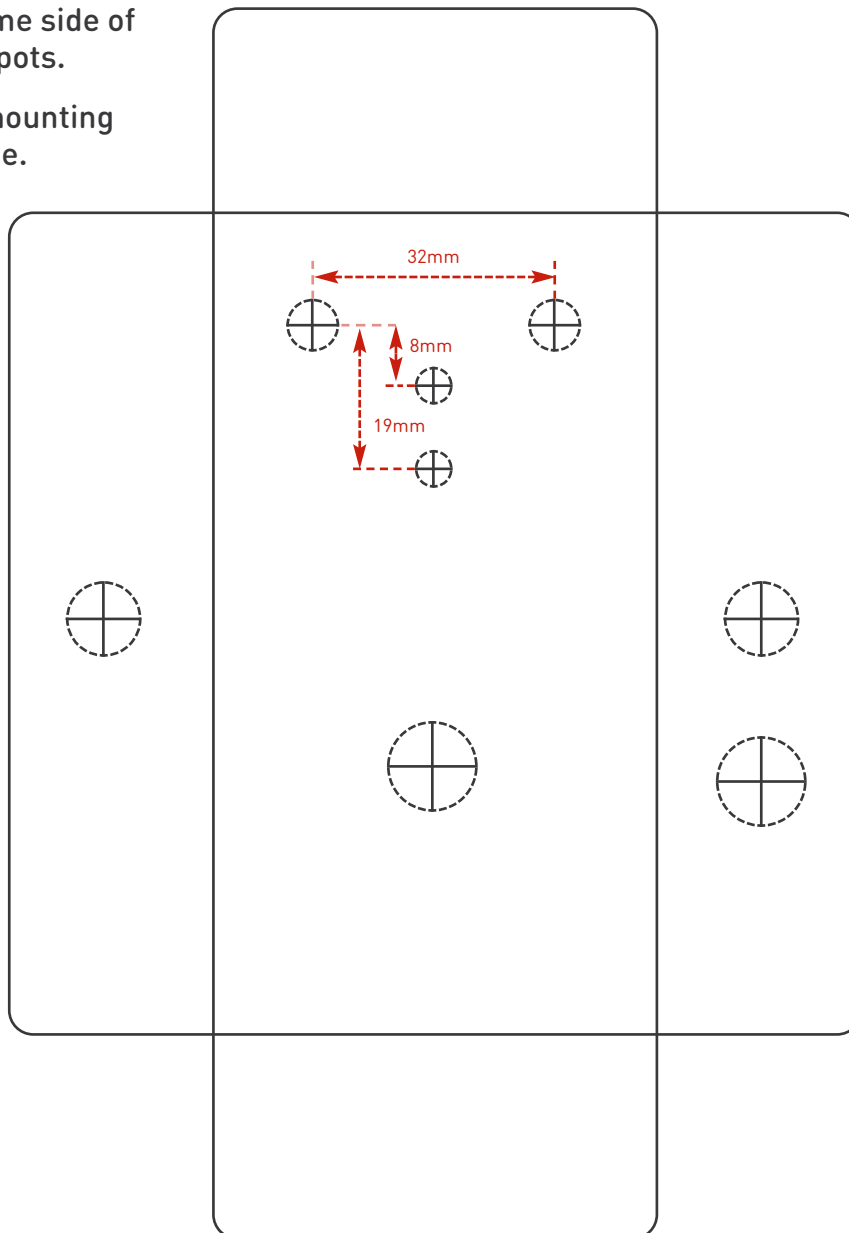
Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Switch	5mm

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

Top hole is for switch mounted on same side of the PCB as the pots.

Bottom one if mounting on the other side.



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.

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Drilling template

Harmonic Percolator Standard Toggle Below

Hammond 1590B

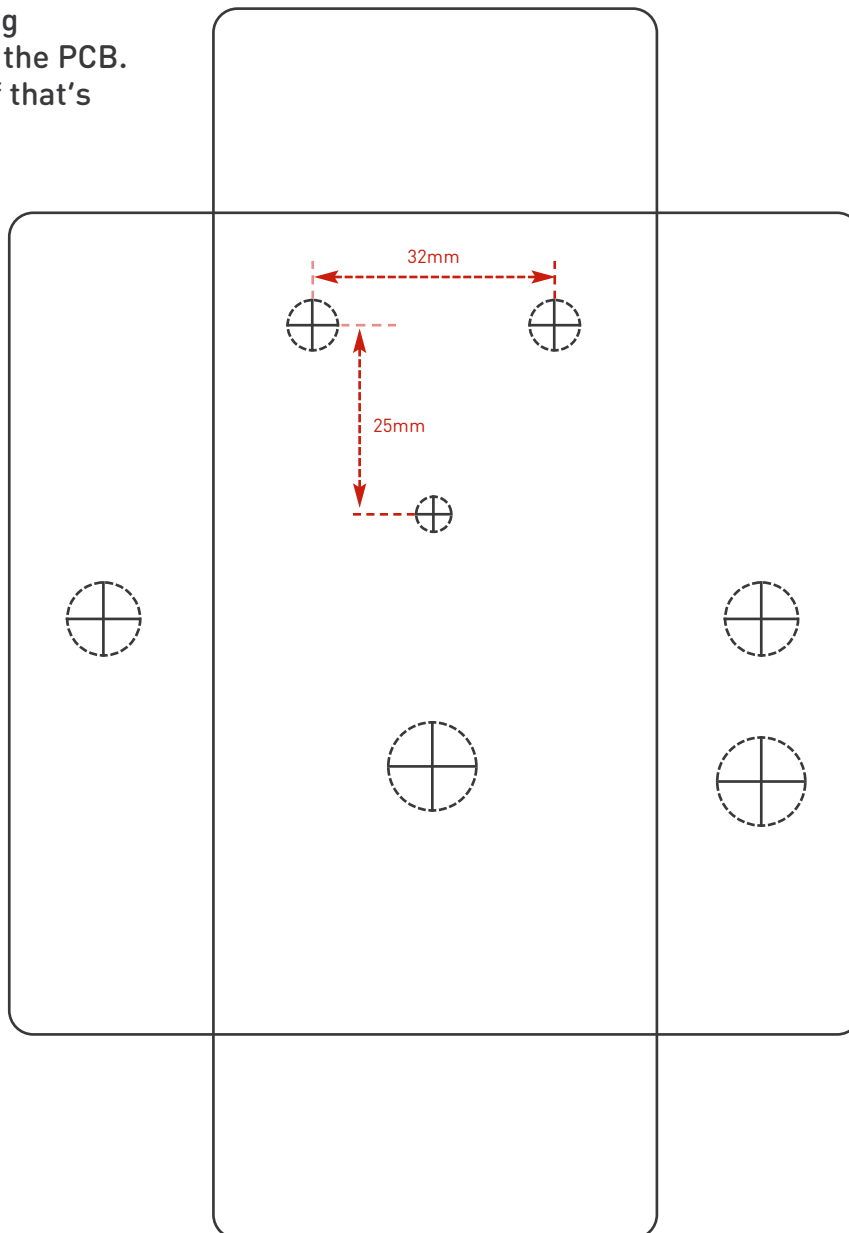
60 x 111 x 31mm

Recommended drill sizes:

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

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 needs to be that low to avoid touching components on the PCB. See next page if that's too low for you.



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Drilling template

Harmonic Percolator Standard Toggle Above

Hammond 1590B

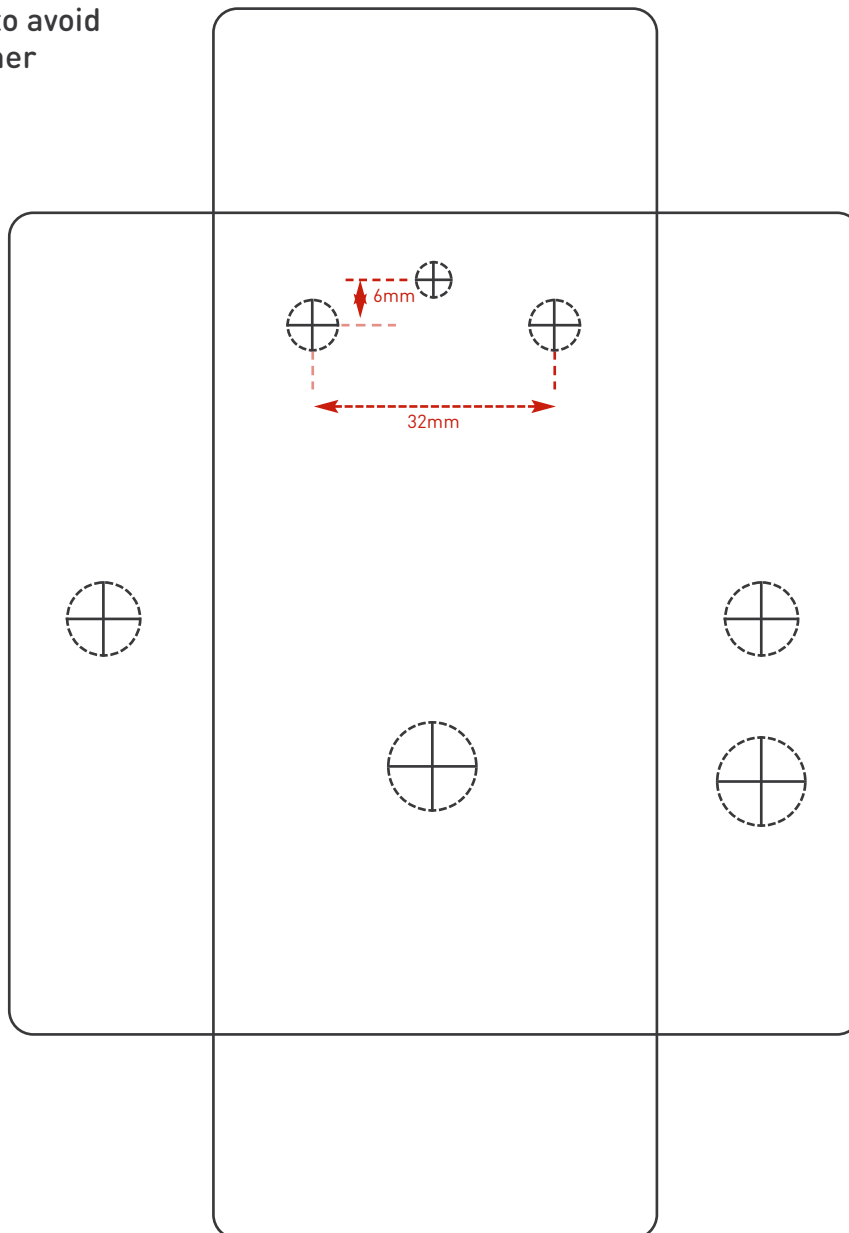
60 x 111 x 31mm

Recommended drill sizes:

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

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 can be mounted above the pots to avoid contact with other components



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