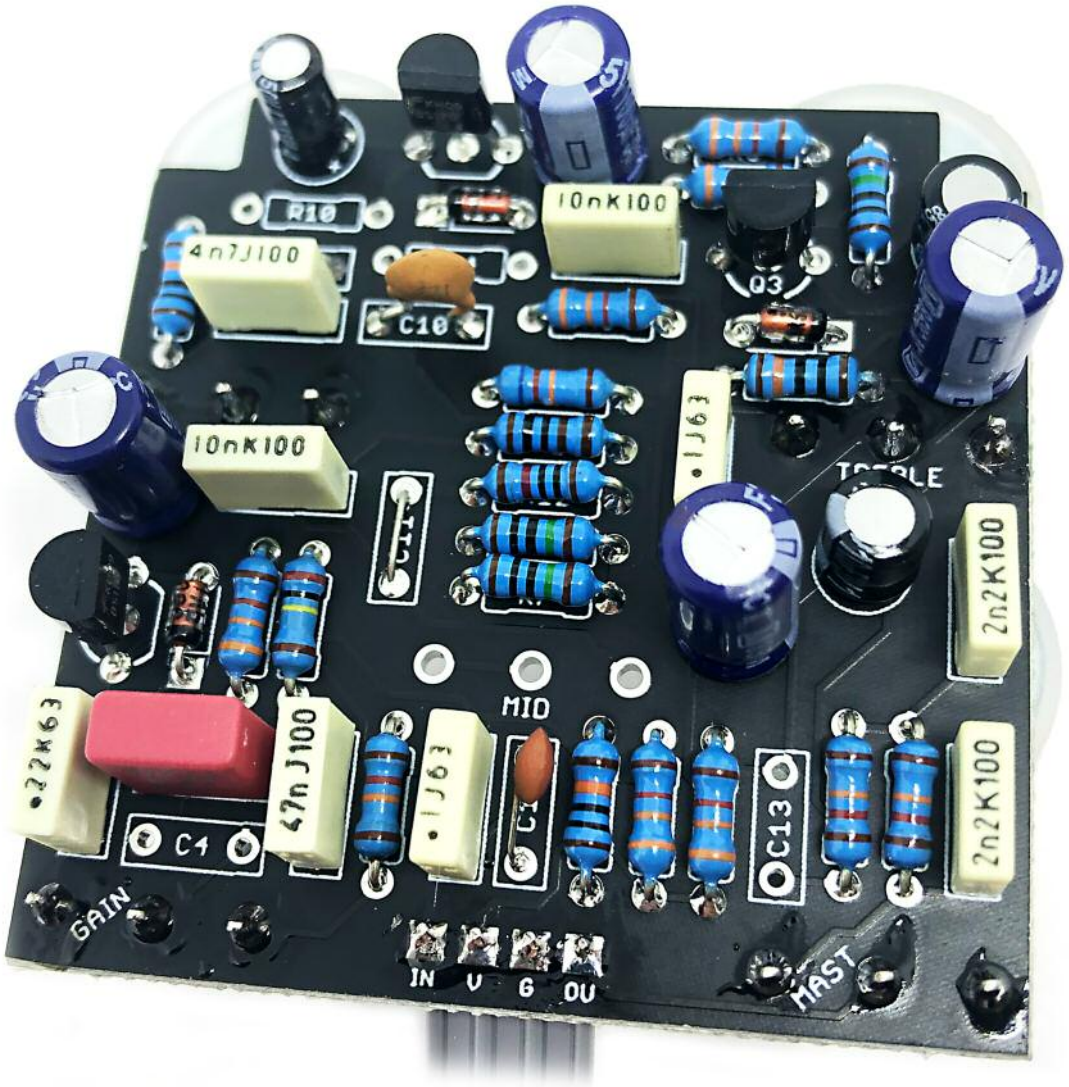


Mega(Hi)Watt

One PCB, two classic Hiwatt-based tones

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:

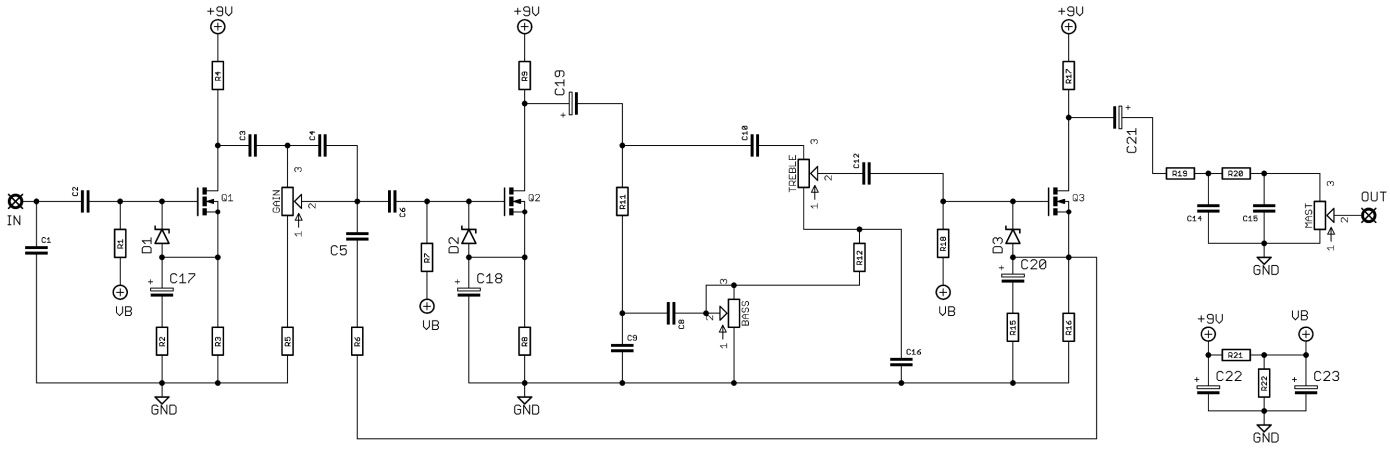
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

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 - NORTH

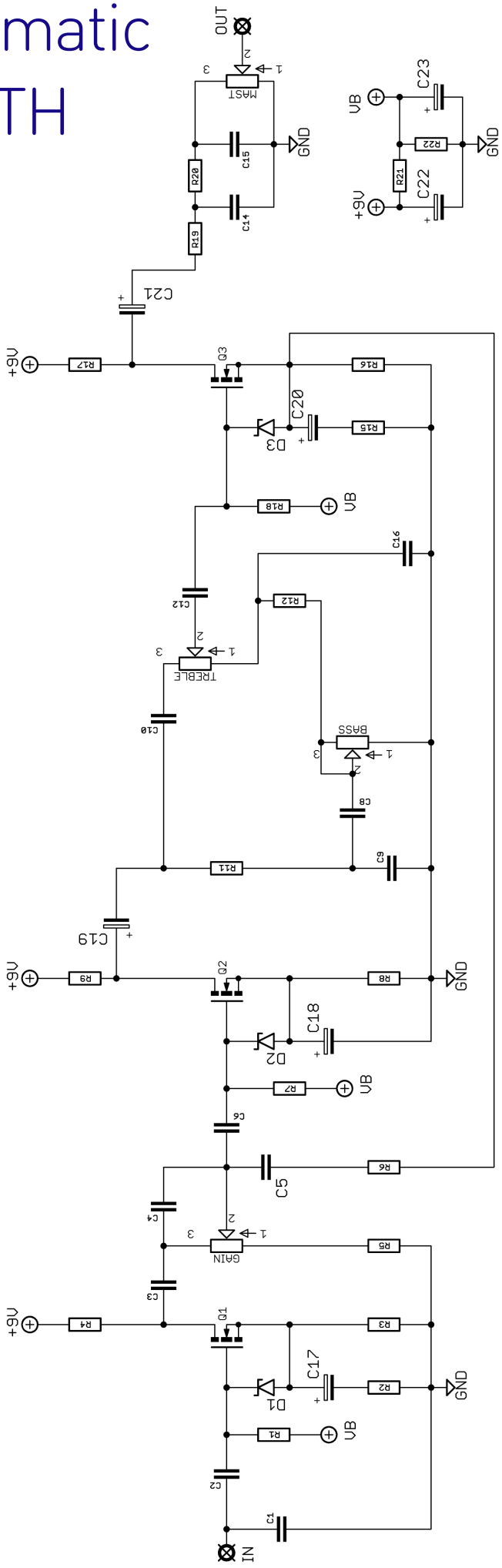


R1	10M
R2	1K
R3	3K3
R4	3K3
R5	12K
R6	200K
R7	10M
R8	3K3
R9	3K3
R10	empty
R11	100K
R12	10K
R14	empty
R15	130R
R16	3K3
R17	3K3
R18	10M
R19	12K
R20	12K
R21	62K
R22	100K

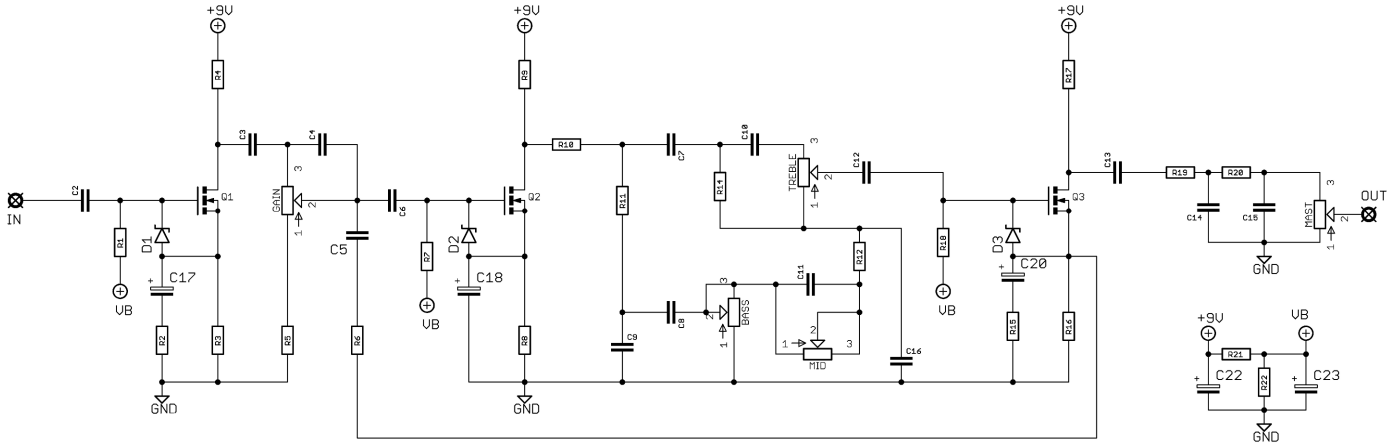
C1	250p
C2	100n
C3	220n
C4	empty
C5	470n
C6	47n
C7	jumper wire
C8	10n
C9	4n7
C10	470p
C11	jumper wire
C12	100n
C13	empty
C14	2n2
C15	2n2
C16	10n
C17	100u elec
C18	100u elec
C19	4u7 elec
C20	100u elec
C21	10u elec
C22	100u elec
C23	10u elec

D1-3	9.1V Zener
Q1-3	BS170
GAIN	500KA
MASTER	100KA
TREBLE	500KB
BASS	500KA
MIDS	empty

Schematic NORTH



Schematic + BOM - SOUTH

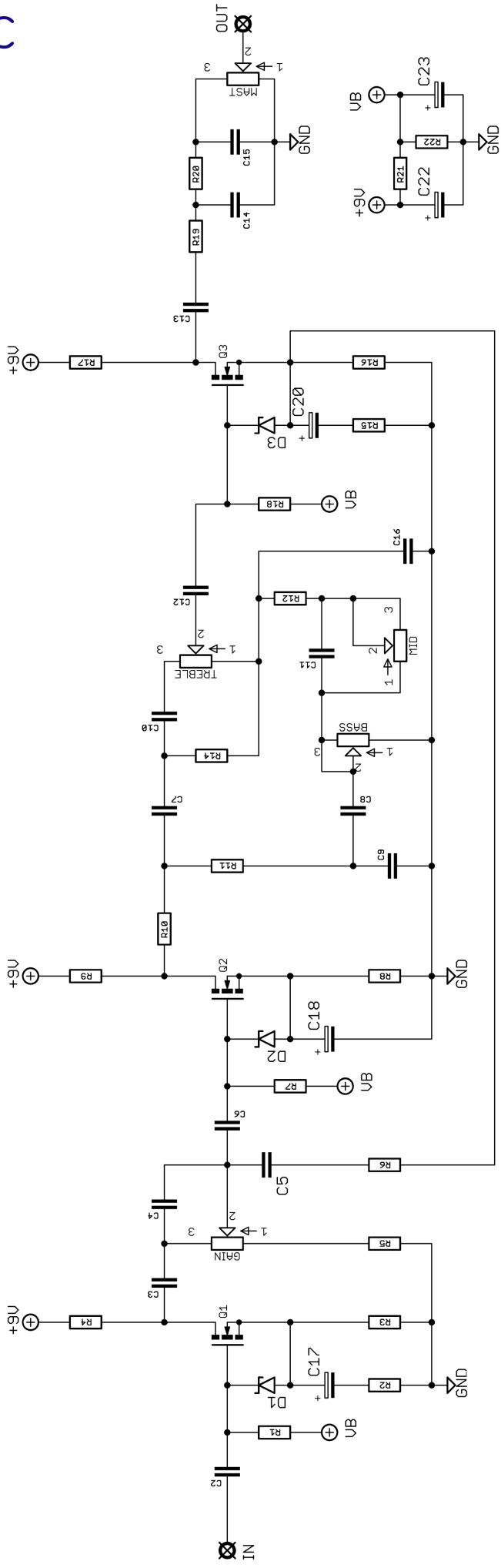


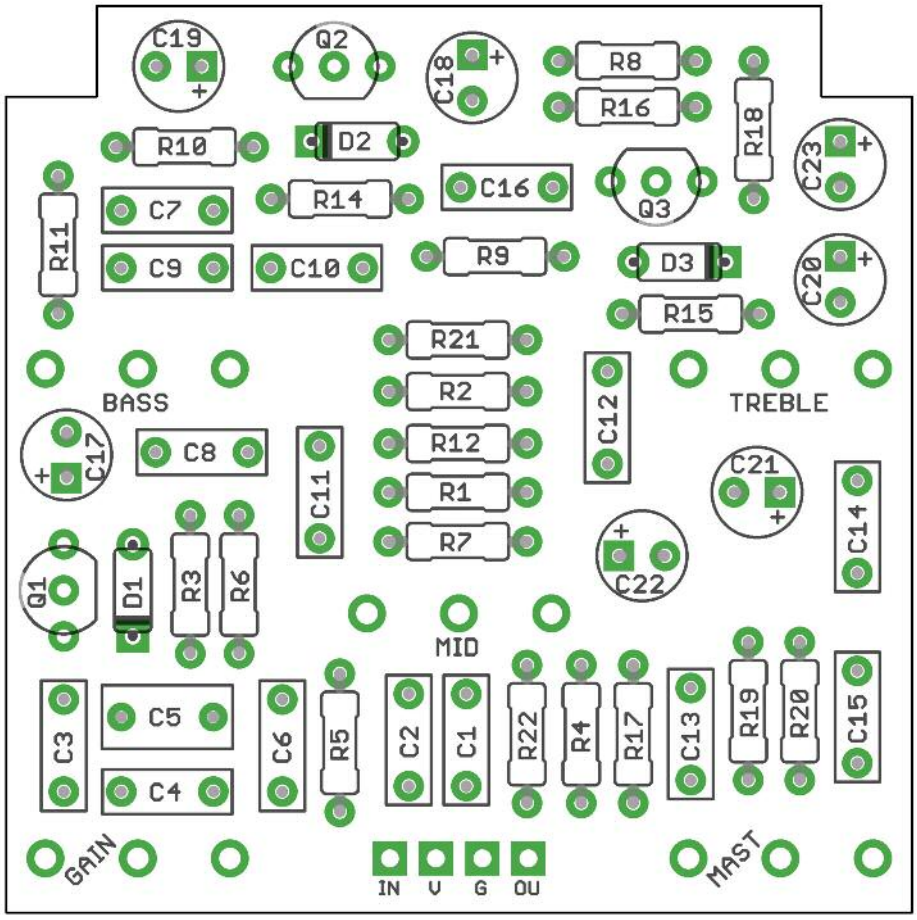
R1	1M
R2	1K
R3	3K3
R4	3K3
R5	22K
R6	220K
R7	1M
R8	3K3
R9	3K3
R10	100K
R11	100K
R12	22K
R14	220K
R15	130R
R16	3K3
R17	3K3
R18	1M
R19	10K
R20	10K
R21	62K
R22	100K

C1	empty
C2	3n3
C3	100n
C4	47p
C5	680n
C6	47n
C7	1n
C8	47n
C9	47n
C10	220p
C11	1n
C12	100n
C13	220n
C14	2n2
C15	2n2
C16	empty
C17	22u elec
C18	10u elec
C19	empty
C20	22u elec
C21	empty
C22	47u elec
C23	10u elec

D1-3	9.1V Zener
Q1-3	BS170
GAIN	500KB
MASTER	250KA
TREBLE	250KB
BASS	500KA
MIDS	100KB

Schematic
SOUTH





PCB layout ©2021 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. Check the separate daughterboard document for details.

Be very careful when soldering the transistors and diodes. They're very sensitive to heat. Keep exposure to heat to a minimum (under 2 seconds) and leave a few seconds between soldering each leg. The BS170 are also very sensitive to static.

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. Same for the toggle switch. 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.

Test the board!

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

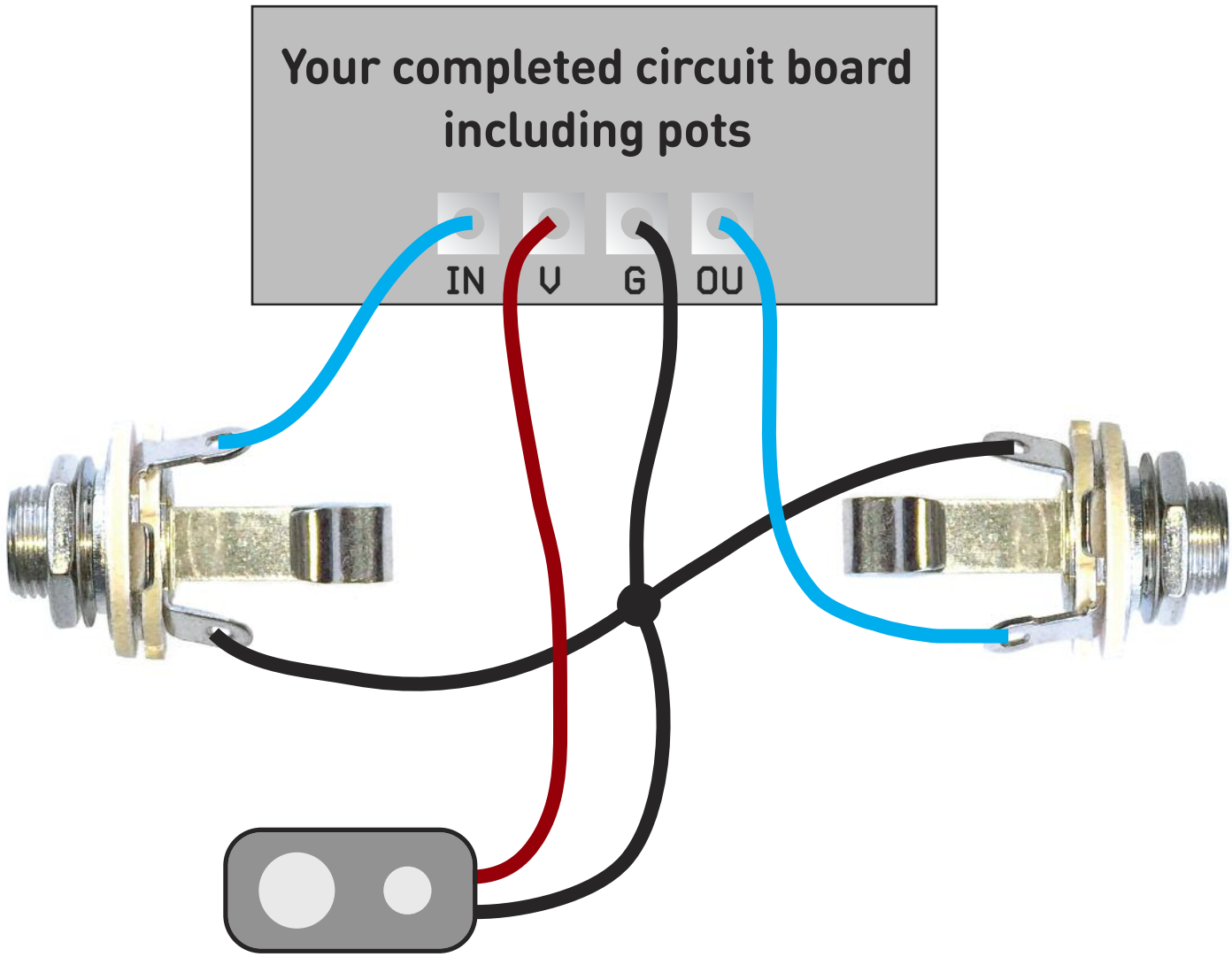
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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.

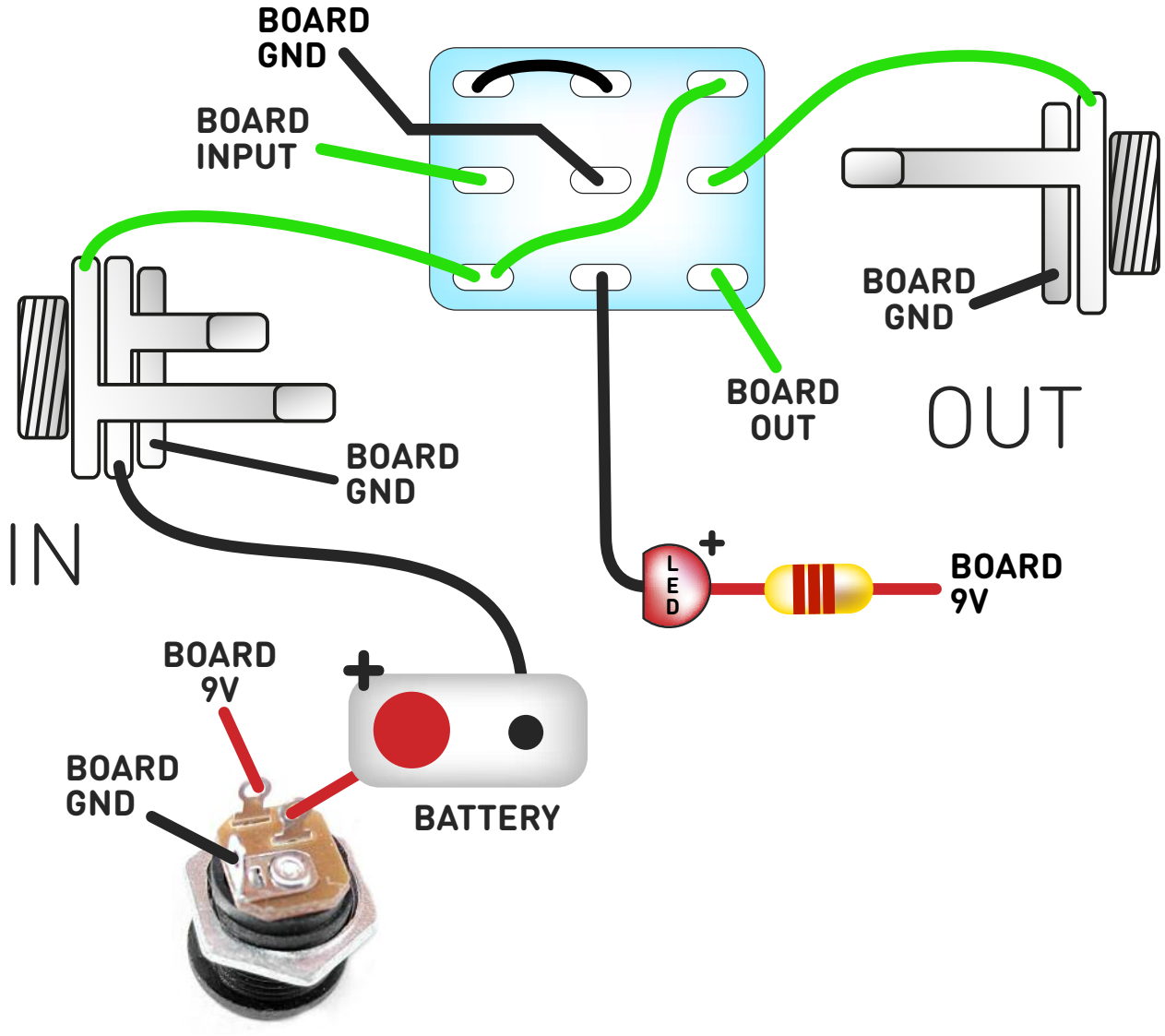
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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

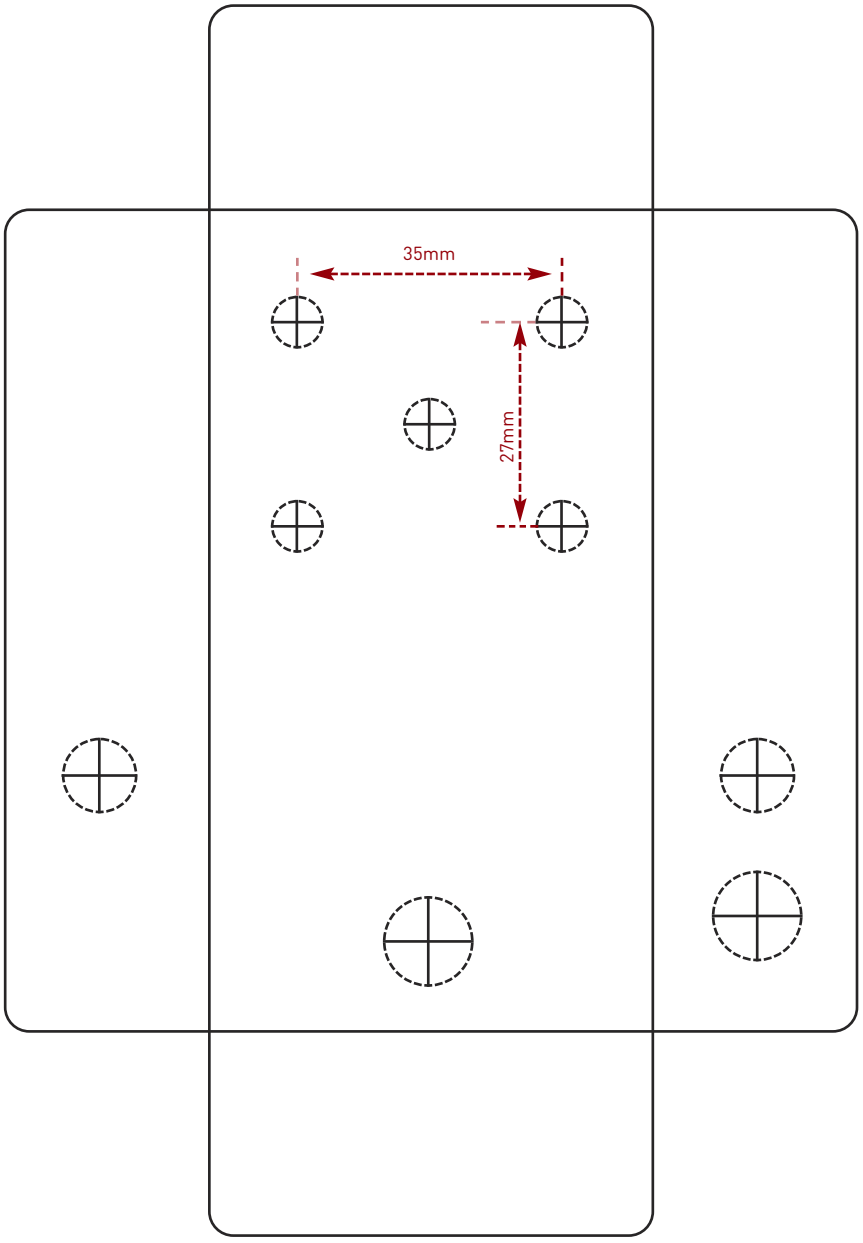
Hammond 1590B

60 x 111 x 31mm

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