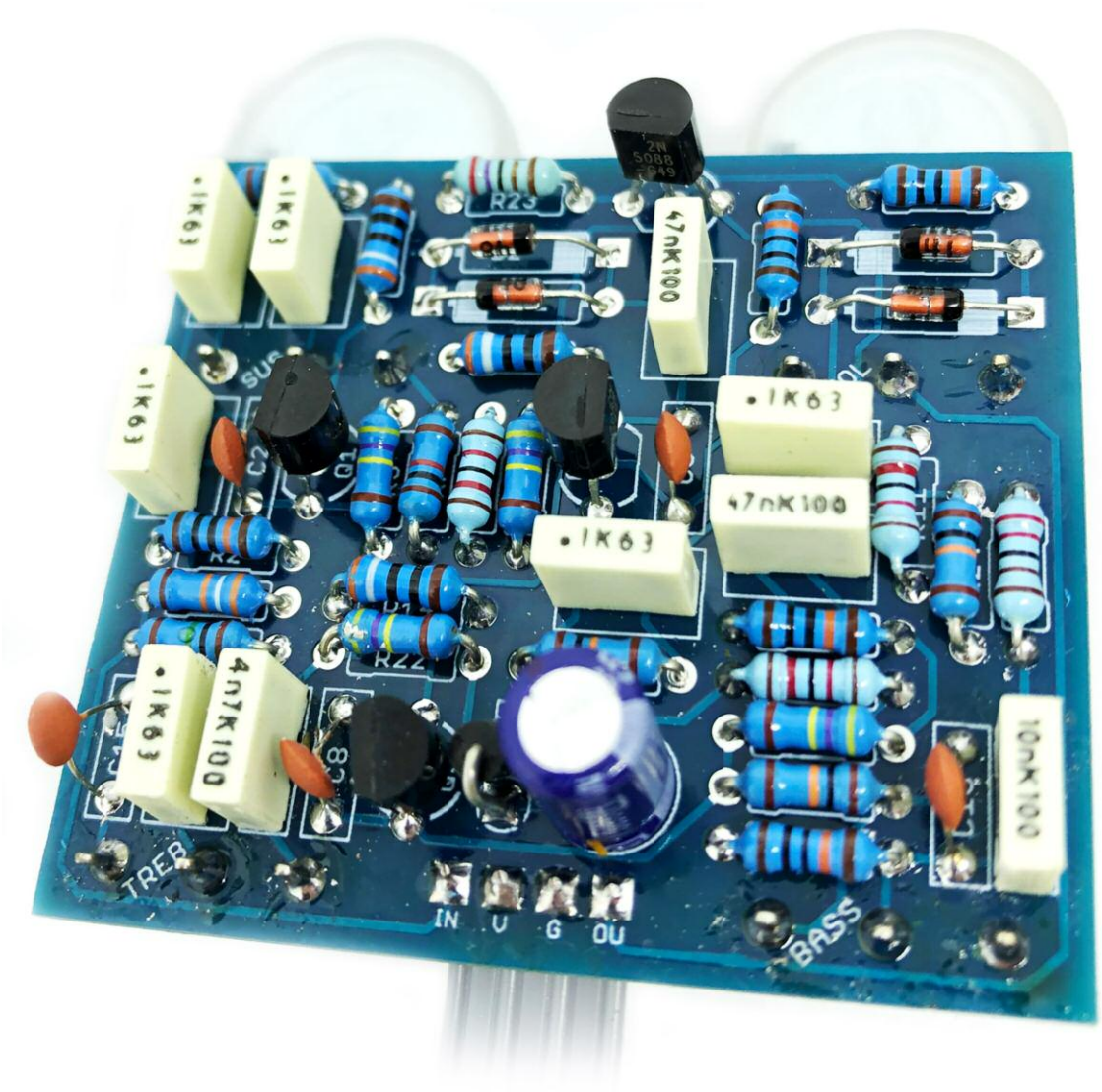


BaxMuff

Big Muff fuzz with a Baxandall* tone stack

*OK, it's a James tone stack, but everyone refers this configuration as Baxandall. Get over it.

FUZZDOG

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:

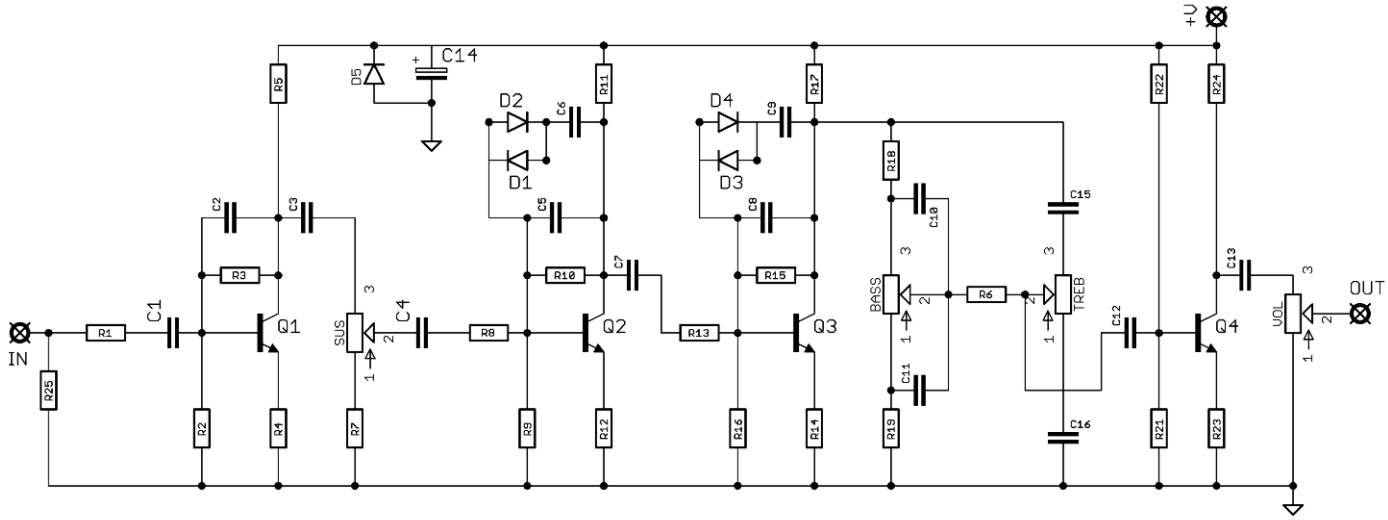
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

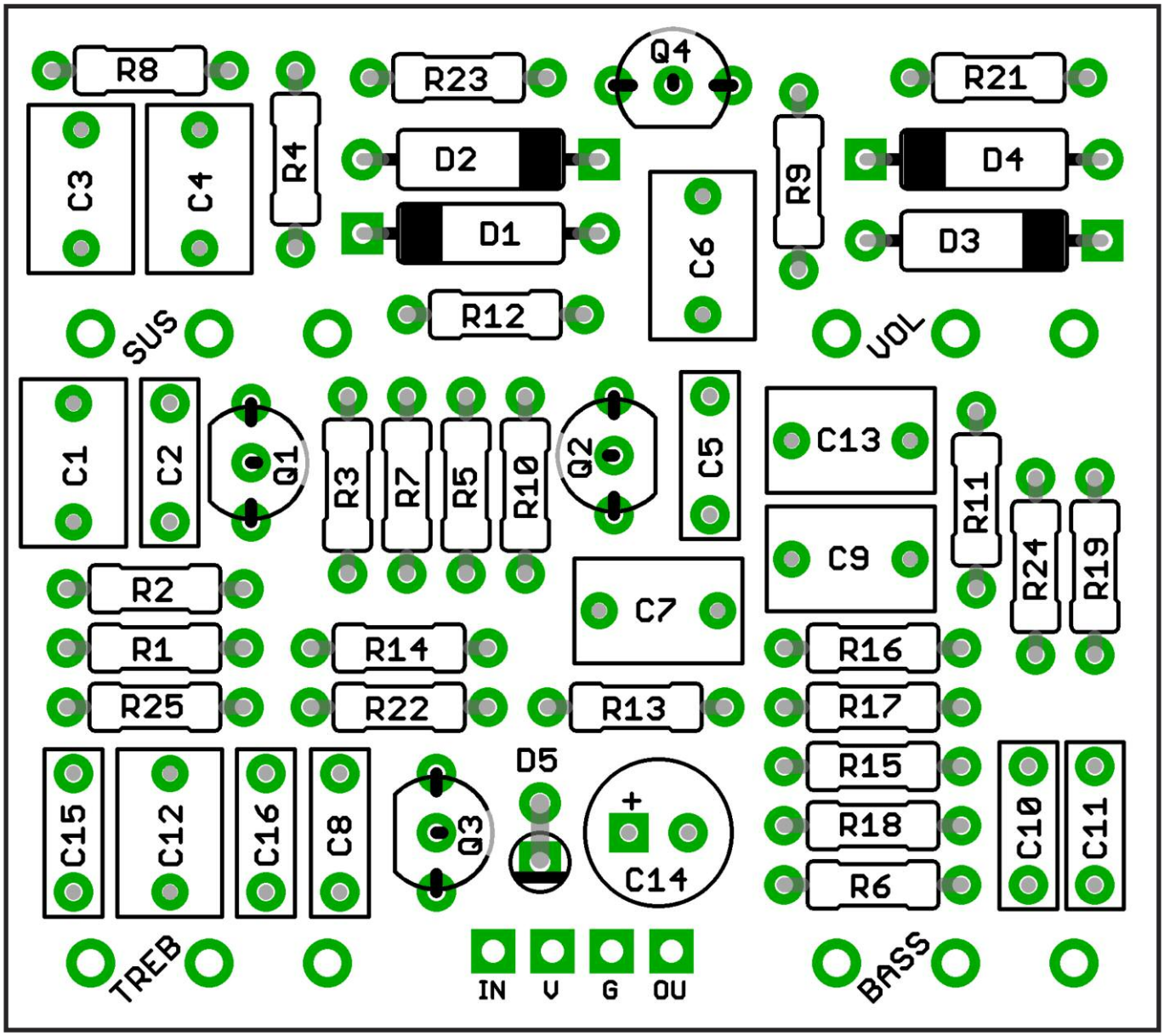
LAYOUT CONVENTIONS

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





Notes

Yes, it's a James tone stack, which is a passive version of a Baxandall tone stack, or vice versa as the James came first. Don't write in!

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 diodes and transistors. 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.

D5 is an optional polarity protection diode. If you want to include one, use a 1N4001 or any other 400X variant.

MOJO?

Many different transistors have been used across the history of the BMP, some of which are long gone. All of the 'stock' builds listed on the first BOM page are supplied with 2N5088.

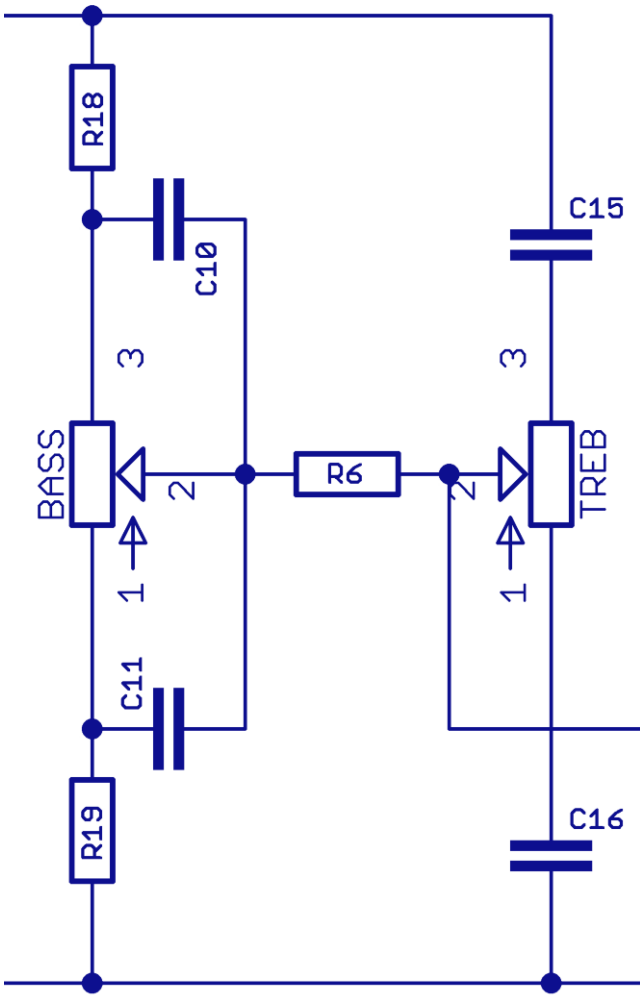
While these may not always be the vintage-correct parts, they have been found to be the best commonly-available all-rounder.

There are additional notes regarding individual circuits later in the document. Please check them before starting your build.

MORE THAN ONE WAY TO SKIN A BAXANDALL

There are no right and wrong values for this tone section. Many variations are out there, and it's possible to work out your own values with an online tone stack calculator. Google is your friend. We've gone for the values used in the now discontinued Catalinbread Manx Loaghtan. If they don't suit you, experiment.

This is the section of the schematic you'll be playing with.



Not sure which muff variant to make?

Check out **Kit Rae's Big Muff Page**.

BOM	3rd (70s)	Green Russian	Black Russian	Civil War Russian	Triangle	73#18 Ram Head	Violet Ram Head	NYC Reissue
R1	39K	39K	39K	39K	33K	33K	33K	39K
R2	100K	100K	100K	100K	100K	100K	100K	100K
R3	470K	470K	470K	470K	470K	470K	470K	510K
R4	100R	390R	390R	390R	150R	100R	100R	100R
R5	15K	12K	12K	12K	15K	12K	12K	10K
R6	100K	100K	100K	100K	100K	100K	100K	100K
R7	1K	1K	1K	1K	1K	820R	560R	1K8
R8	8K2	10K	10K	10K	8K2	7K5	8K2	10K
R9	100K	100K	100K	100K	100K	100K	100K	100K
R10	470K	470K	470K	470K	470K	470K	470K	470K
R11	15K	12K	12K	12K	12K	12K	12K	10K
R12	100R	390R	390R	390R	150R	100R	100R	390R
R13	8K2	10K	10K	10K	8K2	7K5	8K2	10K
R14	100R	390R	390R	390R	150R	100R	100R	390R
R15	470K	470K	470K	470K	470K	470K	470K	470K
R16	100K	100K	100K	100K	100K	100K	100K	100K
R17	15K	12K	12K	12K	12K	12K	12K	10K
R18	100K	100K	100K	100K	100K	100K	100K	100K
R19	2K2	2K2	2K2	2K2	2K2	2K2	2K2	2K2
R21	100K	100K	100K	100K	100K	100K	100K	100K
R22	390K	470K	470K	470K	470K	470K	470K	470K
R23	2K2	2K	2K7	2K7	2K7	3K3	2K7	2K
R24	10K	10K	10K	10K	12K	12K	12K	10K
R25	1M	1M	1M	1M	1M	1M	1M	1M
C1	100n	100n	100n	100n	100n	100n	100n	1u
C2	470p	470p	470p	560p	500p	470p	470p	470p
C3	1u	100n	100n	100n	100n	100n	100n	1u
C4	1u	100n	100n	100n	100n	150n	100n	1u
C5	470p	470p	470p	560p	500p	470p	470p	470p
C6	100n	47n	47n	47n	47n	47n	100n	1u
C7	1u	100n	100n	100n	100n	100n	100n	1u
C8	470p	470p	470p	560p	500p	470p	470p	470p
C9	100n	47n	47n	47n	47n	100n	100n	1u
C10	470p	470p	470p	470p	470p	470p	470p	470p
C11	10n	10n	10n	10n	10n	10n	10n	10n
C12	100n	100n	100n	100n	100n	100n	100n	1u
C13	100n	100n	100n	100n	100n	100n	100n	1u
C14	100u	100u	100u	100u	100u	100u	100u	100u
C15	470p	470p	470p	470p	470p	470p	470p	470p
C16	4n7	4n7	4n7	4n7	4n7	4n7	4n7	4n7
Q1	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088
Q2	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088
Q3	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088
Q4	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088	2N5088
D1	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148
D2	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148
D3	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148
D4	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148	1N4148
D5	1N4001	1N4001	1N4001	1N4001	1N4001	1N4001	1N4001	1N4001
SUSTAIN	100KA	100KA	100KA	100KA	100KA	100KA	100KA	100KA
VOLUME	100KA	100KA	100KA	100KA	100KA	100KA	100KA	100KA
BASS	500KA	500KA	500KA	500KA	500KA	500KA	500KA	500KA
TREB	500KB	500KB	500KB	500KB	500KB	500KB	500KB	500KB

V3 79#2 - J Mascis

Based on what is supposedly one of J Mascis' favourite Fluffs.
The original has true tone bypass, but why would you want that?

C1	1u
C2	470p
C3	1u
C4	1u
C5	470p
C6	1u
C7	100n
C8	470p
C9	1u
C10	470p
C11	10n
C12	100n
C13	1u
C14	100u
C15	470p
C16	4n7

Q1	MPSA18
Q2	MPSA18
Q3	MPSA18
Q4	MPSA18
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4001
SUSTAIN	100kA
VOLUME	100kA
BASS	500KA
TREB	500KB

R1	39k
R2	100K
R3	470K
R4	100R
R5	15K
R6	100K
R7	1K
R8	8K2
R9	100K
R10	470K
R11	15K
R12	100R
R13	8K2
R14	100R
R15	470K
R16	100K
R17	15K
R18	100K
R19	2K2
R21	100K
R22	390K
R23	2K2
R24	10K
R25	1M

Tall Font Green Russian

Bass players' favourite. The feedback caps in the original are two 1nf in series, but that's the same as 500pf.

C1	100n
C2	500p
C3	100n
C4	100n
C5	500p
C6	47n
C7	100n
C8	500p
C9	47n
C10	470p
C11	10n
C12	100n
C13	100n
C14	100u
C15	470p
C16	4n7

Q1	2N5089
Q2	2N5089
Q3	2N5089
Q4	2N5089
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4001
SUSTAIN	100kA
VOLUME	100kA
BASS	500KA
TREB	500KB

R1	39k
R2	100K
R3	470K
R4	390R
R5	12K
R6	100K
R7	1K
R8	10K
R9	100K
R10	470K
R11	12K
R12	390R
R13	10K
R14	390R
R15	470K
R16	100K
R17	12K
R18	100K
R19	2k2
R21	100K
R22	470K
R23	2K7
R24	10K
R25	1M

Stoned Cleric

Stoner heaven, based closely around a Ram's Head 74#1 but with different cans and a different emitter resistor in the first gain stage. Awesome stuff.

***BC549C pinout is the opposite to that shown on the PCB, so flip them.**

C1	100n
C2	560p
C3	100n
C4	100n
C5	560p
C6	1u
C7	100n
C8	560p
C9	1u
C10	4n7
C11	10n
C12	100n
C13	100n
C14	100u
C15	470p
C16	4n7

Q1-4	BC549C*
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4001
SUSTAIN	100kA
VOLUME	100kA
BASS	500KA
TREB	500KB

R1	33K
R2	100K
R3	470K
R4	470R
R5	10K
R6	100K
R7	1K
R8	10K
R9	100K
R10	470K
R11	10K
R12	150R
R13	10K
R14	150R
R15	470K
R16	100K
R17	10K
R18	100K
R19	2K2
R21	100K
R22	470K
R23	2K7
R24	10K
R25	1M

Creamy Dreamer

C1	1u
C2	470p
C3	47n
C4	1u
C5	470p
C6	1u
C7	1u
C8	470p
C9	1u
C10	4n7
C11	10n
C12	100n
C13	100n
C14	100u
C15	470p
C16	4n7

Q1	2N5089
Q2	2N5089
Q3	2N5089
Q4	2N5089
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4001
SUSTAIN	100kA
VOLUME	100kA
BASS	500KA
TREB	500KB

R1	39k
R2	100K
R3	470K
R4	Jumper
R5	15K
R6	100K
R7	1K
R8	8K2
R9	100K
R10	470K
R11	15K
R12	Jumper
R13	8K2
R14	Jumper
R15	470K
R16	100K
R17	15K
R18	100K
R19	2K2
R21	100K
R22	390K
R23	2K2
R24	10K

Test the board!

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

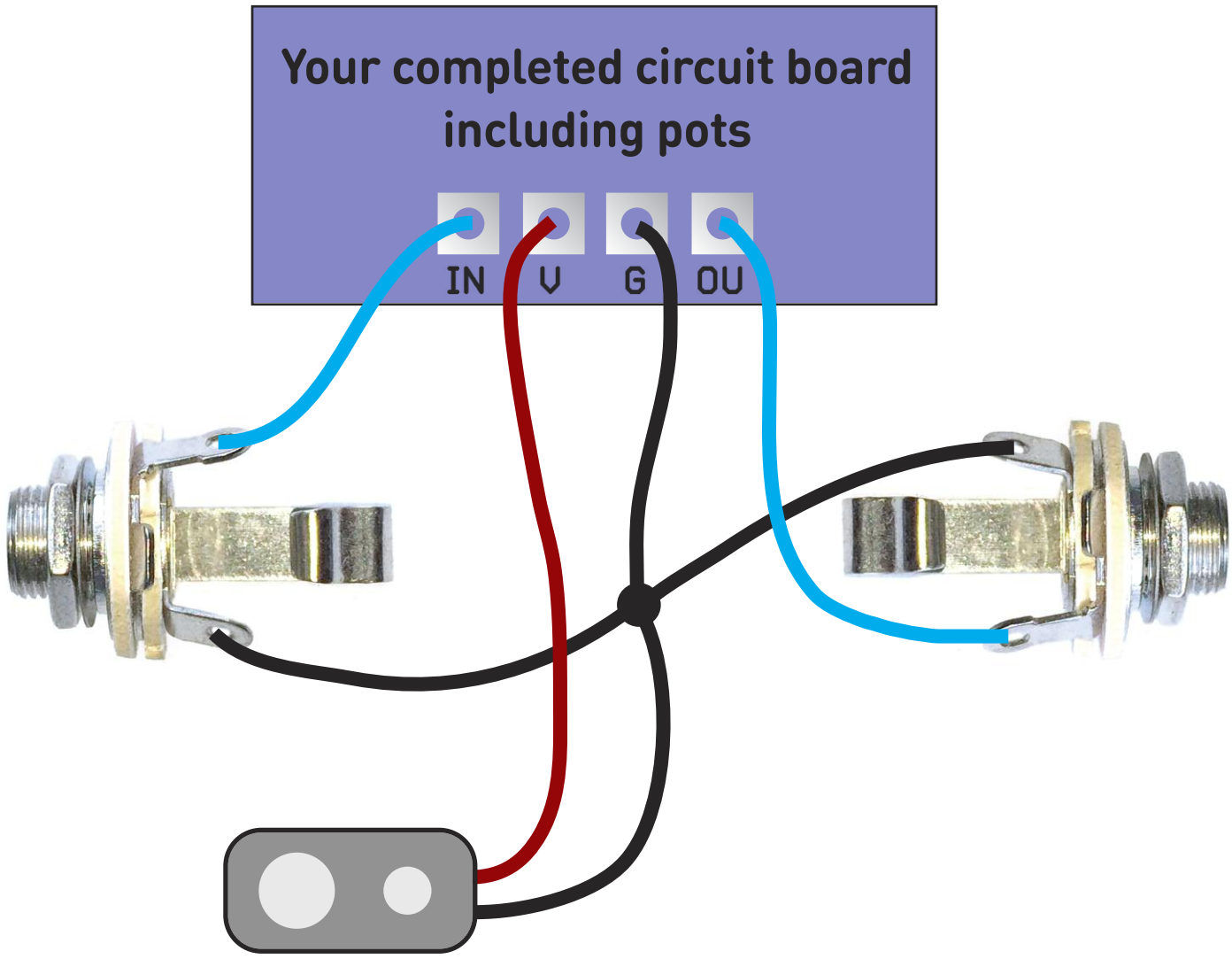
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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.

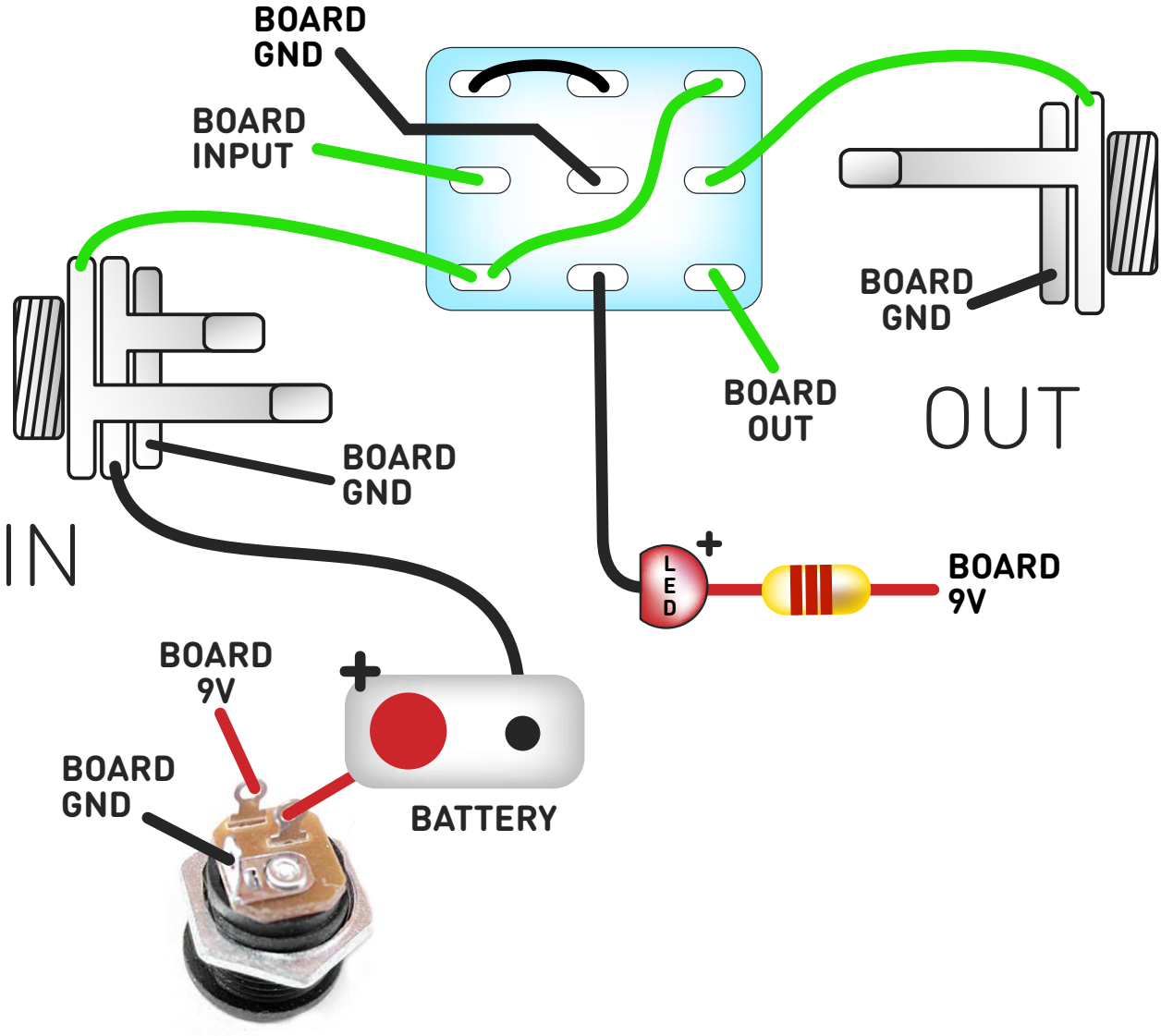
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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.

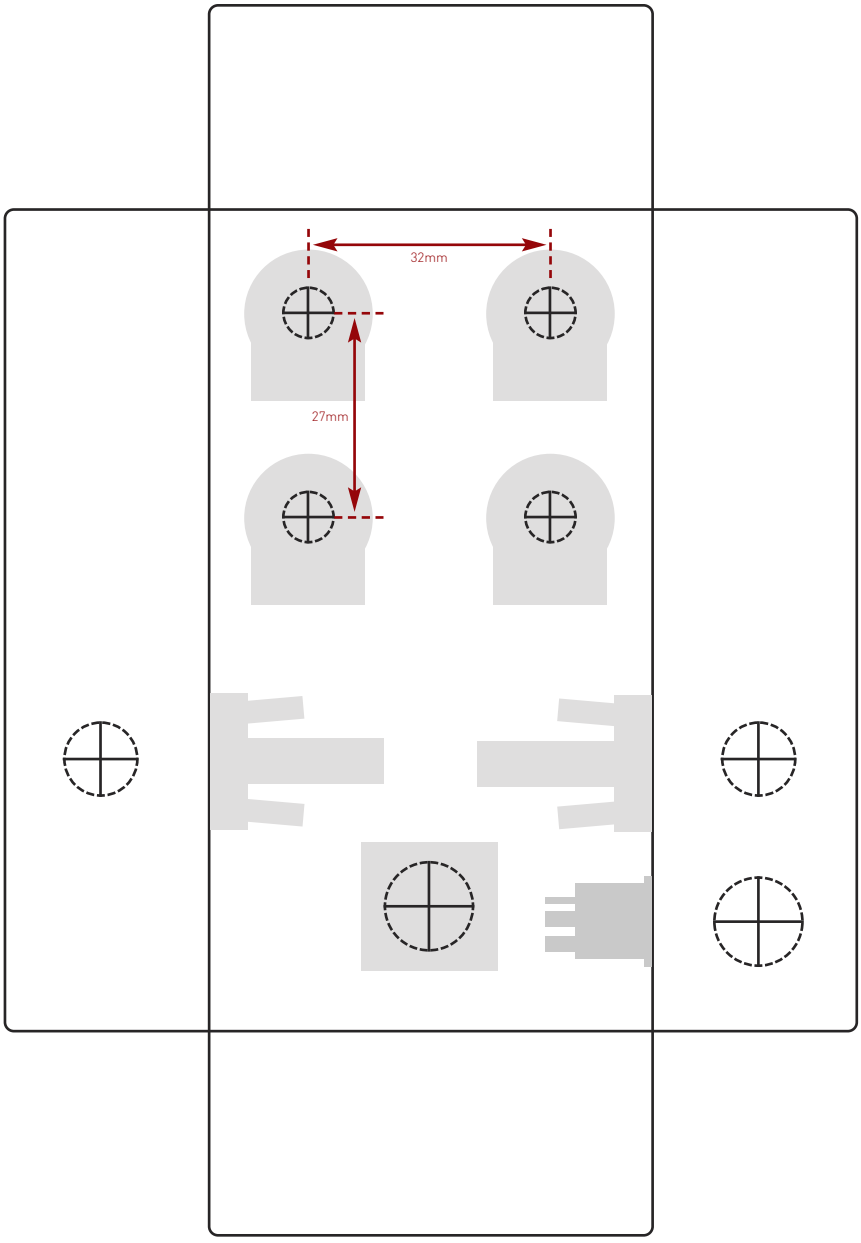
Drilling template

Hammond 1590B

60 x 111 x 31mm

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm



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