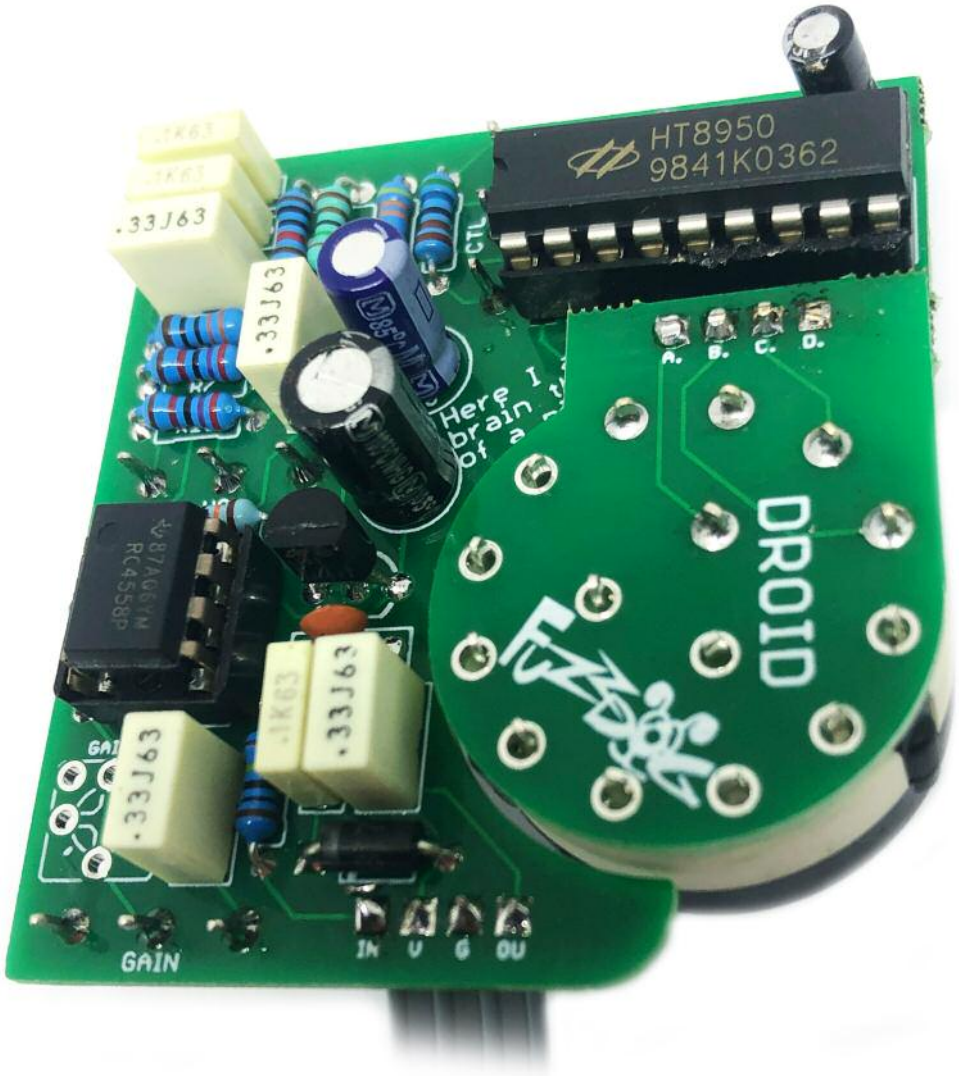


Droid

8-bit noise nonsense that's actually a lot of fun

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:

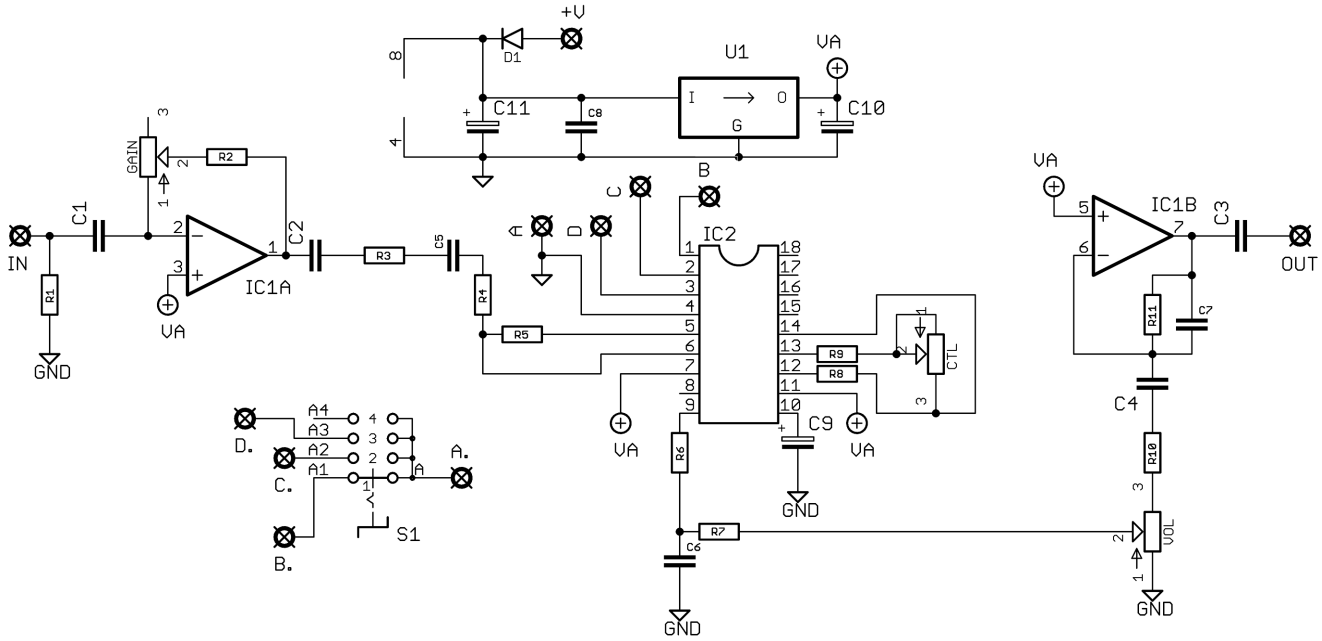
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

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.

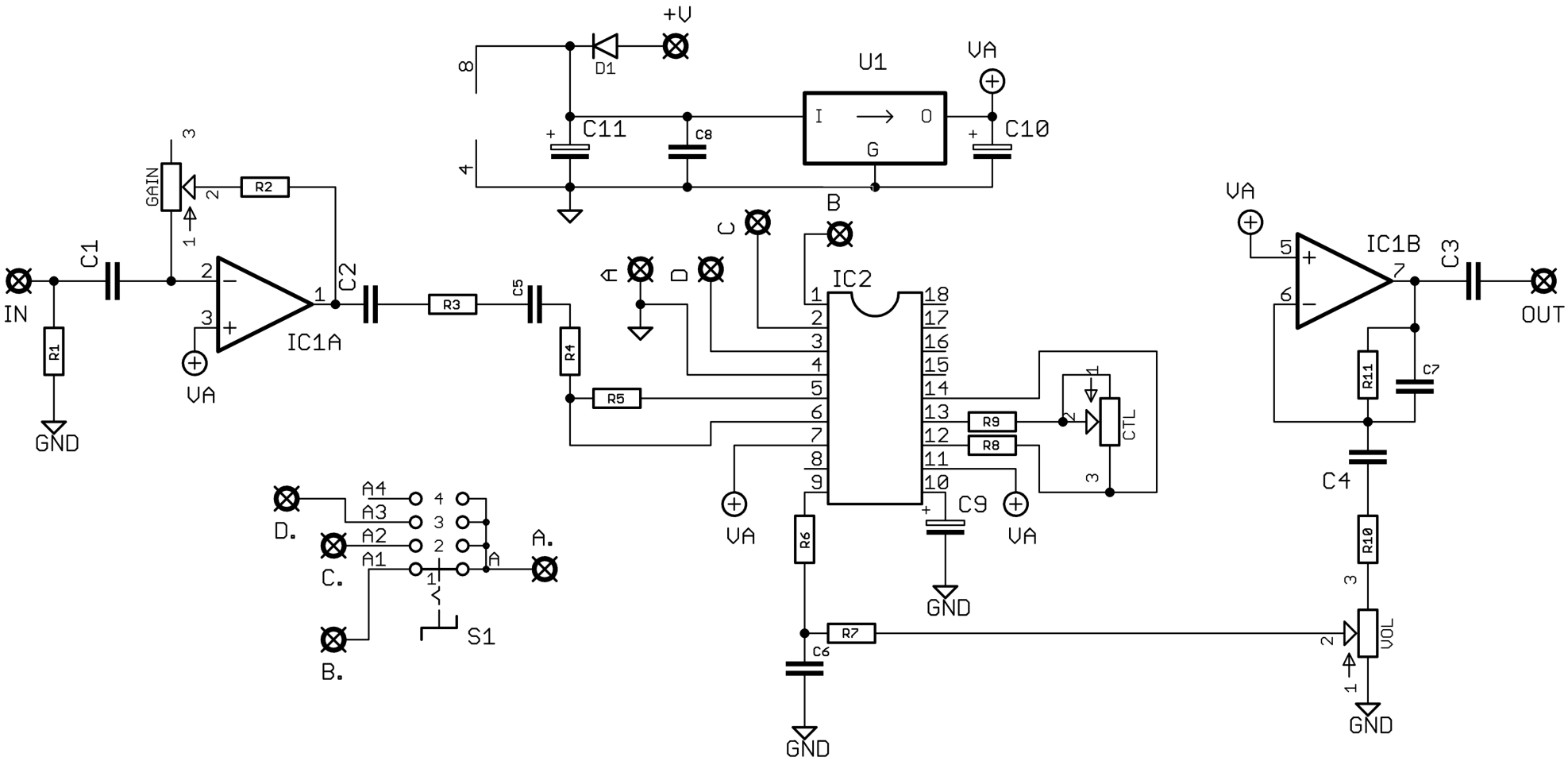
Schematic + BOM

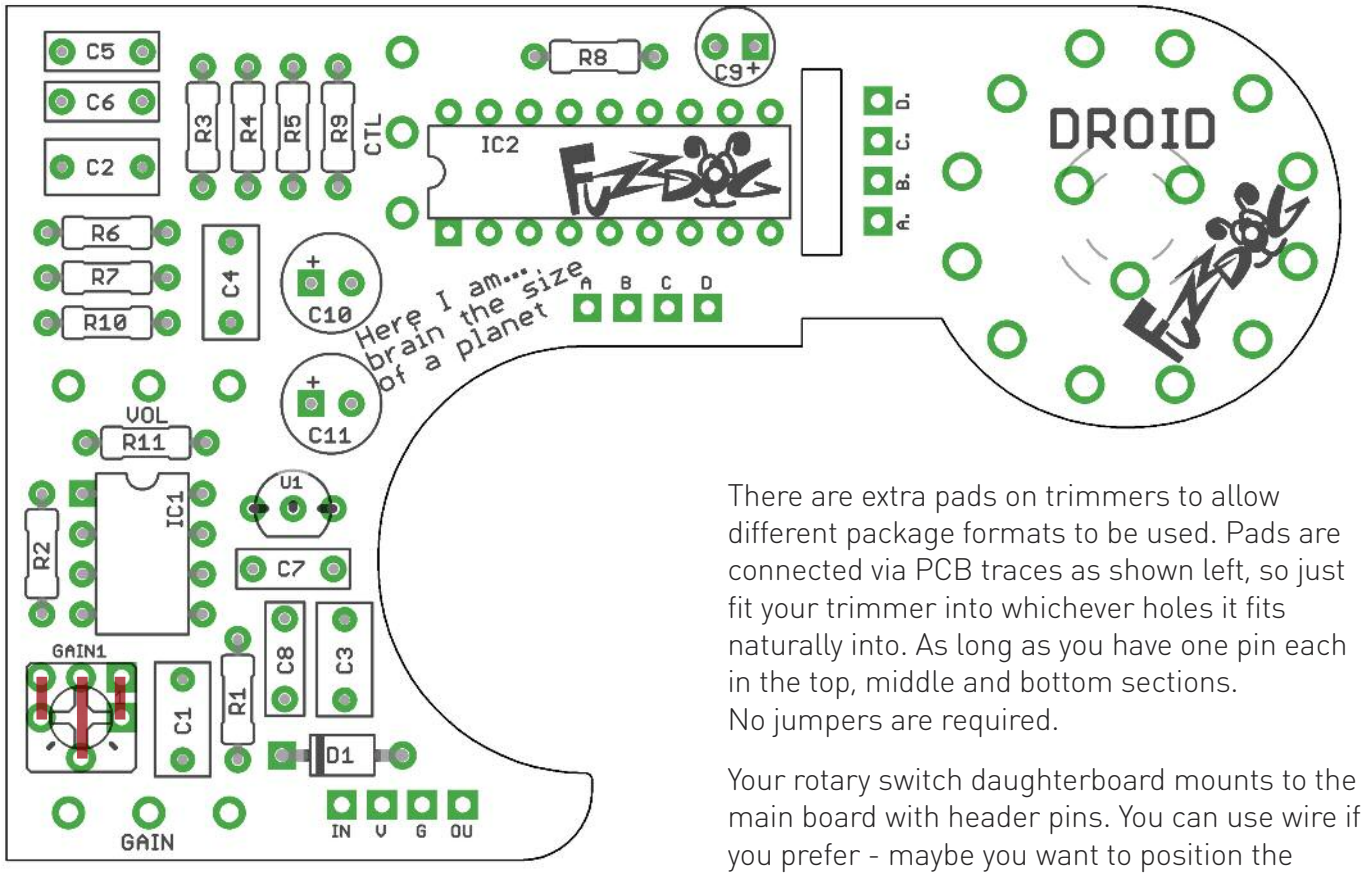


R1	1M	C1	330n	D1	1N5817
R2	27K	C2	330n	U1	3.3V regulator*
R3	10K	C3	330n		
R4	1K5	C4	330n	IC1	4558
R5	43K	C5	100n	IC2	HT8950
R6	330R	C6	100n		
R7	10K	C7	470p	CTRL	500KB
R8	100K	C8	100n	GAIN	1MB**
R9	5K6	C9	2u2 elec	VOL	100KA
R10	27K	C10	47u elec		
R11	430K	C11	100u elec	S1	3P4T rotary

*We use ST LE33CZ-TR

**Use a pot OR trimmer for gain.


+V
D1
U1
VA
C11
C8
C10
I
O
G
GAIN
R2
C1
C2
R3
C5
R4
R5
IN
R1
GND
IC1A
VA
A
D
C
B
IC2
R9
R8
CTL
R6
C9
VA
GND
R7
C6
GND
VA
IC1B
C3
OUT
R11
C7
C4
R10
VOL
GND
D.
C.
B.
A4
A3
A2
A1
A.
S1



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. Check the separate daughterboard document for details.

Be very careful when soldering the diode and voltage regulator. 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). Same goes for ICs if you aren't using sockets.

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

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 board. Make sure your pots all line up nicely.

The best way to do that is to solder a single pin of each pot in place then melt and adjust if necessary before soldering in the other two pins. If your pots don't have protective plastic jackets ensure you leave a decent gap between the pot body and the PCB otherwise you risk shorting out the circuit.

There are extra pads on trimmers to allow different package formats to be used. Pads are connected via PCB traces as shown left, so just fit your trimmer into whichever holes it fits naturally into. As long as you have one pin each in the top, middle and bottom sections.
No jumpers are required.

Your rotary switch daughterboard mounts to the main board with header pins. You can use wire if you prefer - maybe you want to position the switch elsewhere in the enclosure.

If using header pins mount them fully into the boards as the plastic spacer on them will position the rotary switch at exactly the right height in relation to the pots.

Test the board!

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

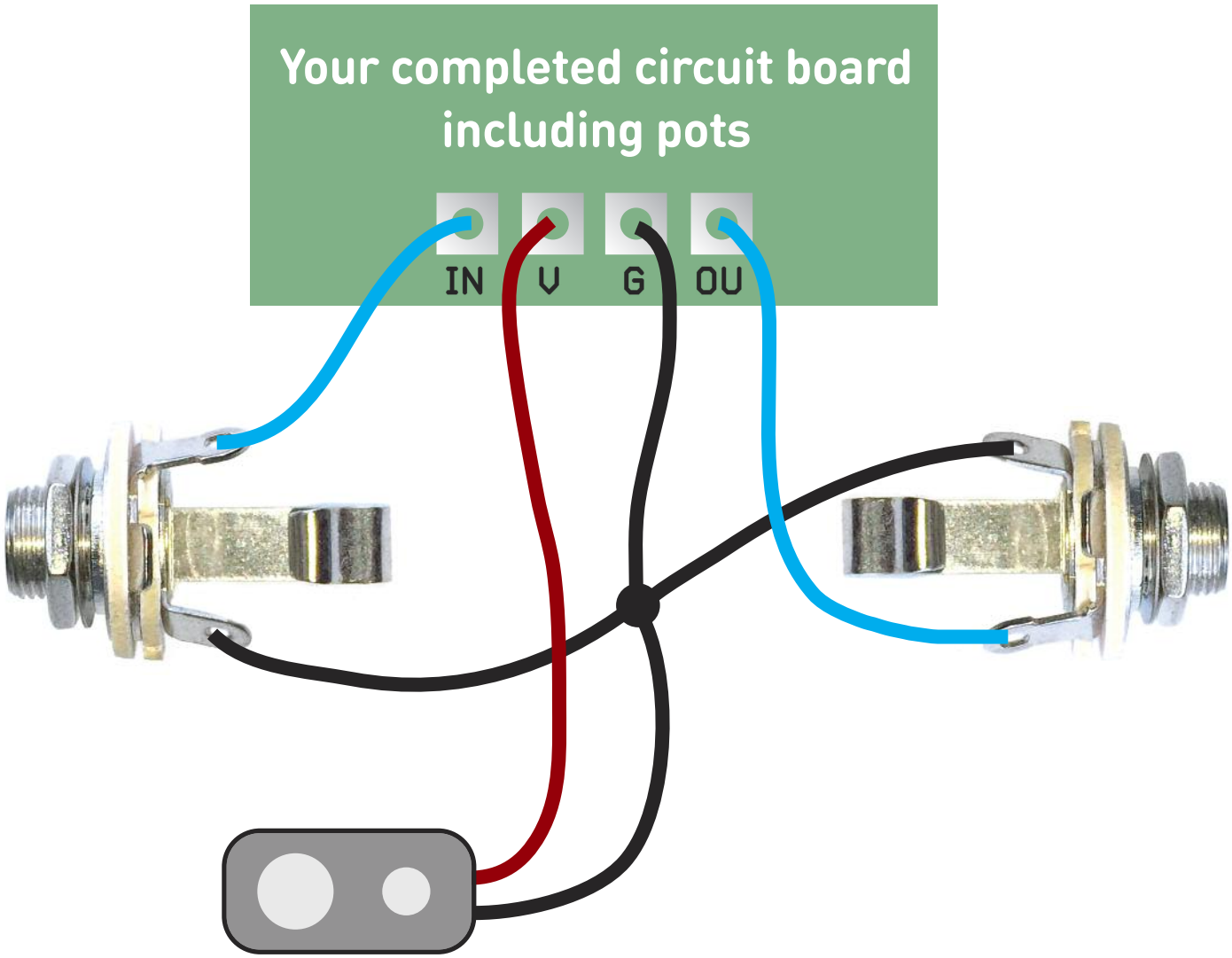
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

Once you've finished the circuit it makes sense to test 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 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 do 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.



Now's the time to refer to the daughterboard document for your chosen bypass method.

Enjoy your pedal!

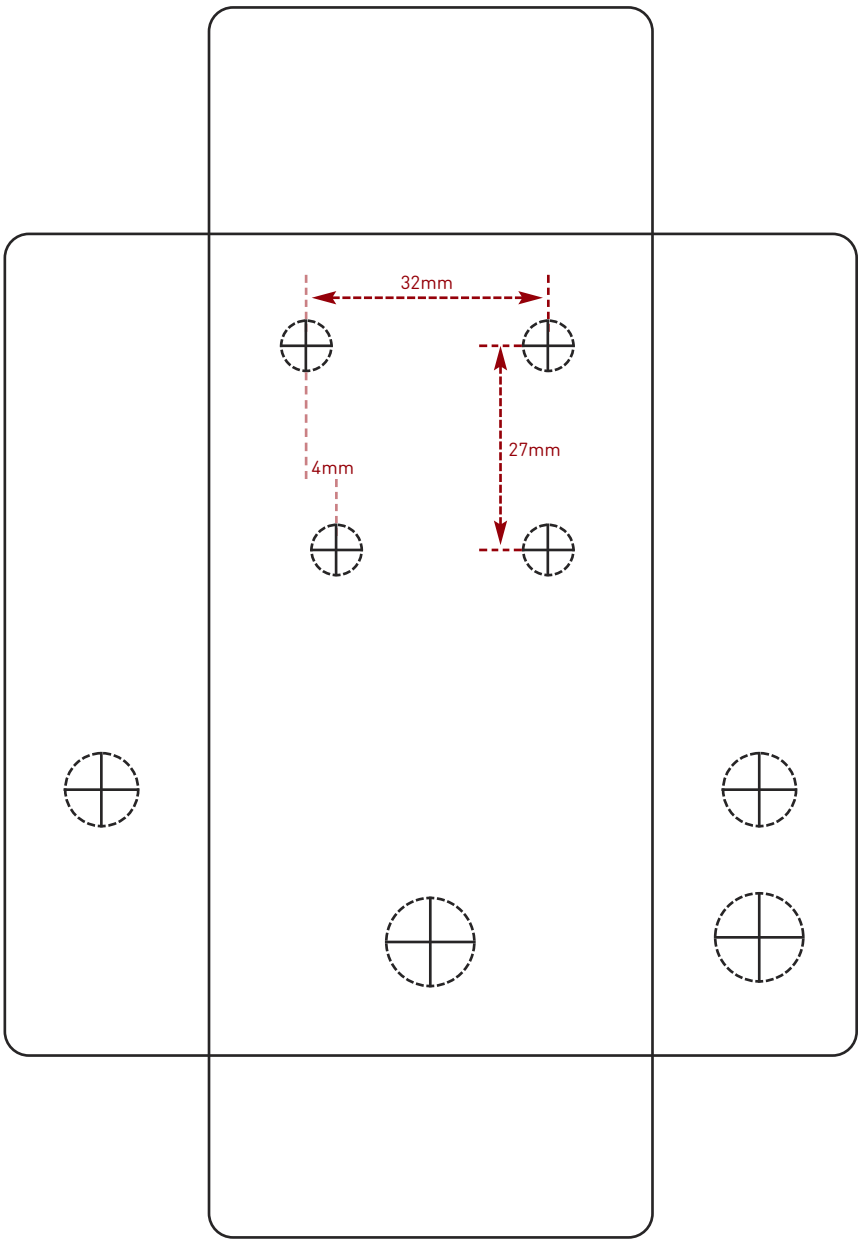
Drilling template without battery

Hammond 1590B - 60 x 111 x 31mm

It's a good idea to drill the pot and toggle switch holes 1mm bigger if you're board-mounting them.
Wiggle room = good!

Recommended drill sizes:

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



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