

ShredMeister

High-Gain Distortion for your
Metal Chugga Chugga



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:

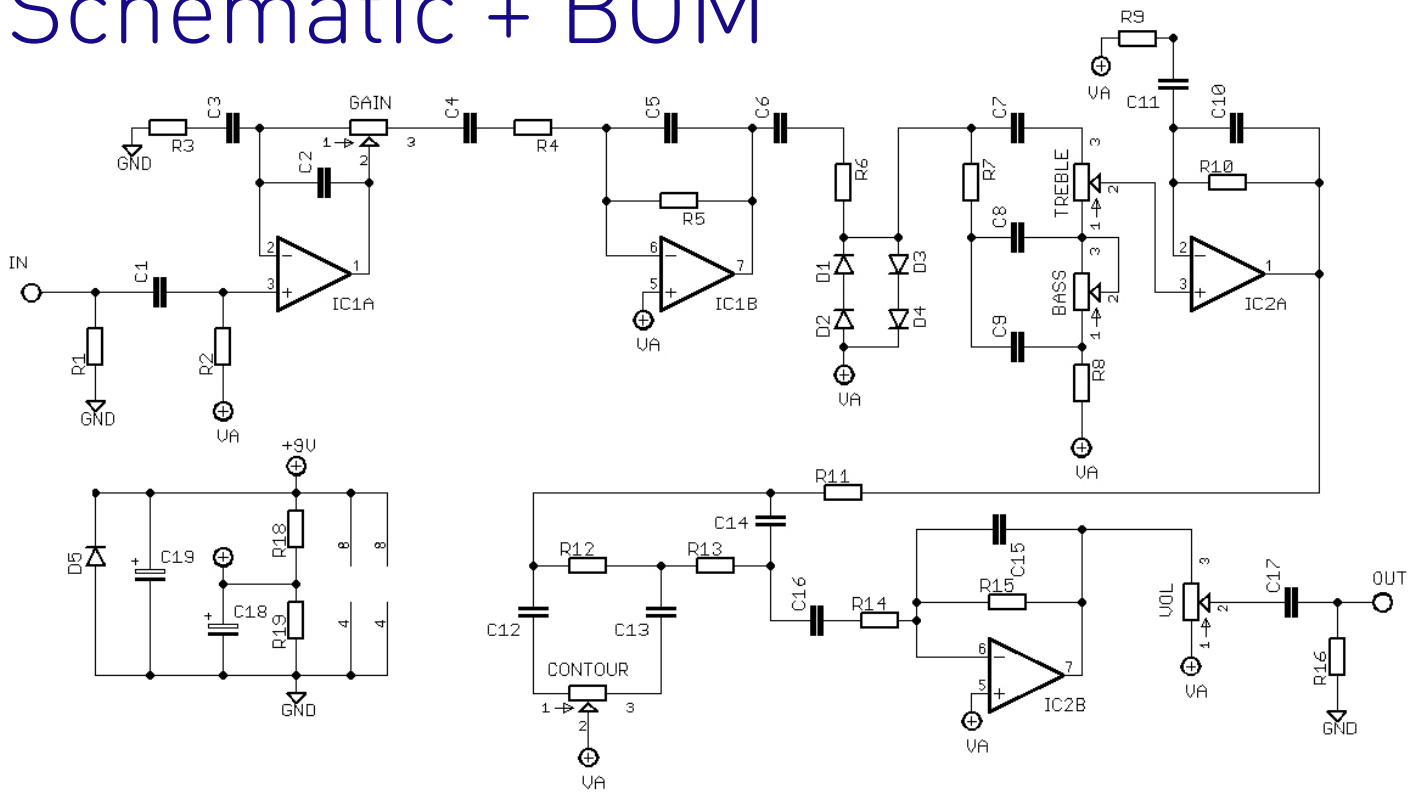
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

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

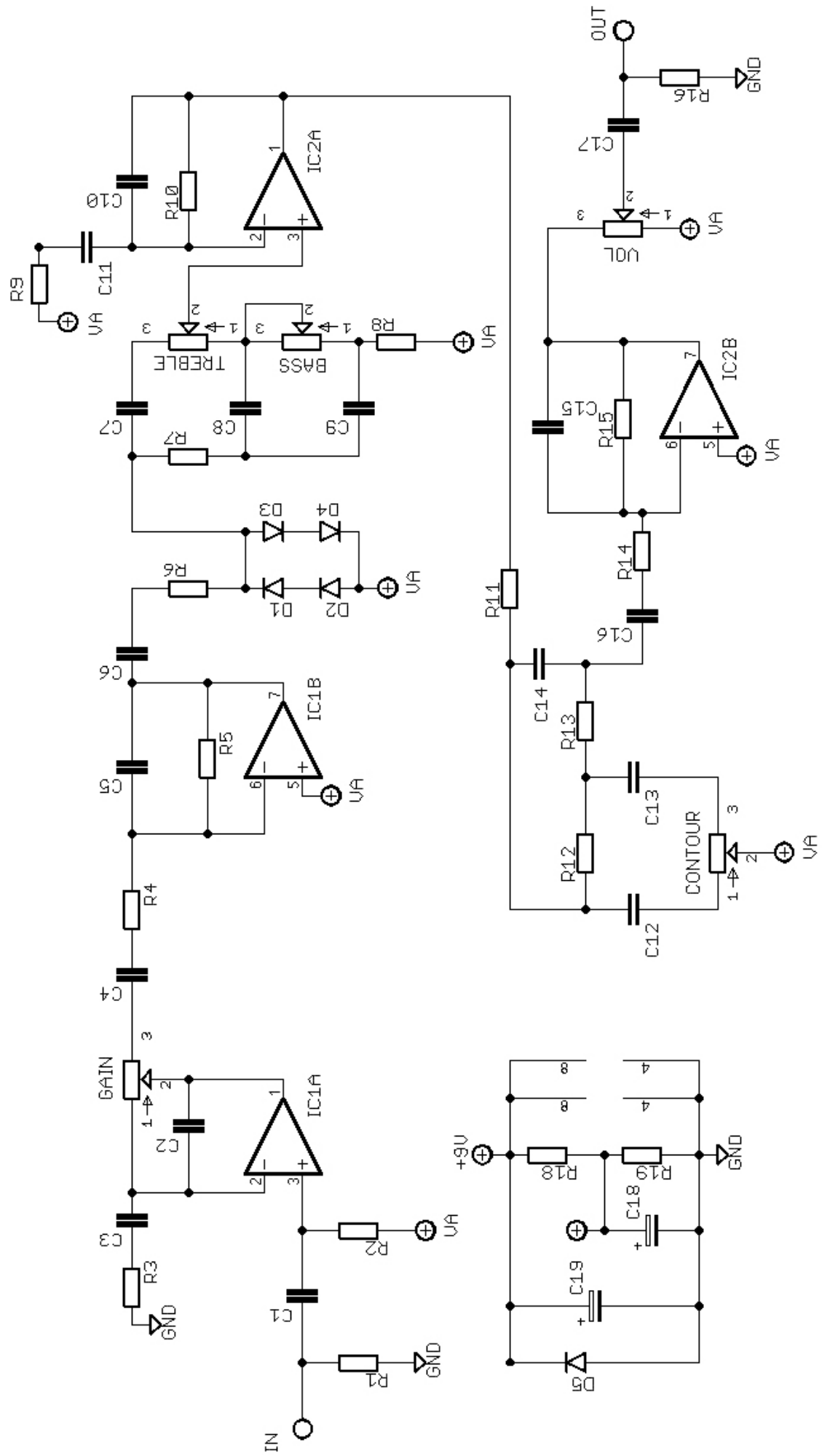


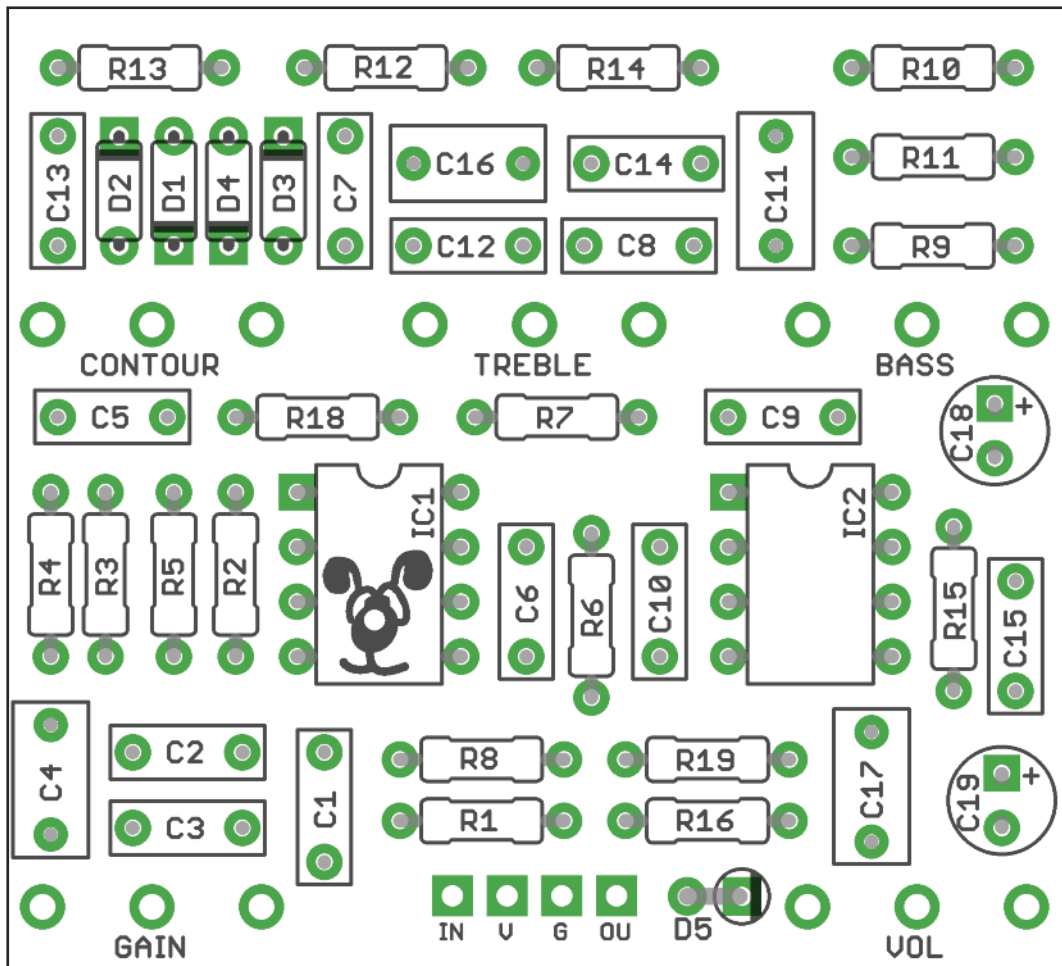
R1	2M2
R2	1M
R3	3K3
R4	8K2
R5	680K
R6	10K
R7	6K8
R8	1K
R9	47K
R10	220K
R11	100R
R12	33K
R13	33K
R14	100K
R15	100K
R16	1M
R18	47K
R19	47K
R20	2K2 (CLR)

C1	10n
C2	100p
C3	47n
C4	68n
C5	47p
C6	100n
C7	22n
C8	220n
C9	22n
C10	2n2
C11	220n
C12	100n
C13	47n
C14	1n
C15	1n
C16	220n
C17	220n
C18	47u elec
C19	47u elec

D1	1N4148
D2*	jumper
D3	1N4148
D4*	jumper
D5	1N4001
IC1,2	TL072
GAIN	100KB
BASS	100KA
TREBLE	20KB
CONTOUR	100KB
VOL	100KA

D2 and D4 have been included to allow experimentation with clipping diode combinations. These should be jumpered for the standard circuit.





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. 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 sockets for the ICs.

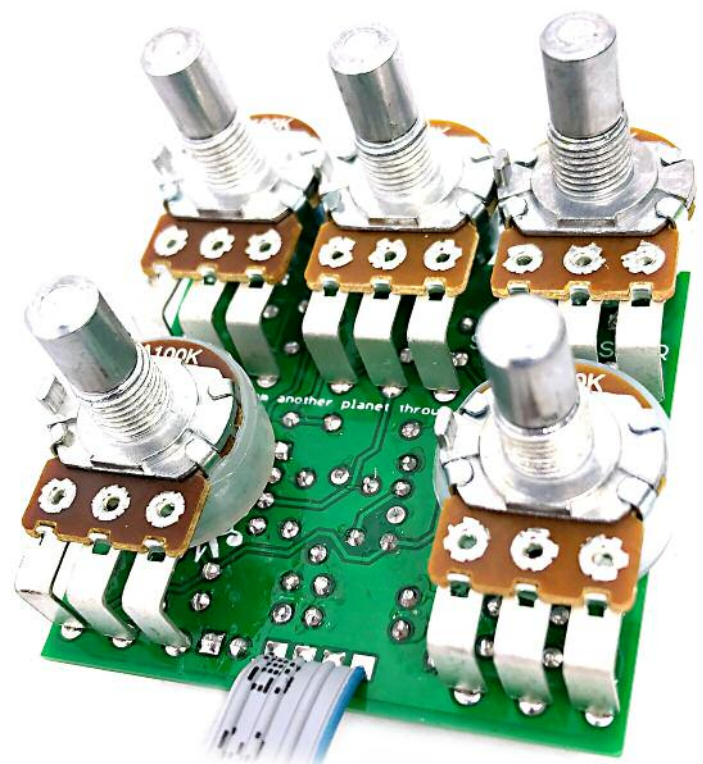
The striped leg (cathode) of the diodes goes into the square pad. Short leg of the LEDs goes into the square pad.

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

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

Pots mount on the back side of the board. You should solder all the parts on the other side of the PCB before you add the pots, as once they're in place you'll have no access to most of the PCB.

To get them all aligned it's best to solder a single leg, then melt and reposition it to get the pot straight and at the same height as the others.



Test the board!

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

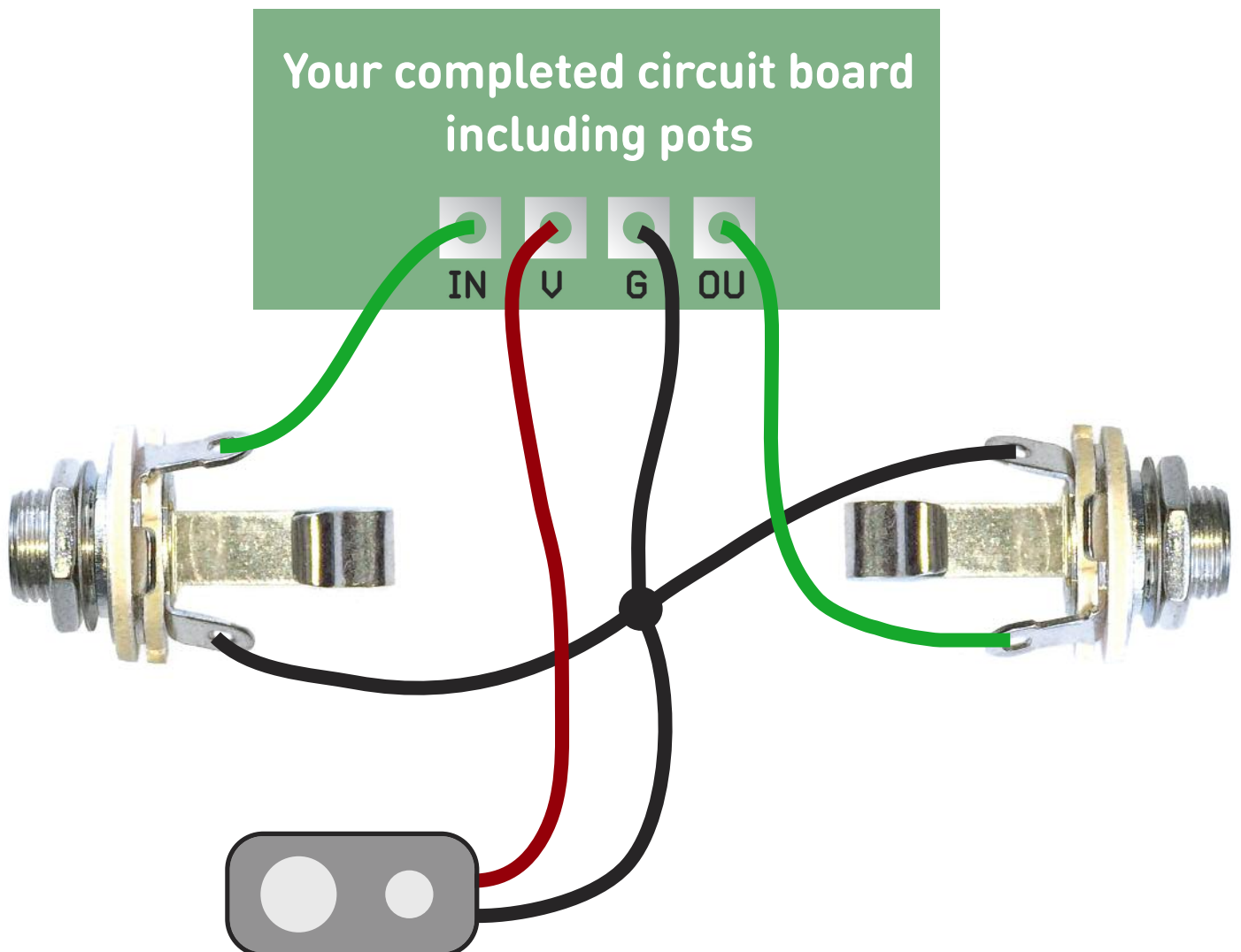
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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.

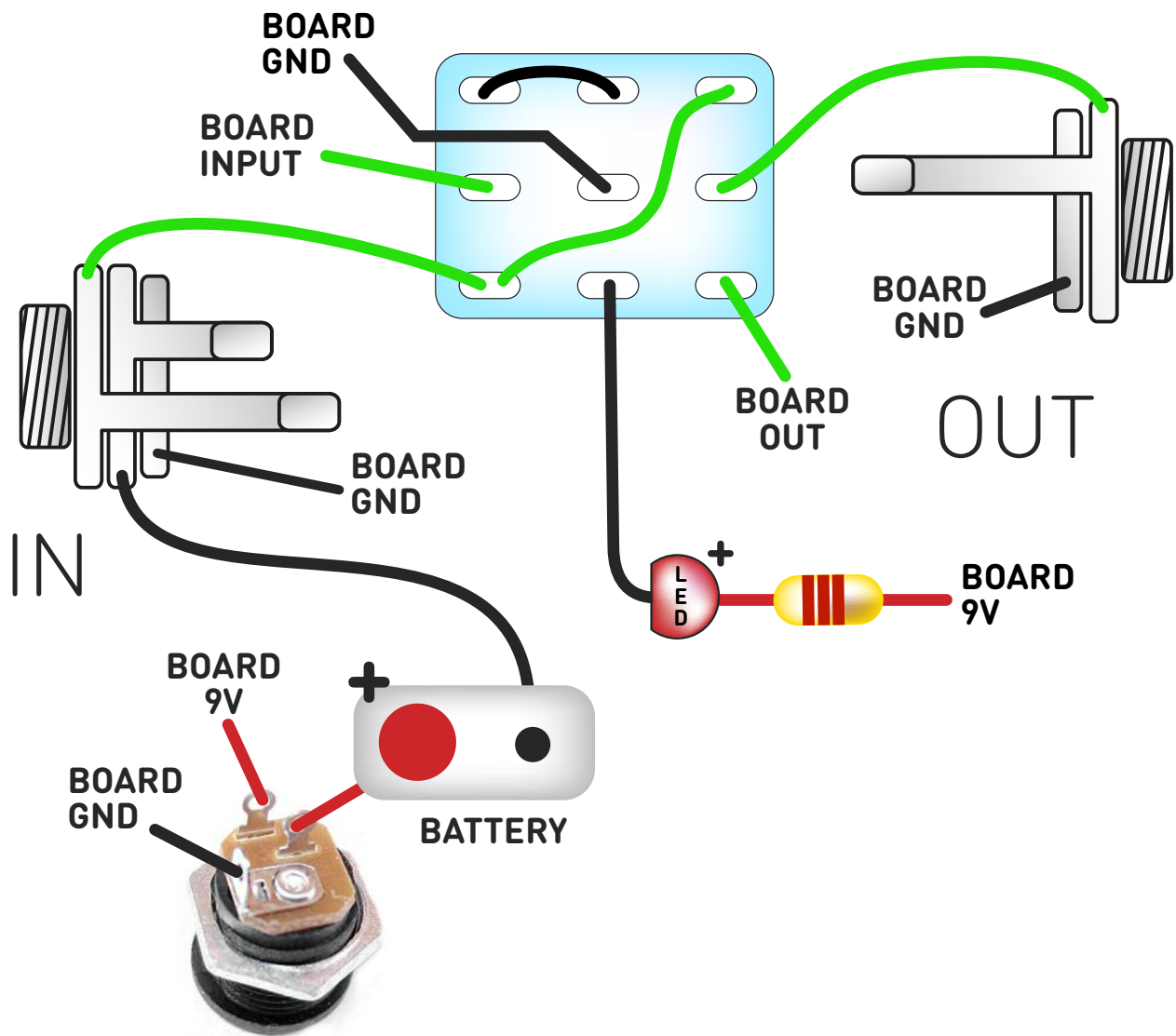
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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.



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.

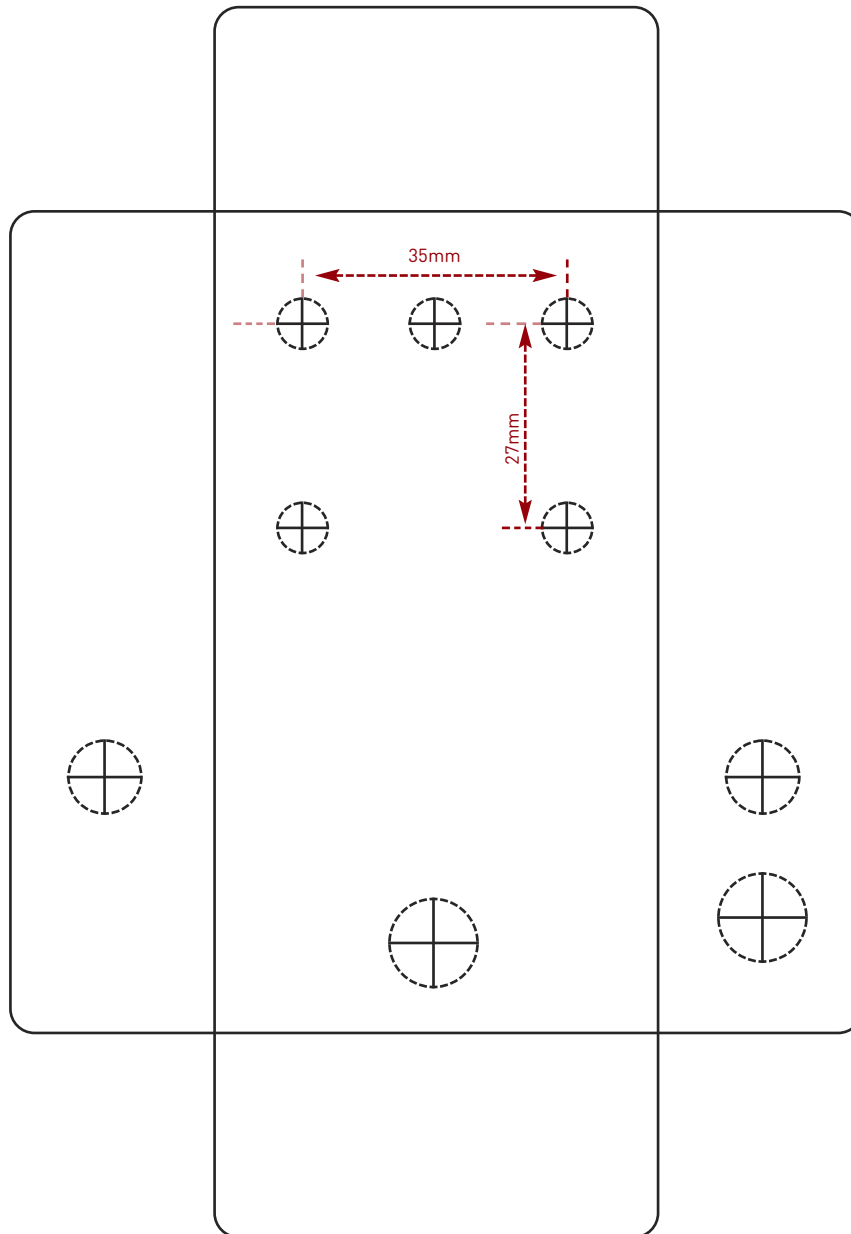
Drilling template

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