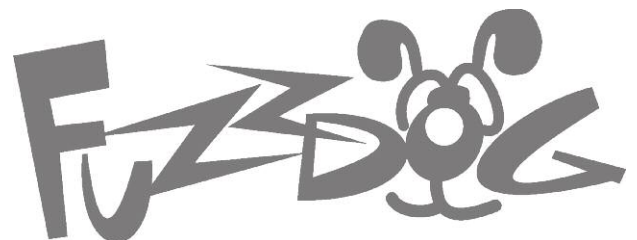


Mini Bad Mofo

Awesomely versatile bass overdrive preamp with blend



Important notes

If you're using any of our footswitch daughterboards, DOWNLOAD THE DAUGHTERBOARD DOCUMENT

- Download and read the appropriate build document for the daughterboard as well as this one BEFORE you start.
- DO NOT solder the supplied Current Limiting Resistor (CLR) to the main circuit board even if there is a place for it. This should be soldered to the footswitch daughterboard.

POWER SUPPLY

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC.

COMPONENT SPECS

Unless otherwise stated in this document:

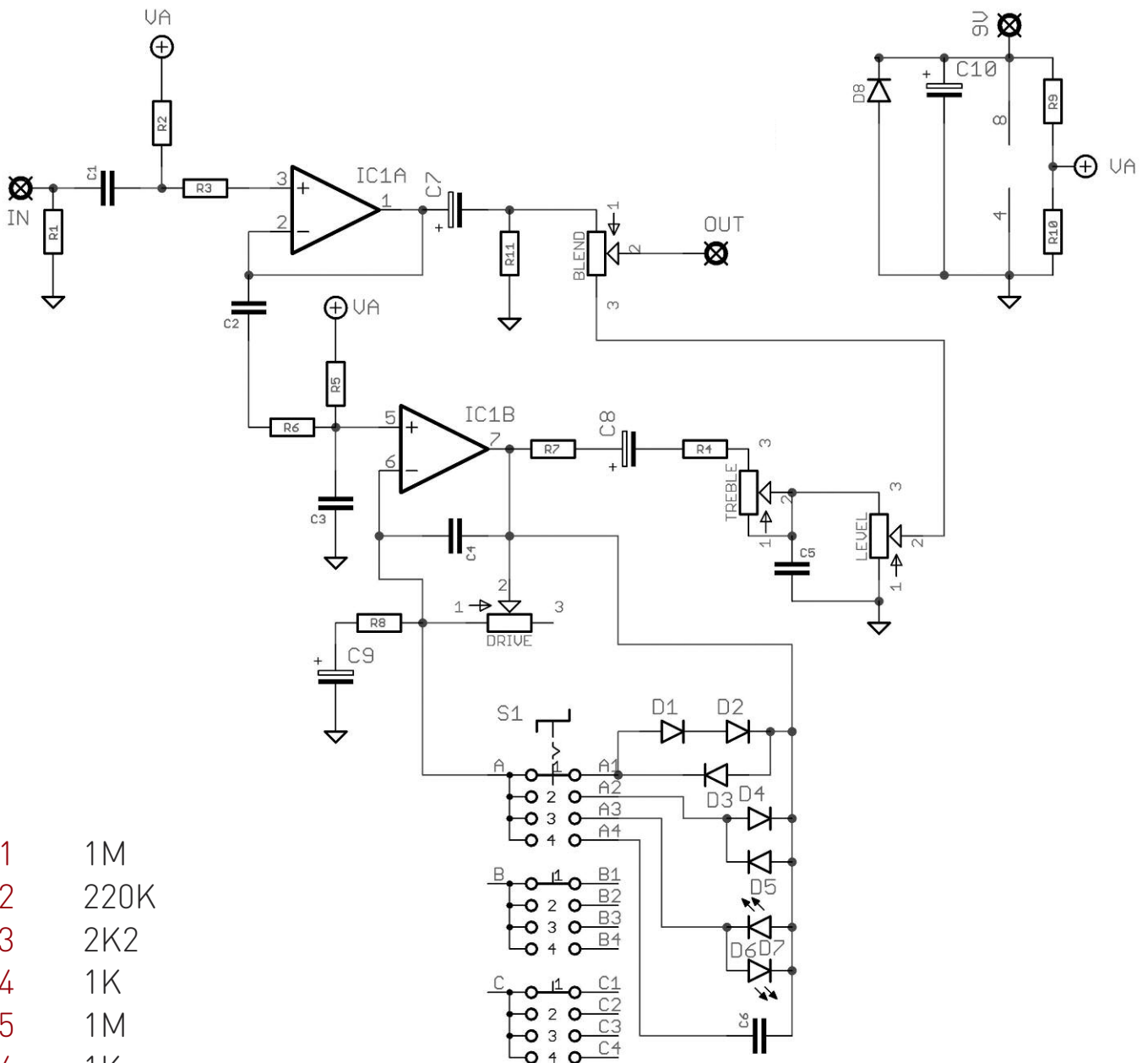
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

LAYOUT CONVENTIONS

Unless otherwise stated in this document, the following are used:

- **Electrolytic capacitors:**
Long leg (anode) to square pad.
- **Diodes/LEDs:**
Striped leg (cathode) to square pad. Short leg to square pad for LEDs.
- **ICs:**
Square pad indicates pin 1.

Schematic + BOM

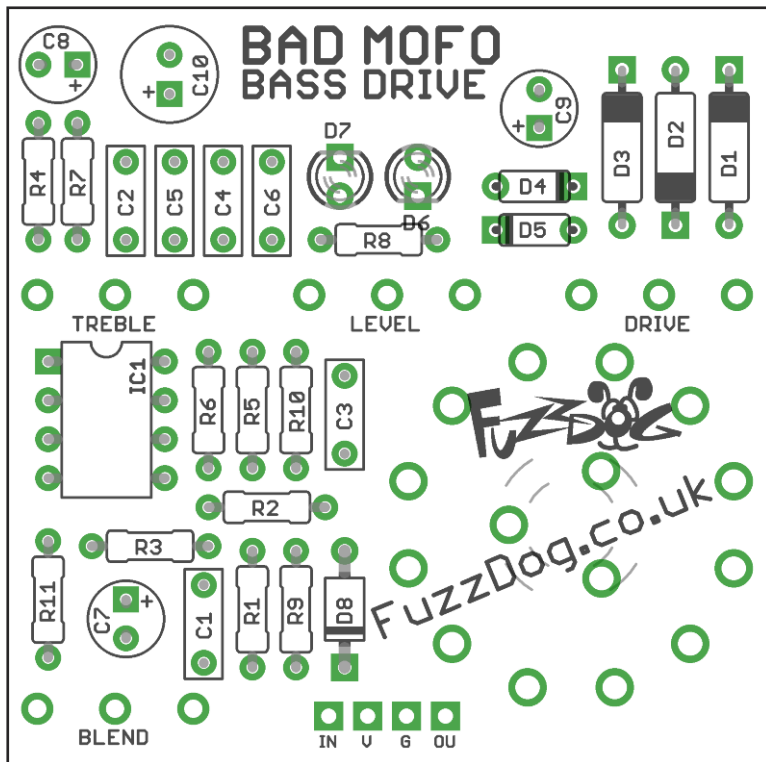


R1	1M
R2	220K
R3	2K2
R4	1K
R5	1M
R6	1K
R7	1K
R8	470R
R9	100K
R10	100K
R11	100K

C1	100n
C2	220n
C3	2n2
C4	470p
C5	10n
C6	470p
C7	10u elec
C8	10u elec
C9	10u elec
C10	47u elec

*other dual op amps will work, such as 4558

IC1	JRC4562*	DRIVE	100KB
D1-3	1N34A	LEVEL	100KA
D4-5	1N4148	TREBLE	100KB
D6-7	3mm Red LED	BLEND	100KB
D8	1N4001	SWITCH	3P4T rotary



PCB layout ©2020 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). Best to use a socket for the chip.

The striped leg (cathode) of the diodes goes into the square pad. Short leg of the LEDs goes into the square pad.

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

The large 47u capacitor can lay flat as shown in the cover image. This will give you plenty of clearance in the enclosure.

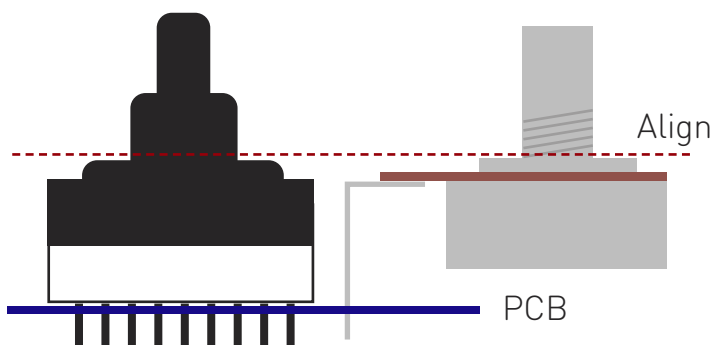
Snap the small metal tag off the pots so they can be mounted flush in the box.

Align the switch so the round locator tab on the top side is in the same position as the marking on the board >>>



You'll have to snap this off to mount the switch flush in the enclosure.

Pots mount on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones. As the rotary switch is quite deep you'll have to line the pots up with it once its in place. Solder the switch in before the pots. Now place your pots in the board and align them so they're at the same level as the switch. In the case of the switch supplied with the kits, the pot pin will only just stick out of the other side of the board when at the right height. It's easiest if you only solder a single pin of the pots until you get the height right.



Test the board!

Check the relevant daughterboard document for more info before you undertake this stage.

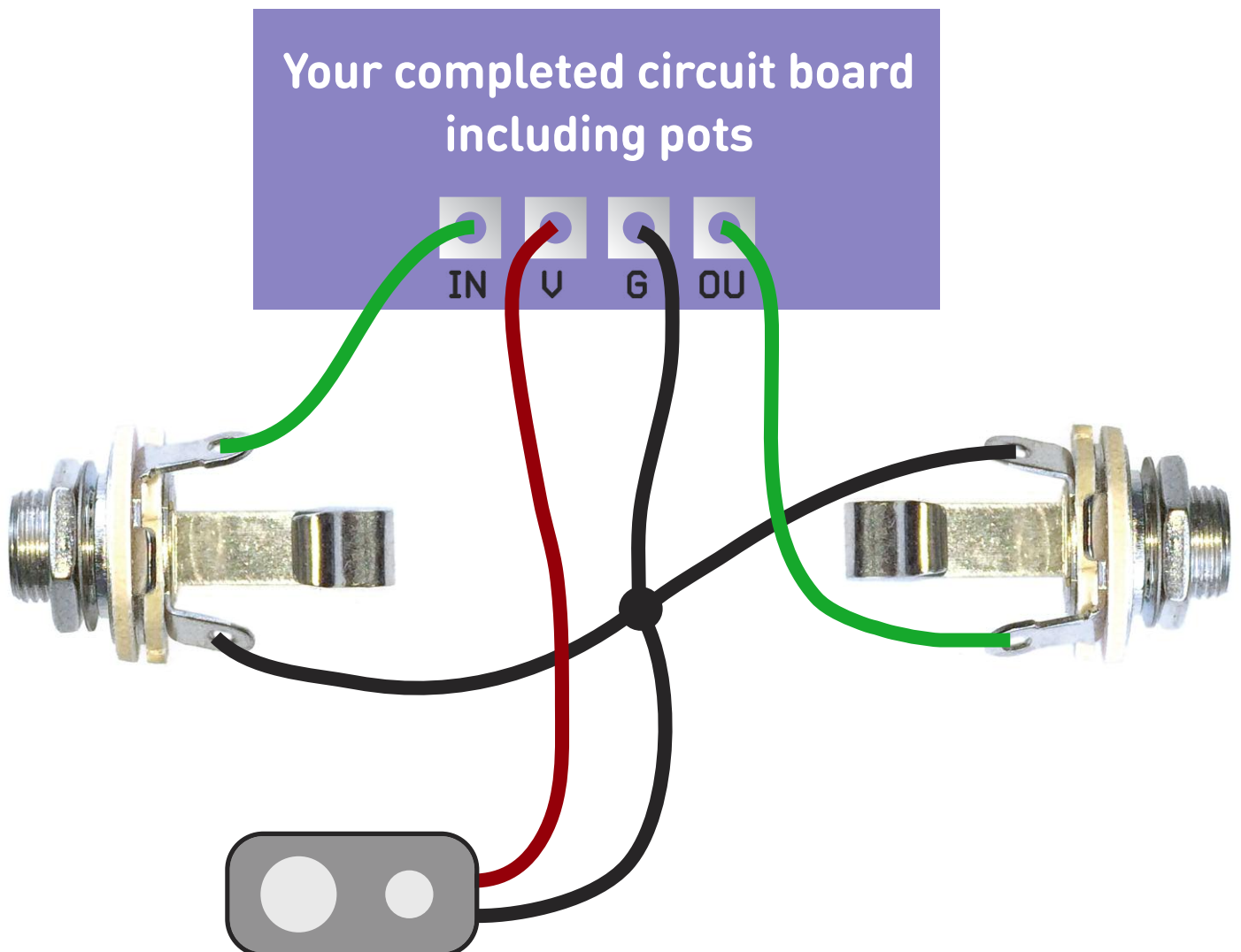
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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.

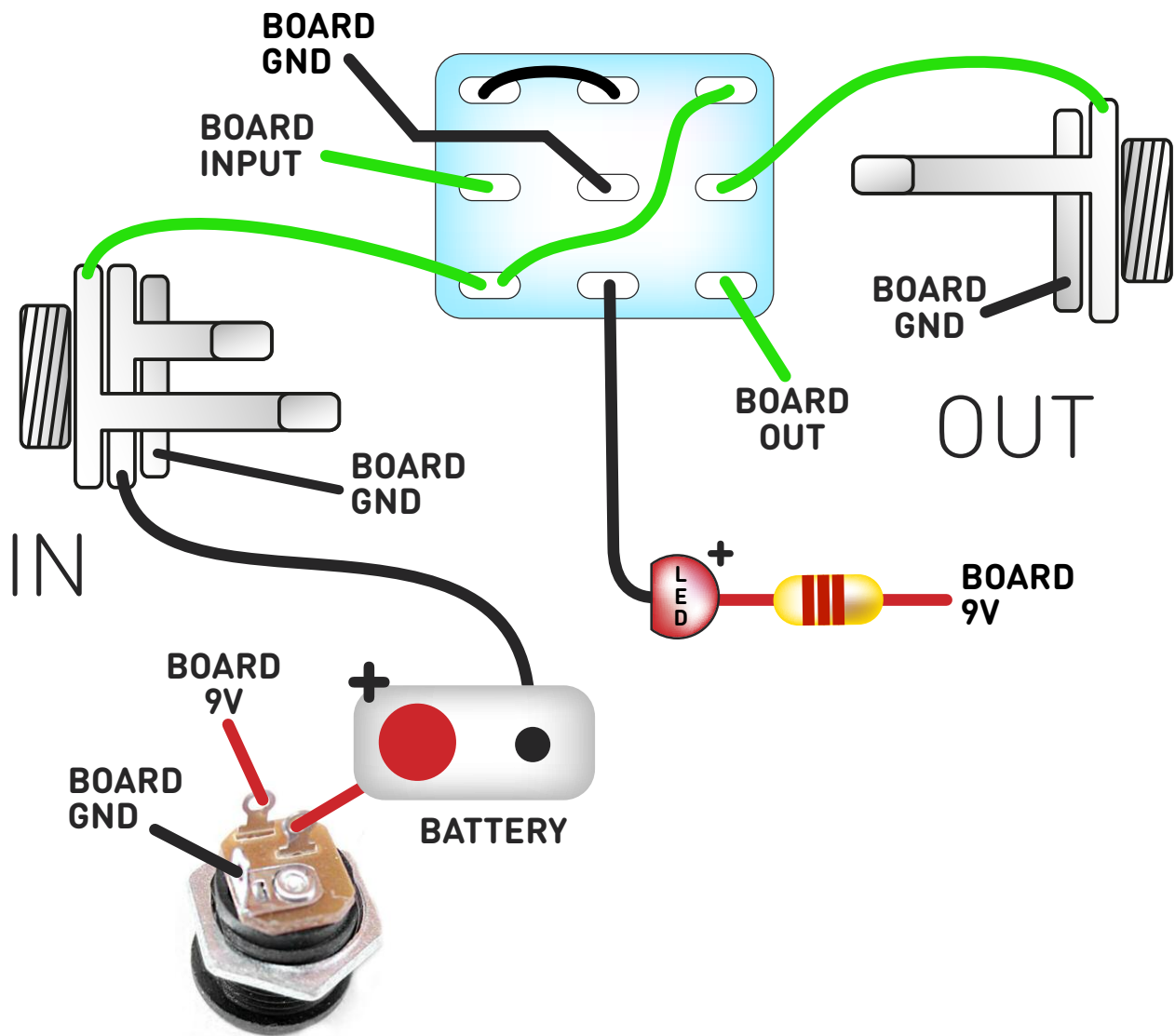
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

If you're using a ribbon cable you can tack the wires to the ends of that. It's a lot easier to take them off there than it is to desolder wires from the PCB pads.

If it works, carry 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 (if using a daughterboard please refer to the relevant document)



Wiring shown above will disconnect the battery when you remove the jack plug from the input, and also when a DC plug is inserted.

The Board GND connections don't all have to directly attach to the board. You can run a couple of wires from the DC connector, one to the board, another to the IN jack, then daisy chain that over to the OUT jack.

It doesn't matter how they all connect, as long as they do.

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.

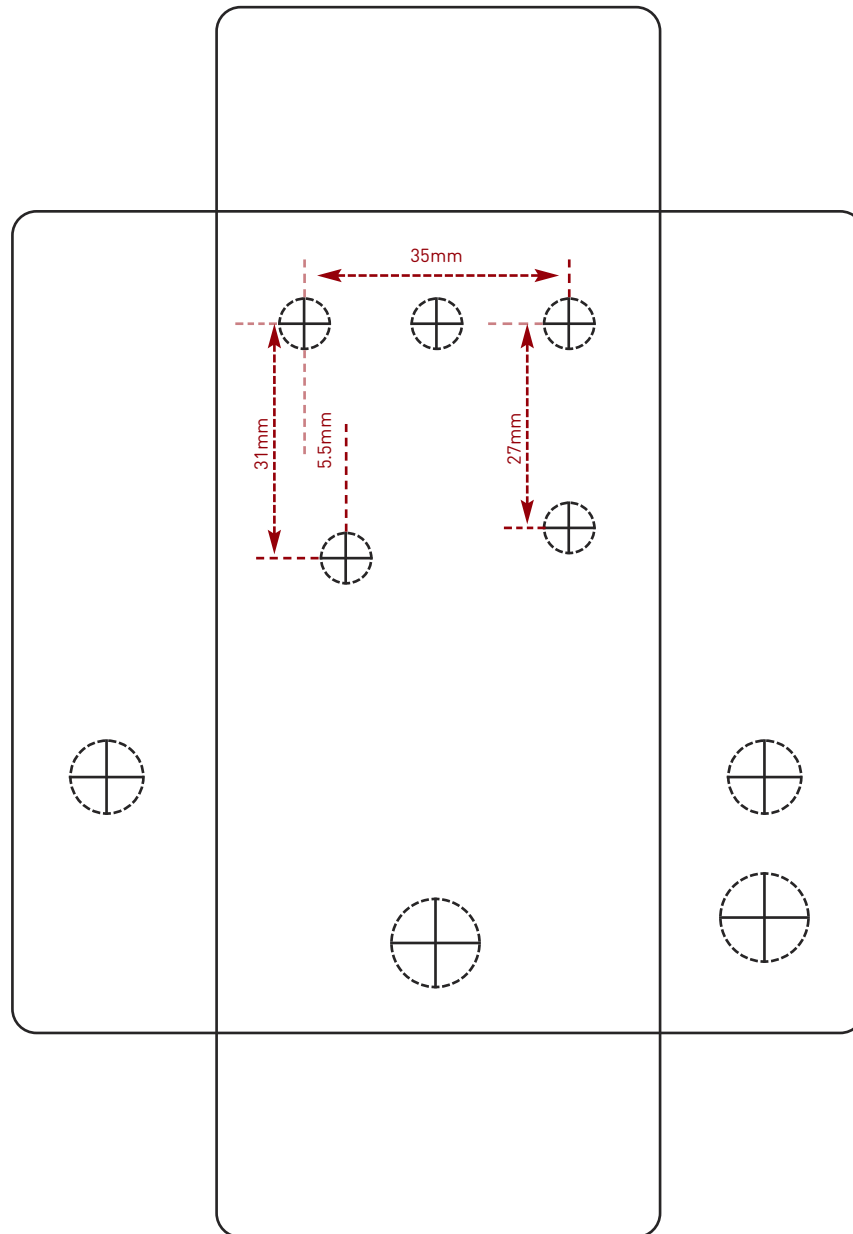
Drilling template

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 pot and toggle switch holes 1mm bigger if you're board-mounting them.
Wiggle room = good!



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.

FuzzDog.co.uk