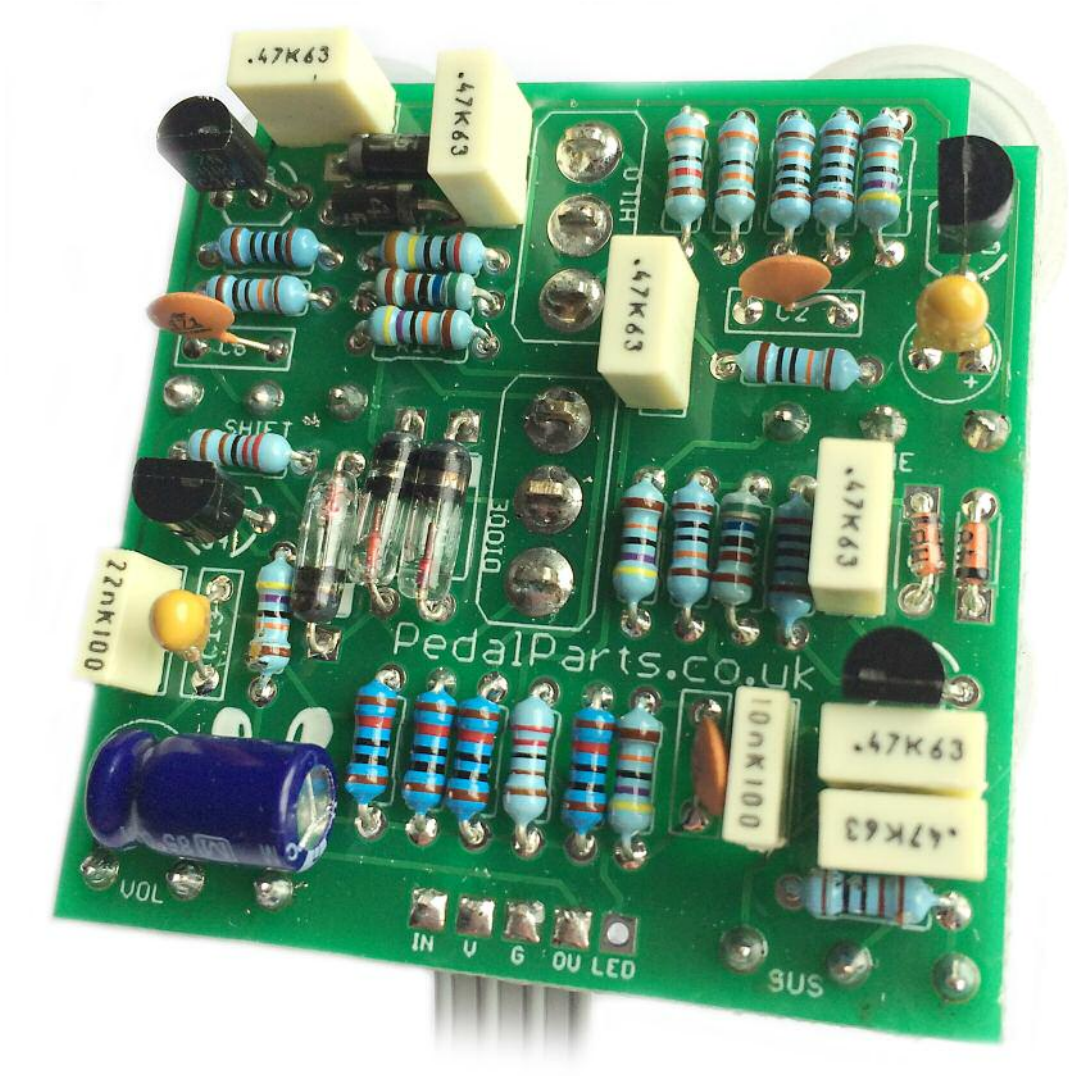
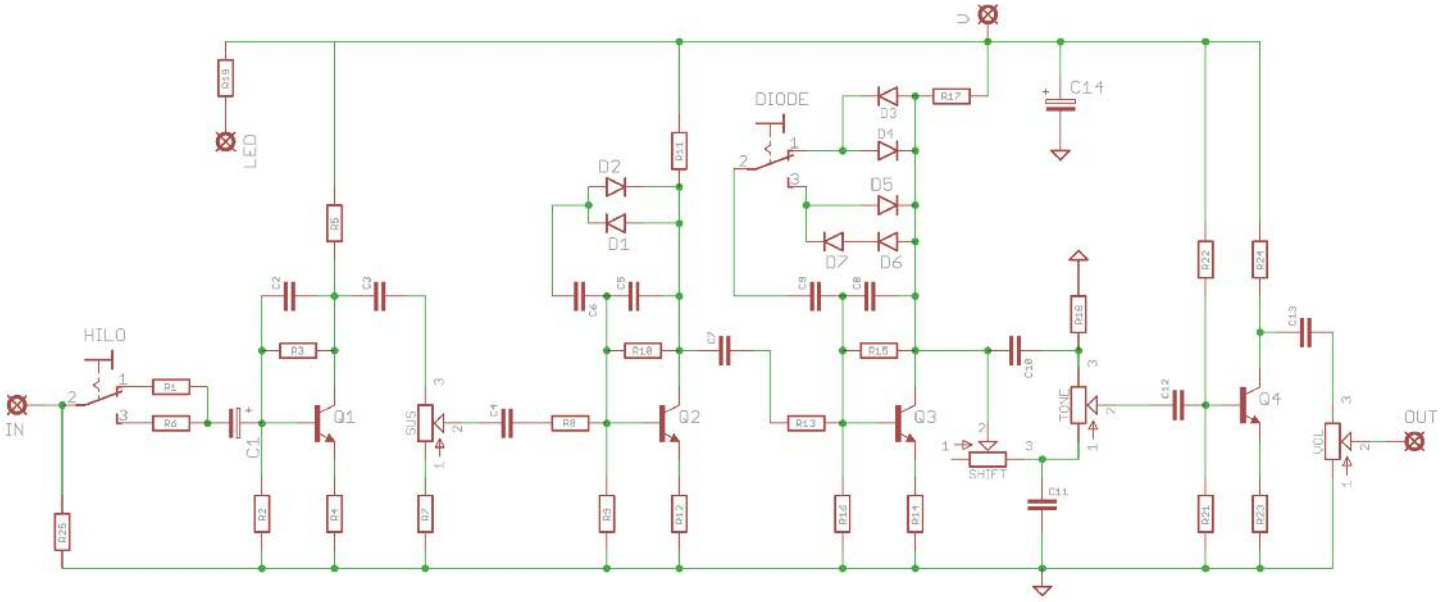


RAMESSES MUFF

Super-heavy, bass friendly, tweakable Big Muff action

Schematic + BOM



R1	39K
R2	100K
R3	470K
R4	1K
R5	10K
R6	390K
R7	1K
R8	6K2
R9	100K
R10	470K
R11	10K
R12	100R
R13	6K2
R14	100R
R15	470K
R16	100K
R17	10K
R18	470K
R19	CLR (2K2)
R21	100K
R22	470K
R23	2K2
R24	10K
R25	2M

C1	10u tantalum*
C2	470p
C3	470n
C4	470n
C5	470p
C6	470n
C7	470n
C8	470p
C9	470n
C10	10n
C11	22n
C12	470n
C13	10u tantalum*
C14	100u elec

Q1	MPSA18
Q2-4	2N5089
D1-2	1N4148
D3-4	1N4001
D5-7	1N34A**
SHIFT	25KB
SUST	100KA
TONE	250KB
VOL	100KA
HI-LO	SPDT ON-ON***
DIODE	SPDT ON-OFF-ON

*Original uses tantalum caps here, but you're unlikely to hear a difference using normal aluminium electrolytics.

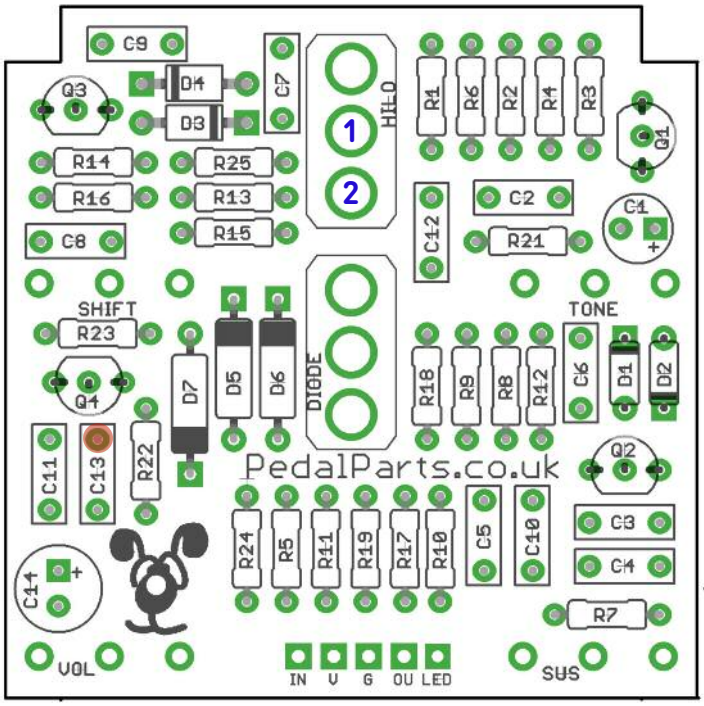
**Other germanium diodes can be tried.

***Can be replaced with a pot. See overleaf.

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 transistors and diodes. 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.



The cathode (striped end) of the diodes go into the square pads. The anode (long leg) of electrolytic capacitors go into the square pads. C14 can be placed flat across the PCB as shown in the cover image to ensure plenty of clearance in the enclosure.

Pots mounts on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones.

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

It's useful to place the pots in the holes in the enclosure when soldering to make sure you get them all the right height and position. Solder one leg of each pot first, then check them for position. Melt and adjust if necessary. Get them all even before soldering the other two pins of each. Sames goes for the toggle switches. Don't worry too much about getting them straight with your first stab at soldering them. Get them in place with a single pad filled with solder, then melt and reposition before soldering the other pads.

If your pots have plastic covers, sweet. If not, be careful to keep the bases away from the PCB pads. Slip some thick card between the pots and the PCB while you solder them in to space them nicely.

OOPS!

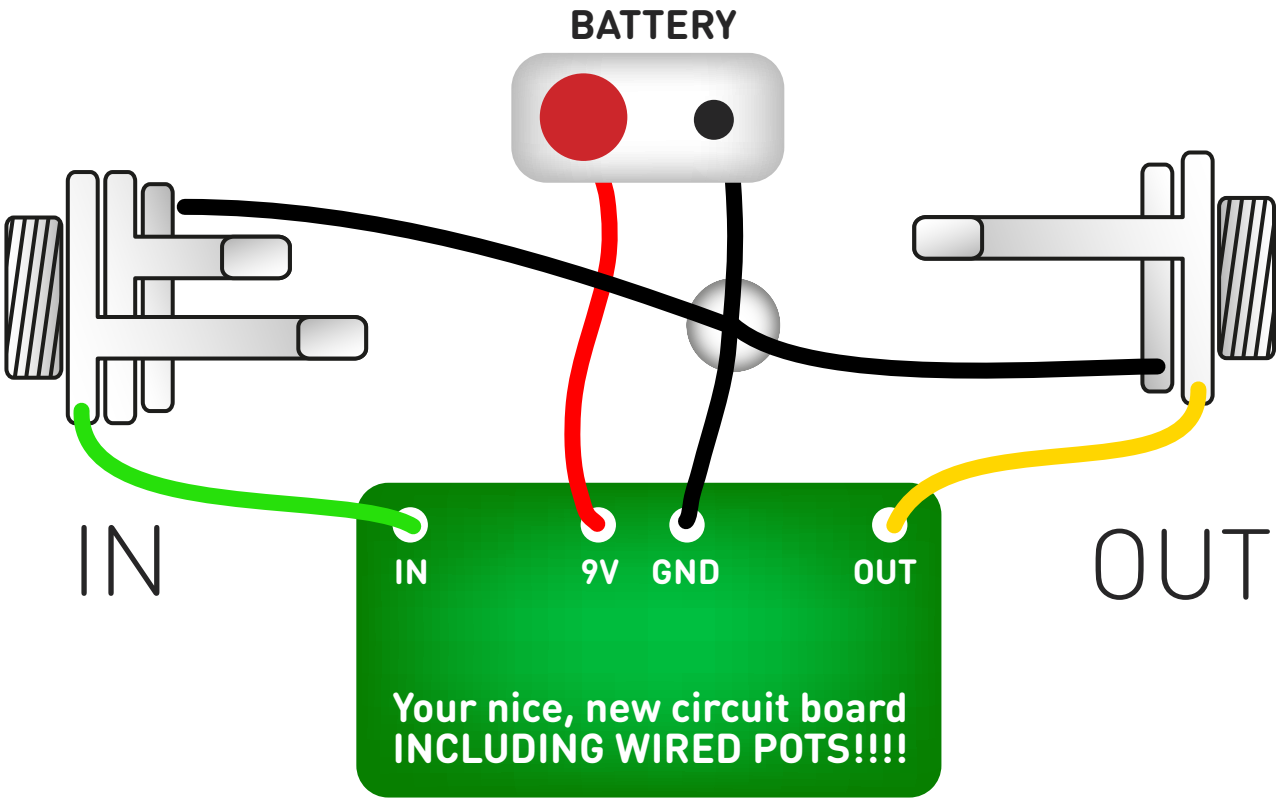
C13 was added to the board as a non-polarised box cap. The anode (positive - long leg) should go in the pad shown in red above.

TWEAKS

HILO Switch could be replaced with a pot if you prefer more control over the input level. Leave out R6 and wire pins 1 and 2 of a pot to the pads numbered above. Since you won't get a 350K pot it's up to you whether you go for more (500KB) or less (250KB) range than the switch.

For the ultimate tweakable version try replacing the DIODE switch and D3-7 with the Clipping Switcher PCB.

Test the board!



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

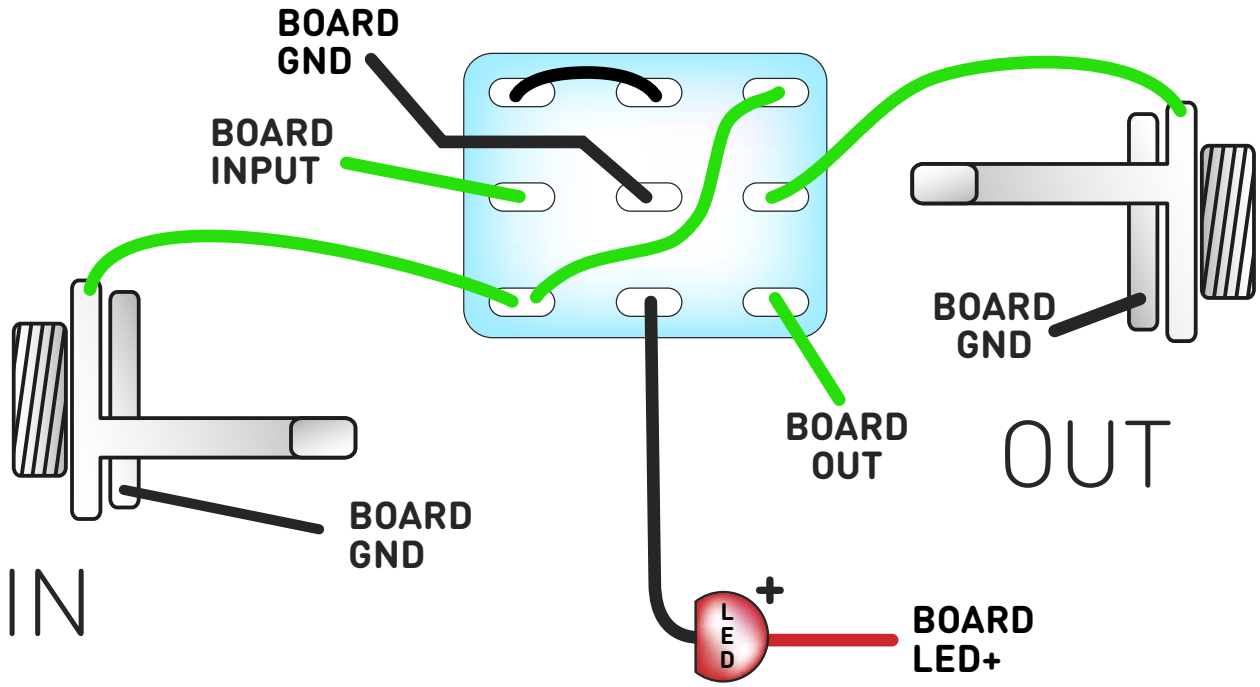
Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

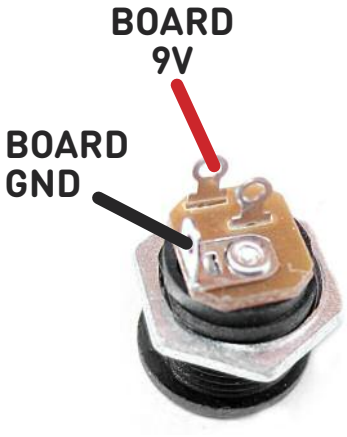
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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)



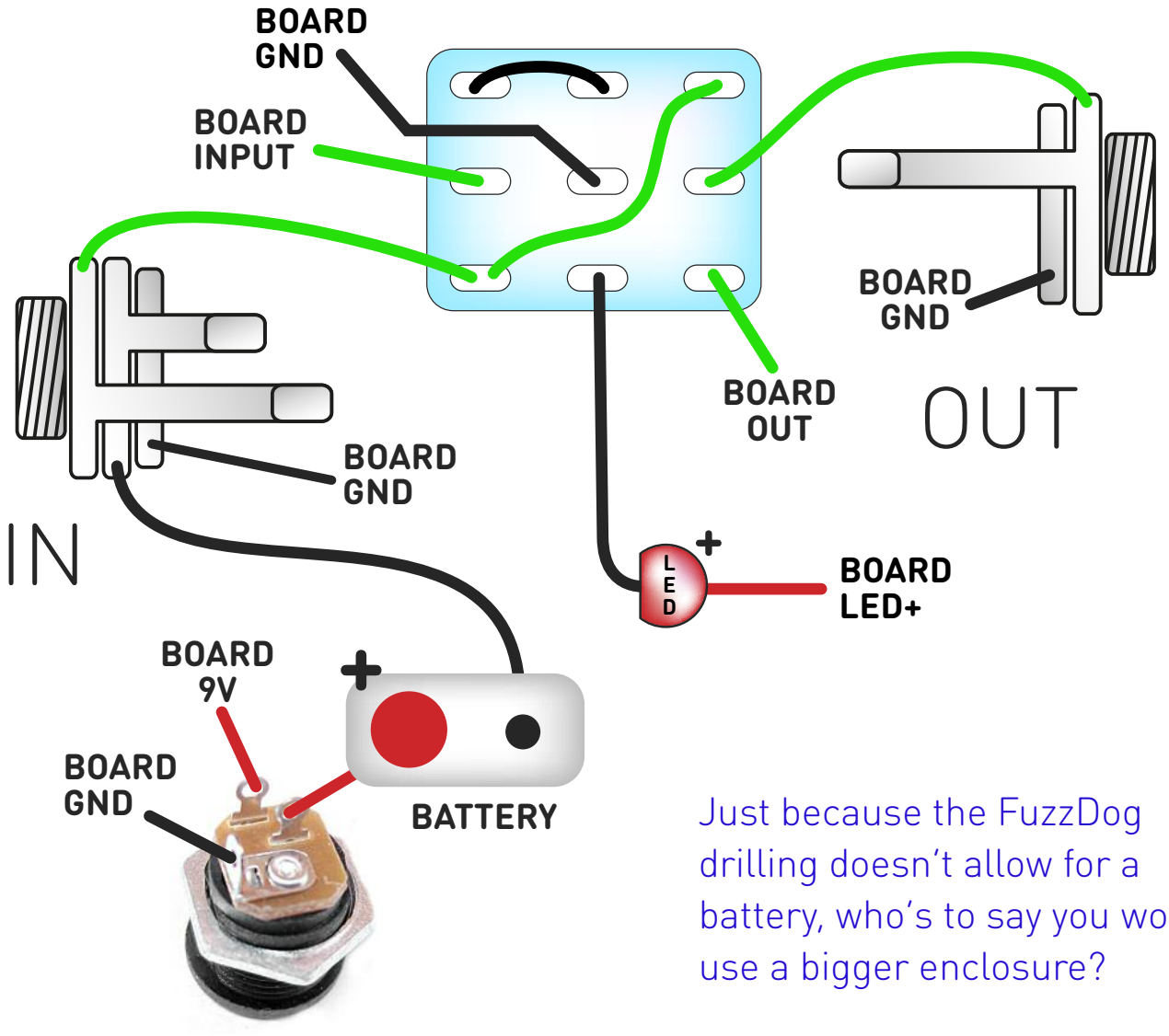


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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)



Just because the FuzzDog drilling doesn't allow for a battery, who's to say you won't use a bigger enclosure?

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

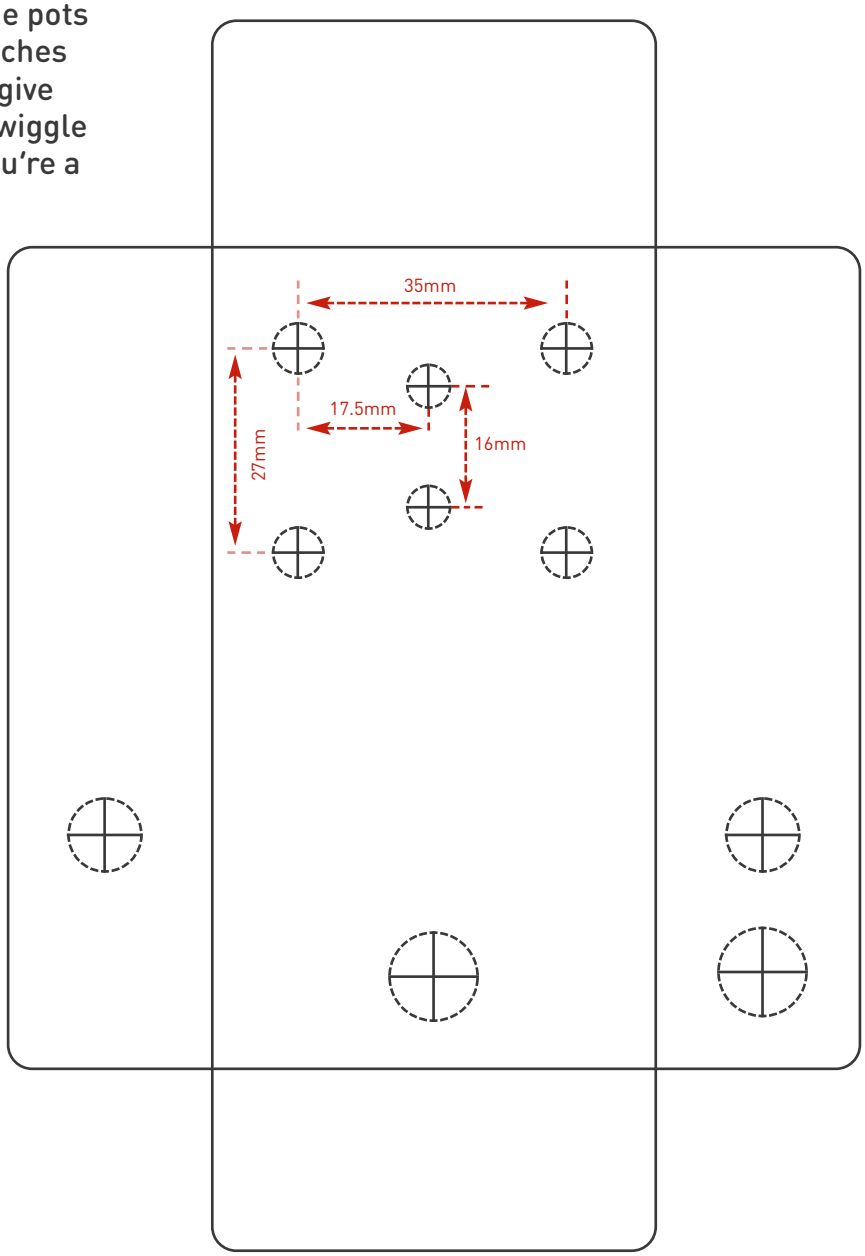
Hammond 1590B

60 x 111 x 31mm

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Toggle switches	6mm

It's a good idea to drill the holes for the pots and toggle switches 1mm larger 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