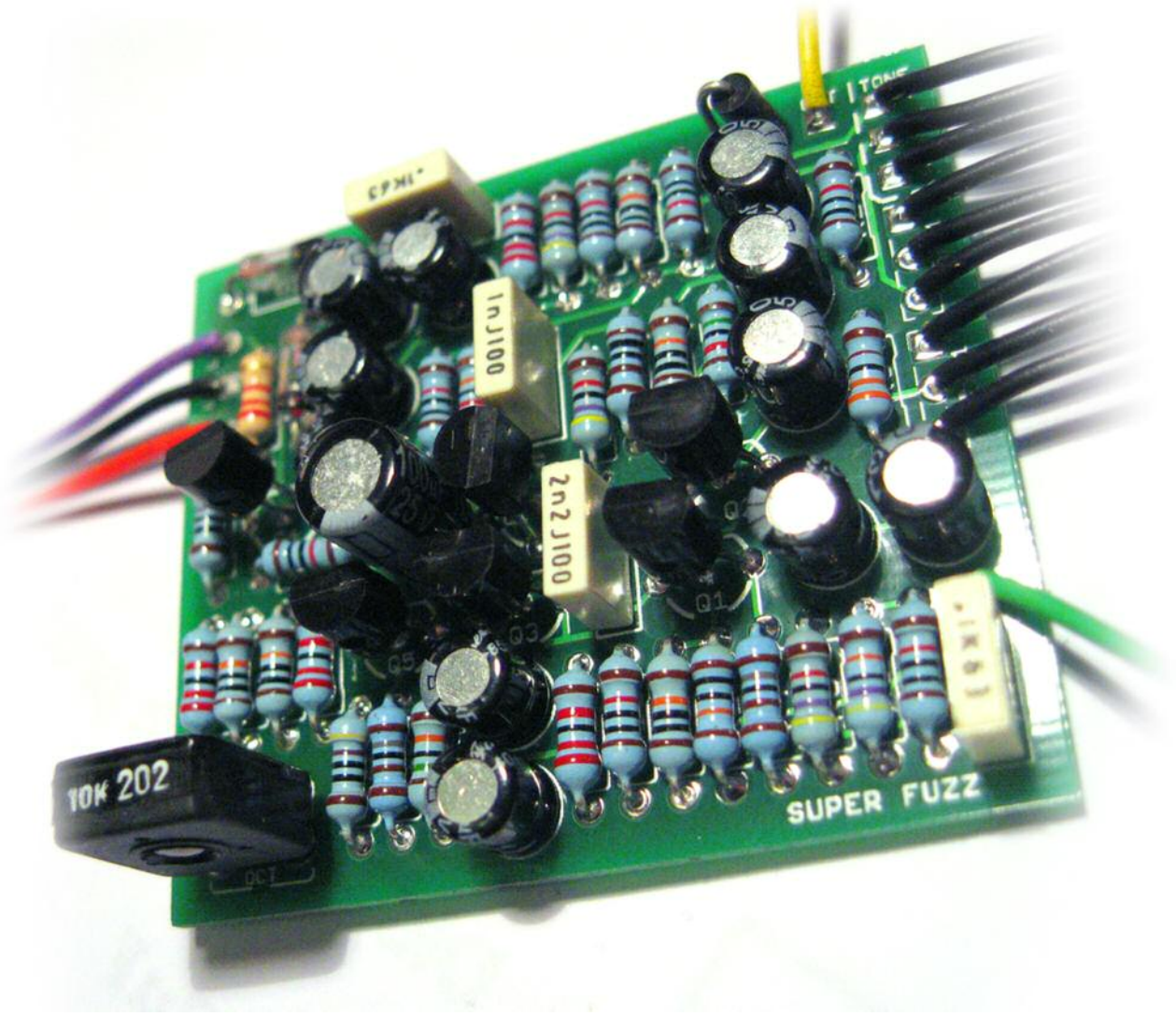
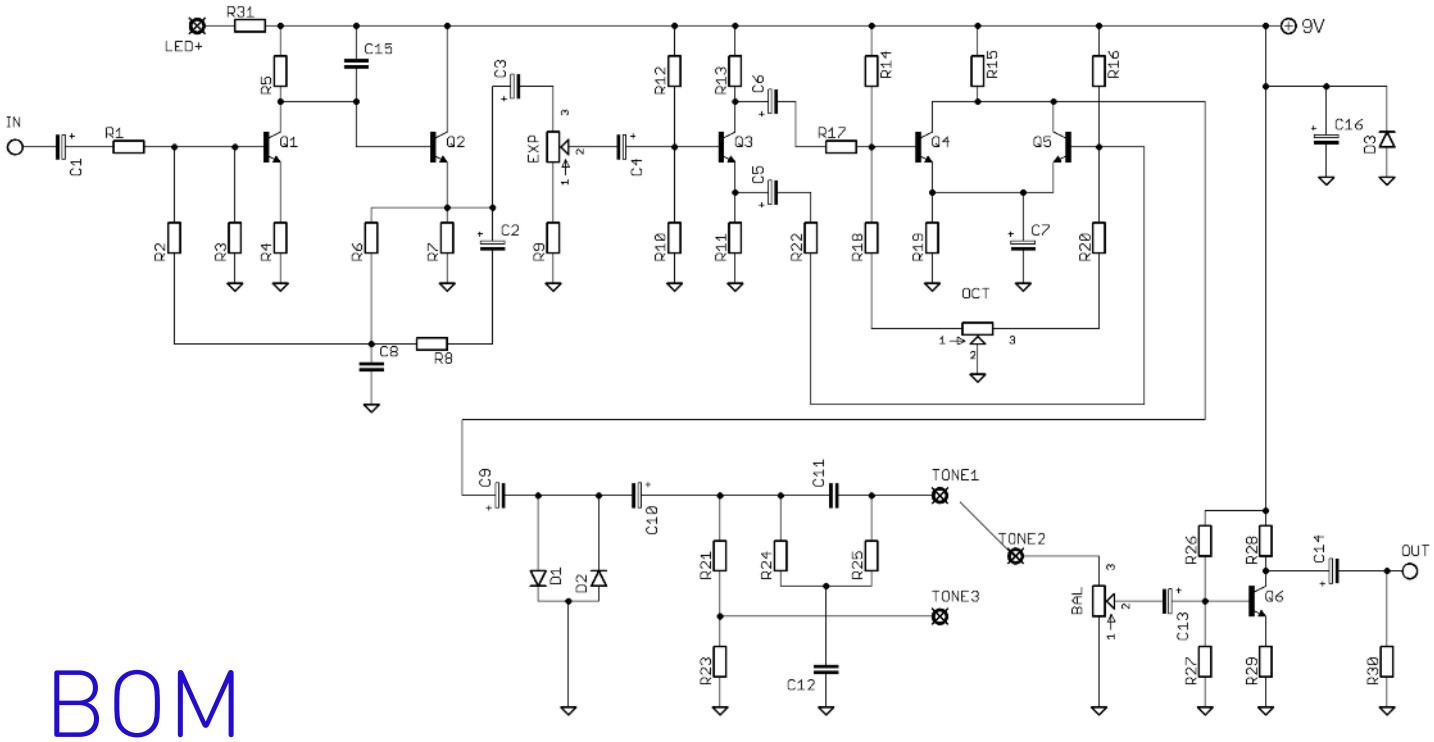


Super Fuzz

Uncompromising
Octave Fuzz

PedalParts.co.uk

Schematic



BOM

R1	22K	R17	470R	C1	10u
R2	100K	R18	22K	C2	10u
R3	100K	R19	1K8	C3	10u
R4	1K8	R20	22K	C4	10u
R5	47K	R21	47K	C5	10u
R6	470K	R22	470R	C6	10u
R7	10K	R23	10K	C7	10u
R8	47K	R24	22K	C8	100n
R9	3K3	R25	10K	C9	10u
R10	150K	R26	100K	C10	10u
R11	10K	R27	15K	C11	1n
R12	220K	R28	10K	C12	100n
R13	10K	R29	1K	C13	10u
R14	100K	R30	100K	C14	10u
R15	10K	R31	CLR (2K2)	C15	2n2*
R16	100K			C16	100u

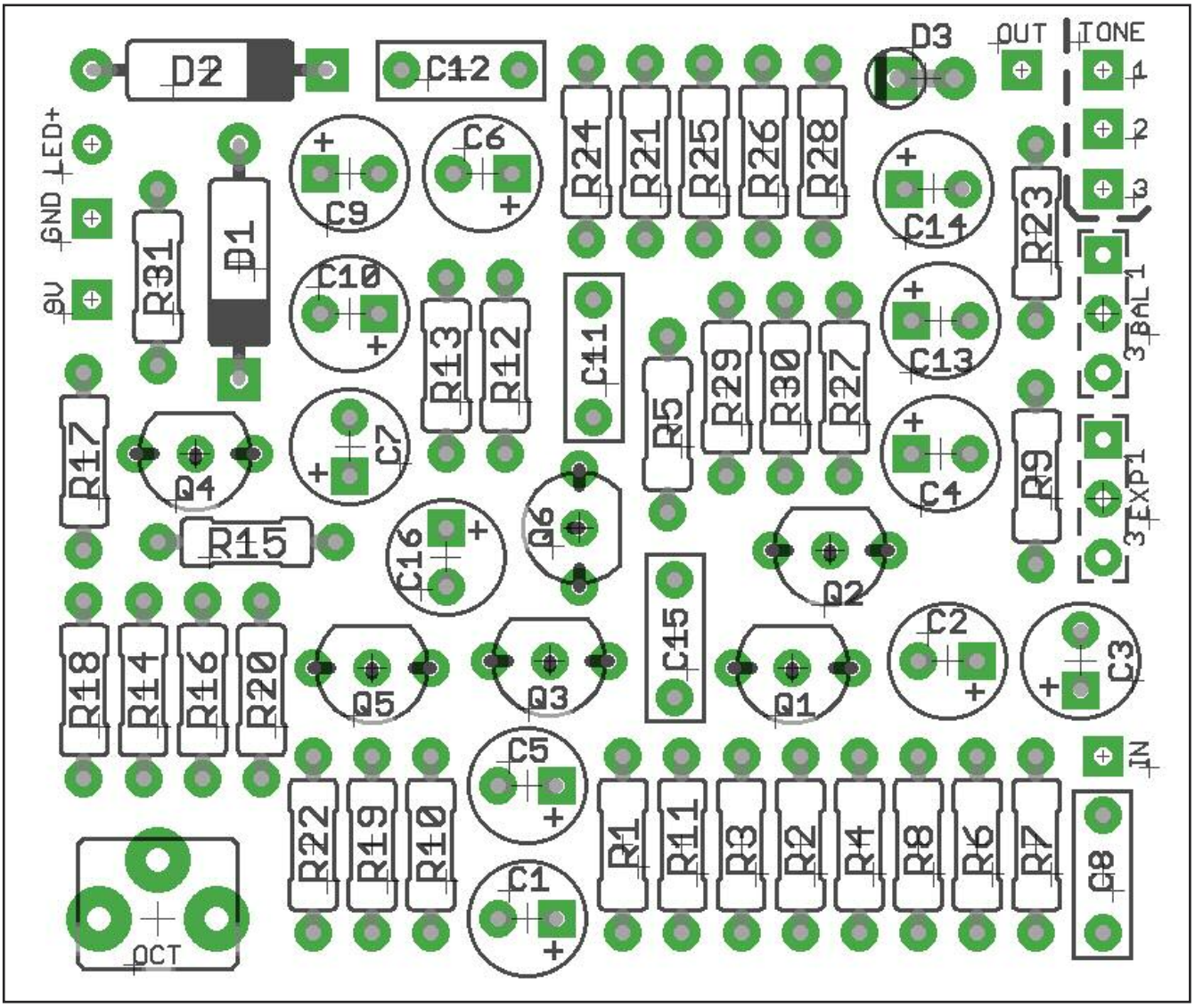
Electrolytic caps must be max 5mm diameter

Q1-6	2N3904**
D1,2	1N34A
D3	1N4001
OCT	10K TRIM
EXP	50KB
VOL	50KB
TONE	SPDT***

*sometimes shown as 1n

**any low-ish gain NPN silicon transistors can be experimented with, i.e. 2N222A, 2N5088, BC107

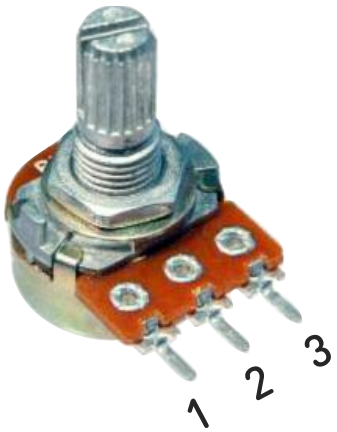
***can be replaced with a pot to blend between the two different tones. See notes.



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

Snap the little metal tag off the pots to mount them flush in the box.

You should use some kind of heat sink on the legs of the transistors and diodes when soldering. They aren't keen on heat. Any more than 3-4 seconds of iron and they're toast.



Recommended assembly order:
Resistors, Caps, Transistors, Diodes, Wires, Pots

I've incorporated the Current Limiting Resistor for the LED into the board for your pleasure.

Be VERY careful when bending the legs of the 1N34A. The glass case is very fragile and likely to break. Best to hold the leg with some needle-nosed pliers against the case, and bend the leg with your finger so the pliers are taking any strain away from the diode.

NOTE: this is a fairly noisy circuit. There's a LOT of gain going on. Expect some hiss and fizz.

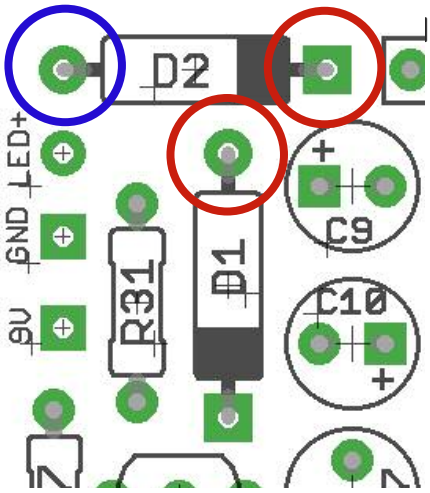
Tweaks and hacks

TONE BLEND

The Super Fuzz has a switch to select between normal and scooped tone. You can, if you really want to, replace the switch with a pot to blend between the two. You'll get a lot of volume loss towards the centre of the turn, but at extreme CW and CCW you'll get the exact same tones as you would using the switch. 50KB will do it. Simply connect up SWITCH pads 1-3 to the corresponding pot pins insead of connecting the SPDT switch.

DIODE LIFT

A bit fiddlier to do, since this is a hack rather than a PCB-incoporated mod. Lifting the diodes from GND can give a less clipped tone and increase output. Especially useful if you've lost your senses and decided to make the Super Fuz of the smoother, stock germaniums.



You will need: a pot (5KB is good)

D1 and D2 connect to the board at the points circled.

The other ends of both diodes connect to pin 2 of your shiny new 5K pot.

Pin 3 of the pot connects to the pad circled in blue.

Fully Clockwise will be stock setting of diodes to GND, anything back from that is lifting them from GND.

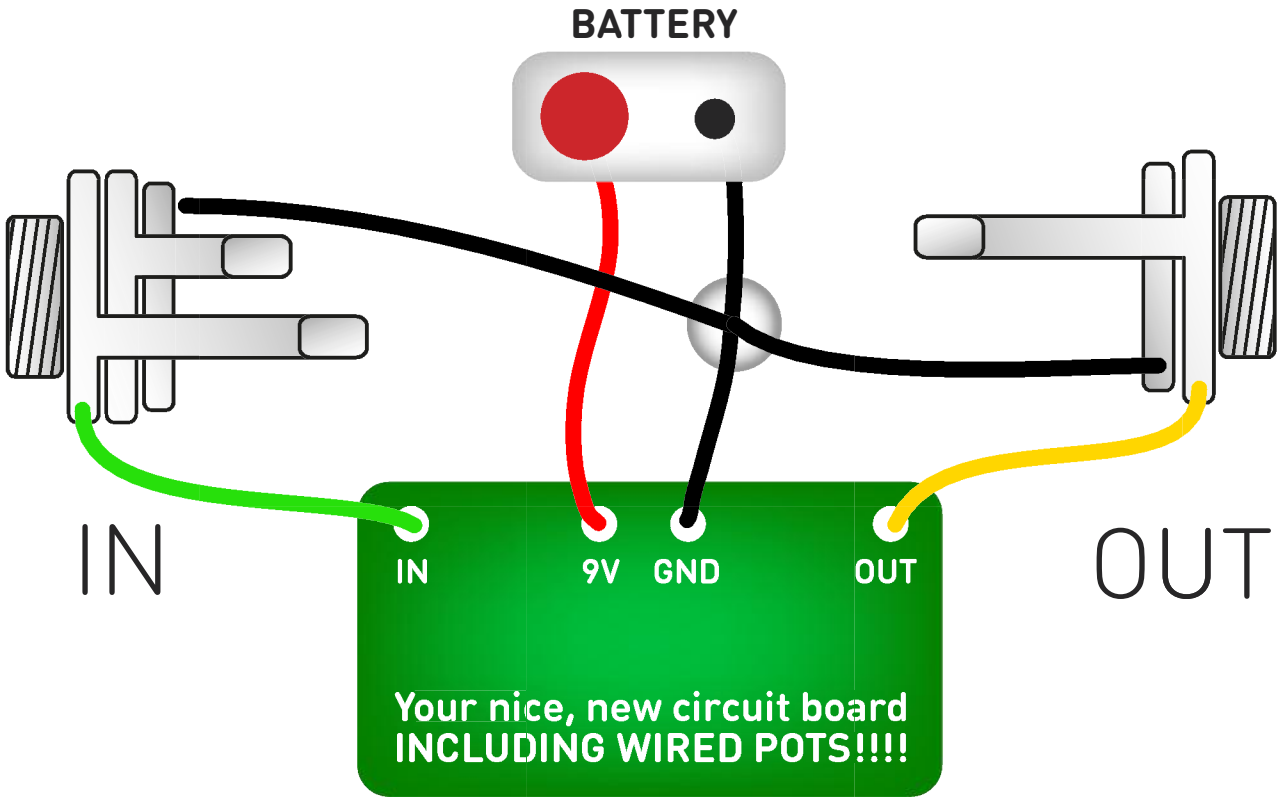
VOLTAGE SAG

The Super Fuzz responds well to being starved of voltage. You can add a pot to reduce the V getting to the circuit. 5 or 10KB will do it.

Simply connect the pot in between your 9V wire and the board.

i.e. 9V supply wire (from DC socket) to pin 1 of pot, pin 2 to 9V pad on the PCB.

Test the board!

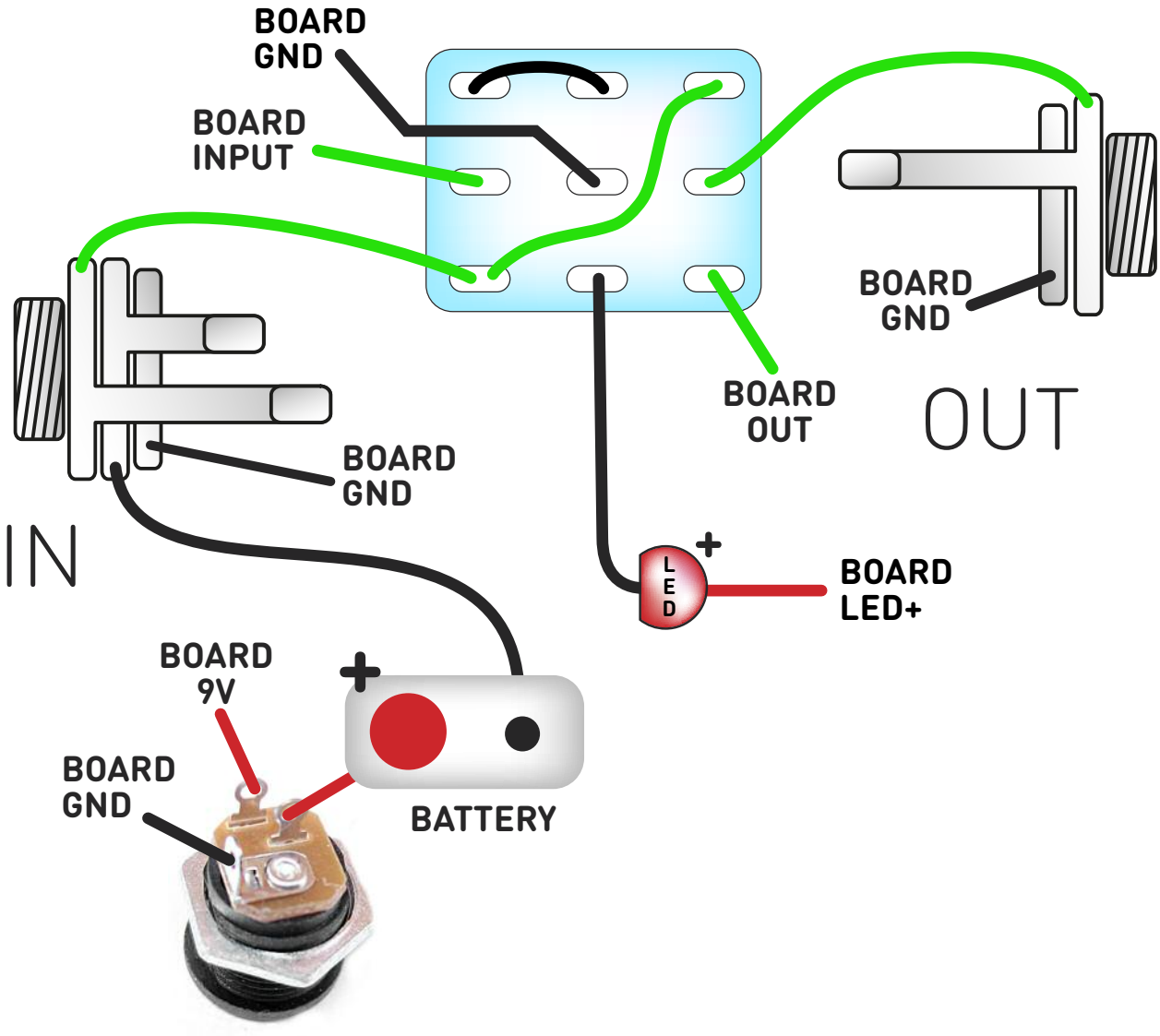


Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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 it works, crack 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



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. Now... FFFUUUUUZZZZZZZZZ!

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