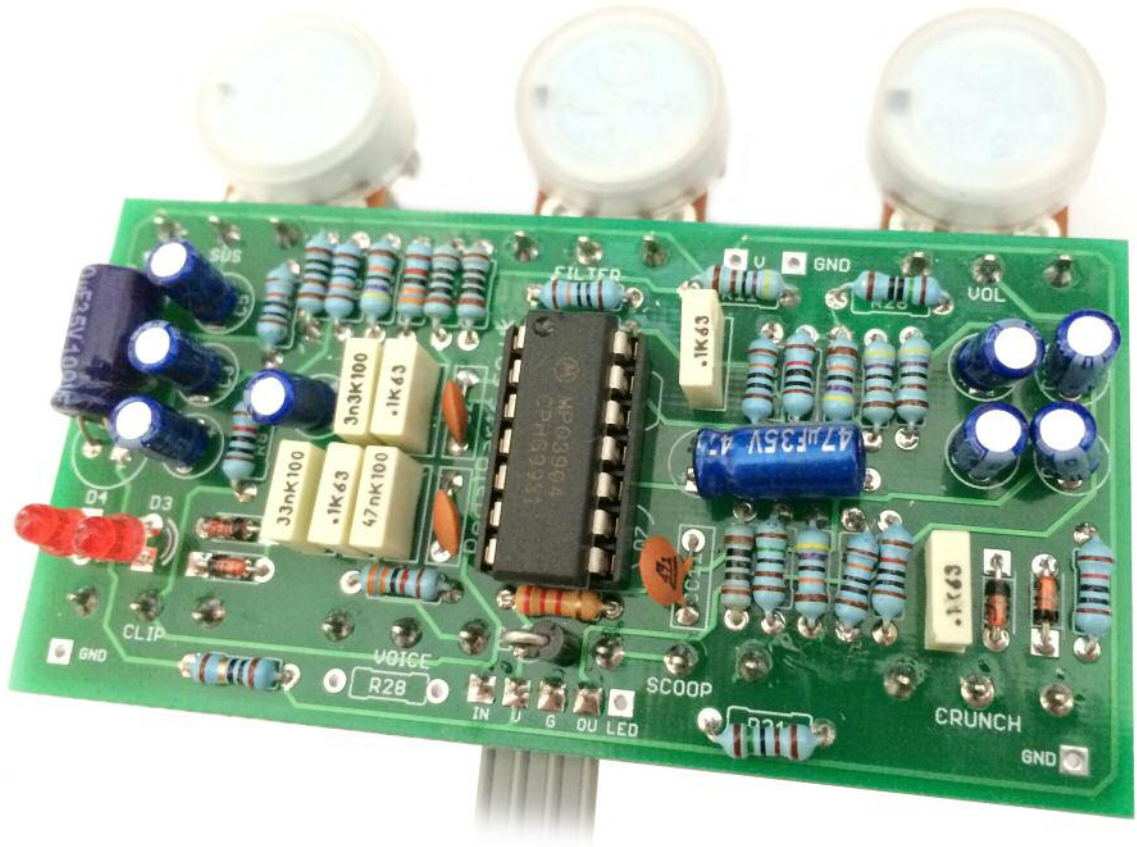
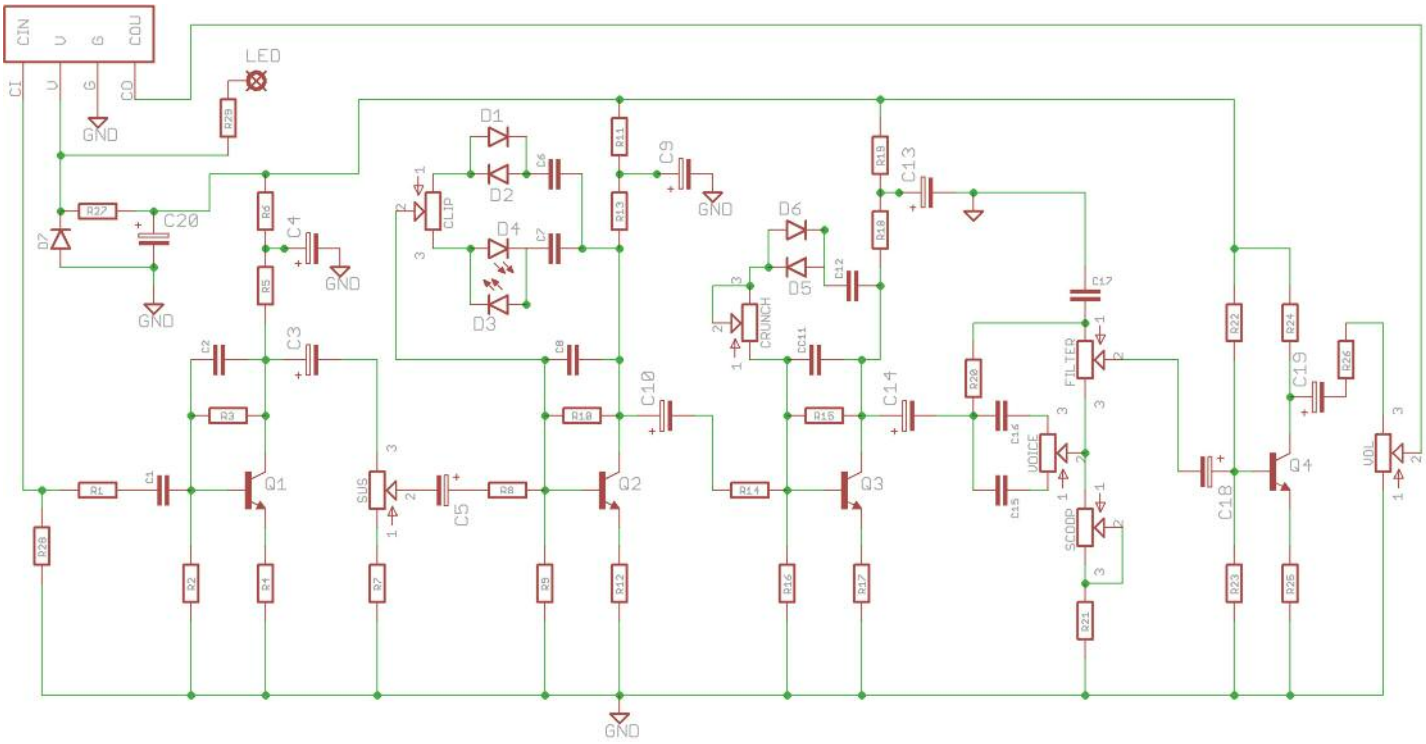


Engorged Gherkin

Massive, bass-heavy, highly tweakable, Muff-based fuzz

Schematic+ BOM



R1	33K
R2	100K
R3	470K
R4	100R
R5	10K
R6	4K7
R7	1K
R8	10K
R9	100K
R10	470K
R11	4K7
R12	100R
R13	10K
R14	10K
R15	470K
R16	100K
R17	100R
R18	10K
R19	4K7
R20	33K
R21	1K5
R22	470K
R23	100K
R24	10K
R25	1K5
R26	150R
R27	10R
R28	1M*
R29	2K2 (CLR)

C1	100n
C2	470p
C3	1u elec
C4	1u elec
C5	1u elec
C6	100n
C7	47n
C8	470p
C9	1u elec
C10	1u elec
C11	470p
C12	100n
C13	1u elec
C14	1u elec
C15	3n3
C16	33n
C17	100n
C18	1u elec
C19	47u elec
C20	100u elec

*Optional anti-pop resistor

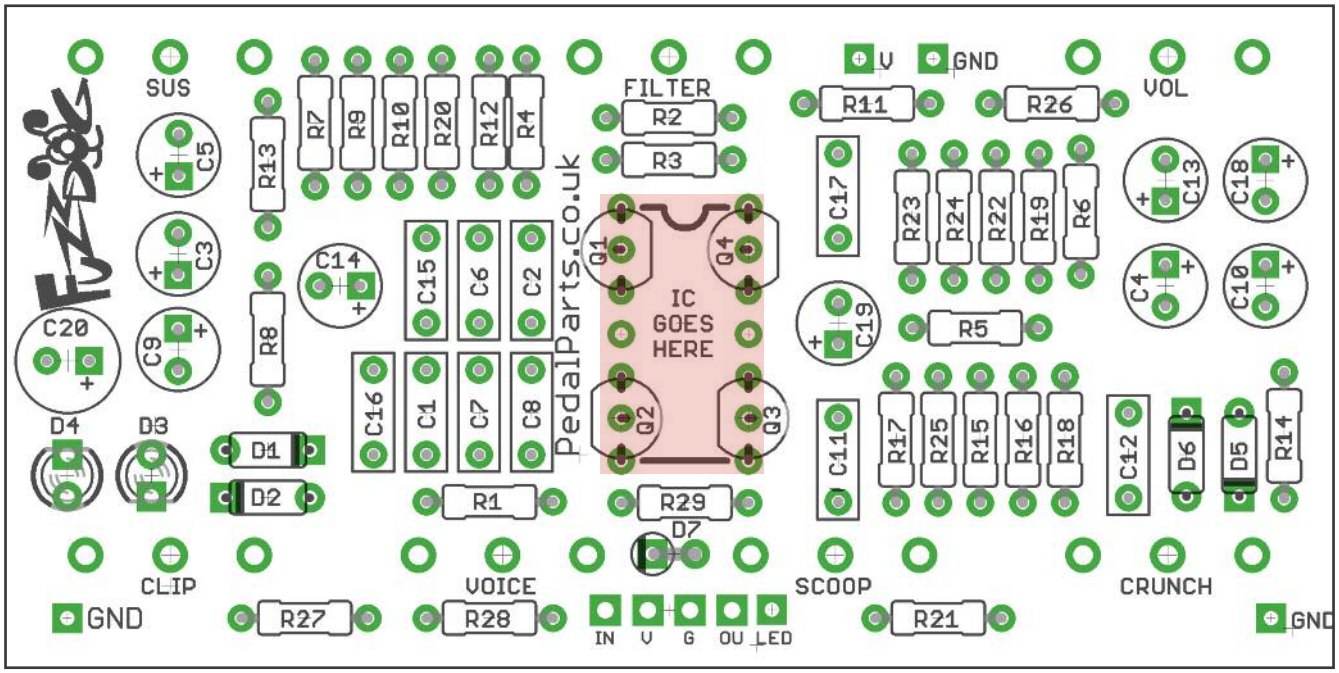
**The original circuit uses a quad BJT array IC. This drops straight into the PCB as can be seen in the cover image. You can use normal 2N3904 transistors instead with no noticeable change in tone.

On some boards the transistors will be marked Q5-8 instead of Q1-4. We missed some labelling when preparing the files for PCB manufacture.

***The Scoop control only works across a limited range of the turn, and is highly interactive with the Voice control. We made the decision to keep this the same as the stock pedal as the range alters so much. It can be replaced with a 20-25KB.

D1,2	1N4148
D3,4	3MM RED LED
D5,6	1N4148
D7	1N4001
IC1	MPQ3904**
Q1-4	2N3904**

CLIP	500KB
CRUNCH	500KA
FILTER	100KB
SCOOP	50KB***
SUSTAIN	100KB
VOICE	500KB
VOL	100KB



Red area shows the position of the IC if you're using one instead of individual transistors.

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, LEDs 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). It's best to use a socket for the IC if you're using one.

The striped leg (cathode) of the diodes go into the square pads.

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

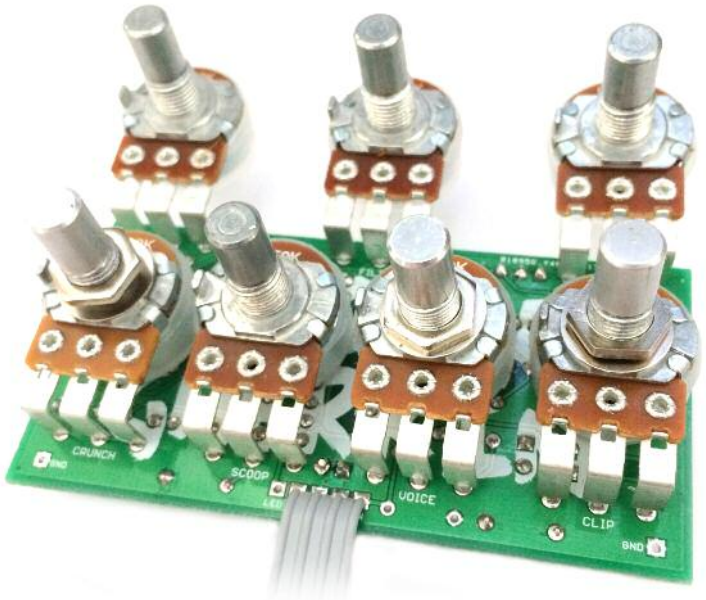
There's room to lay C20 flat as shown in the cover image. This will give you plenty of clearance in the enclosure, though in a 1590BB you should have plenty of room anyway. C19 can also be bent over R5 as shown.

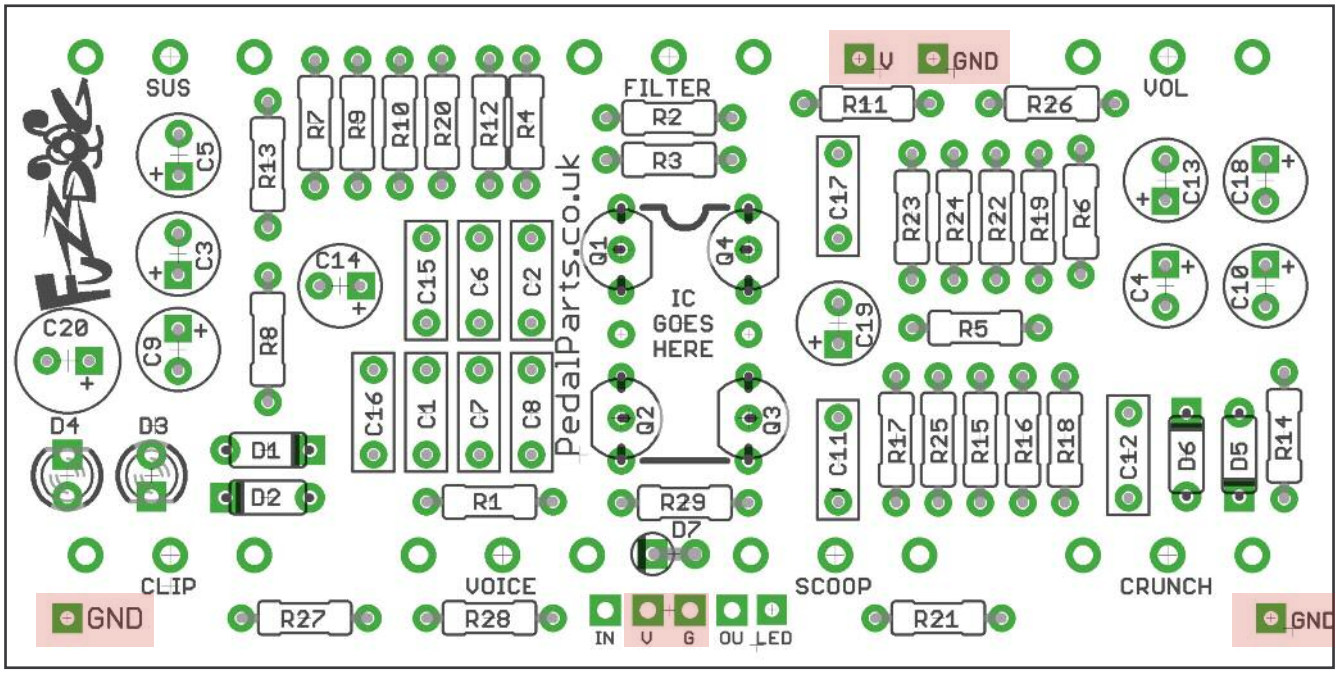
Snap the small metal tag off the pots so they can be mounted flush in the box.

Pots mount on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones. Ensure you get them all at the same height, and if there are no plastic covers on them make sure you have plenty of clearance between the pot body and the solder side of the PCB, otherwise you'll short out components. Best way to do this is get some thick cardboard and put it between the pots and the board when soldering. Remove it once they're in place.

To get them all the same height its best to solder a single pin of each so you have all three pots in place. See if they all line up ok. If not, simply melt the connection of any that aren't right and adjust. Much easier than trying to do it if all three pints are soldered. Once they're aligned, solder the other two pins of each pot.

Favourite technique at FDHQ is to put the pots into the holes on the top side of the enclosure to get everything lined up nicely while soldering.



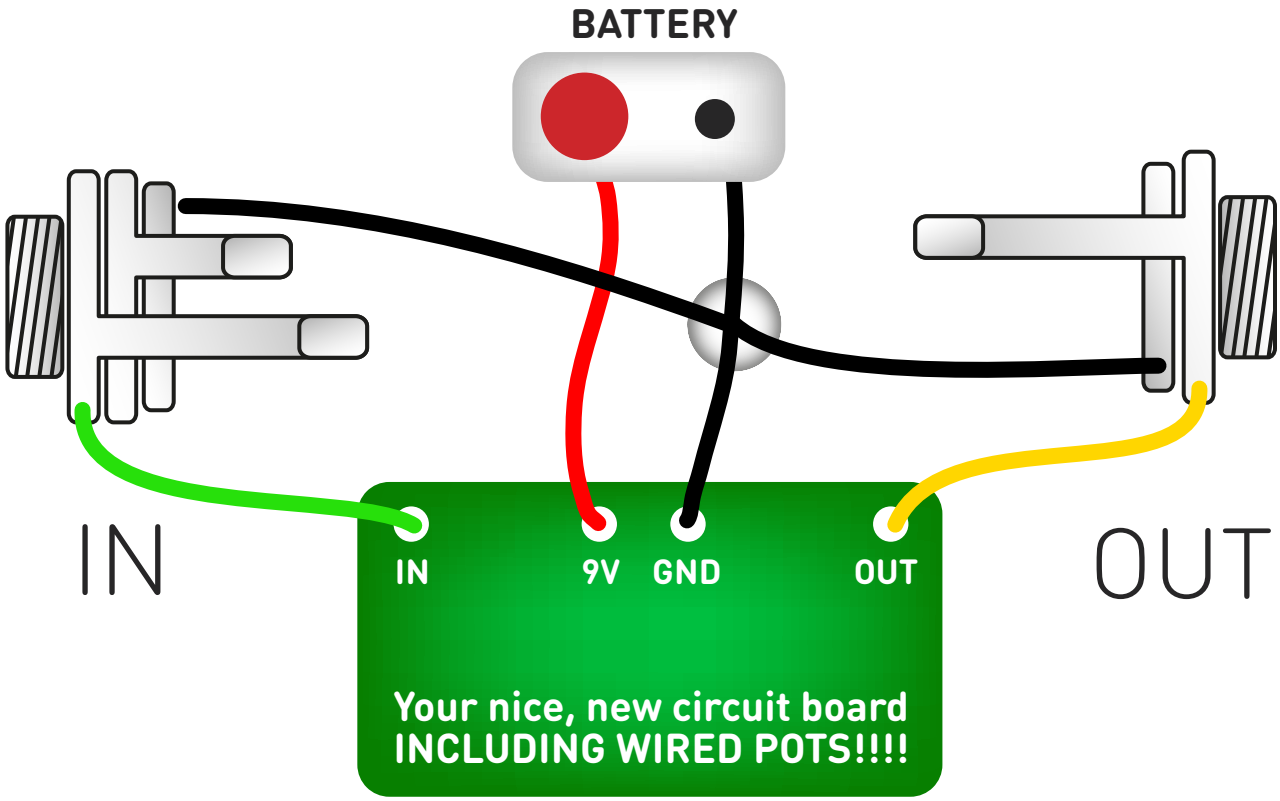


There are multiple pads for both V an GND connections. Both V pads are connected directly together, and all the GND pads are connected. Use only one of the V connections to connect your DC socket. The pads at the top of the board are positioned to make it more convenient if you have a DC socket on the top edge of the enclosure. If using a footswitch daughterboard you still have to link all four connections (IN, V, G, OU) as normal, as the LED requires power.

If you have your DC socket on the side edge near the footswtich you may find it easier to use the V and G pads on the bottom edge of the PCB. If using a daughterboard, use the V and G pads on that to connect with the DC socket in this case.

The extra GND pads on either side of the bottom edge are to make it more convenient to connect your jack socket GNDs.

Test the board!



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

Battery clip is supplied to test the circuit. Power supply is recommended when using the finished delay as it will EAT batteries.

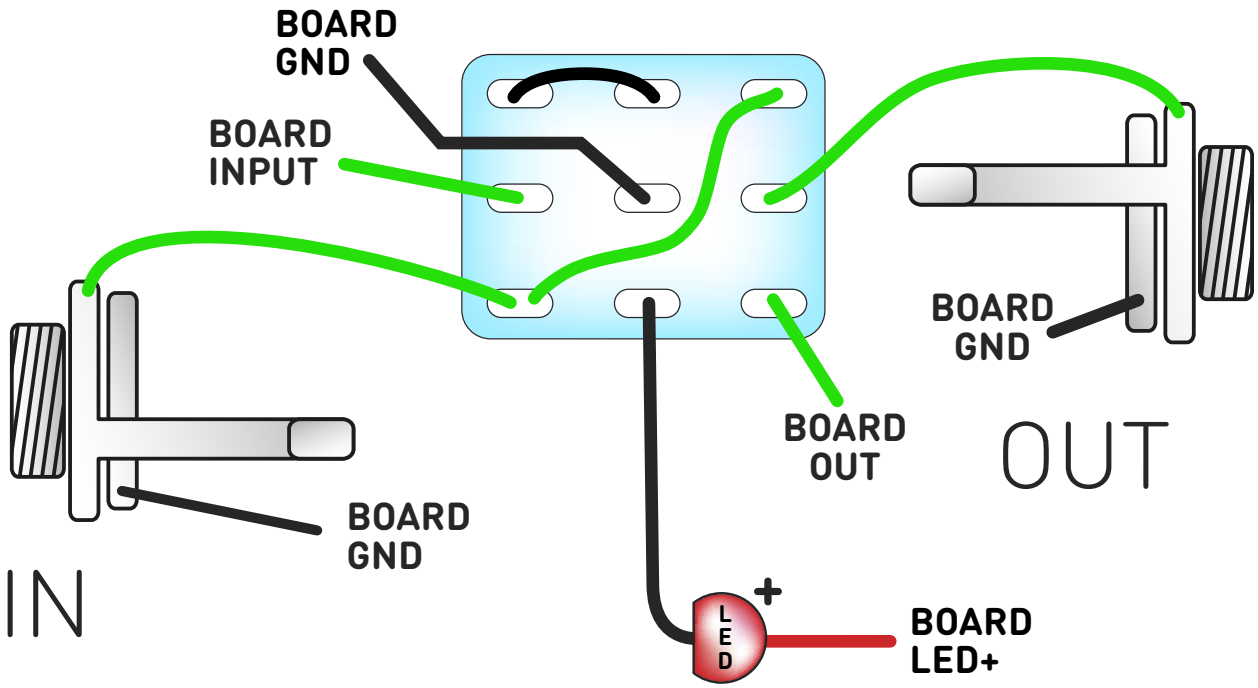
Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

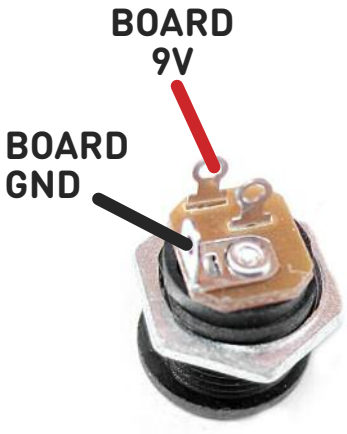
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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 - DC only version

(if using a daughterboard please refer to the relevant document)



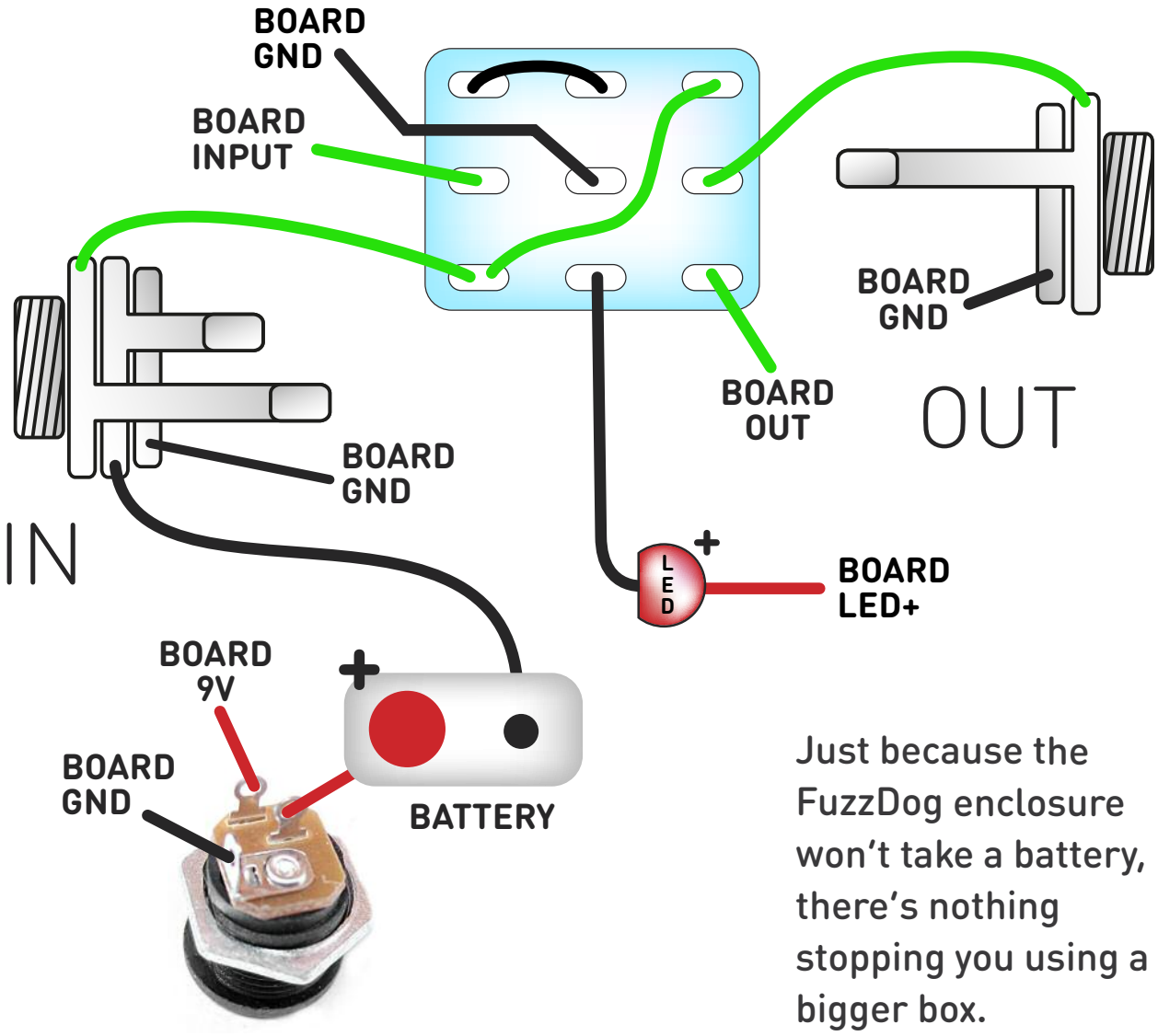


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

Wire it up - with battery

(if using a daughterboard please refer to the relevant document)



Just because the FuzzDog enclosure won't take a battery, there's nothing stopping you using a bigger box.

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.

The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

PedalParts.co.uk

Drilling template

The Gimp

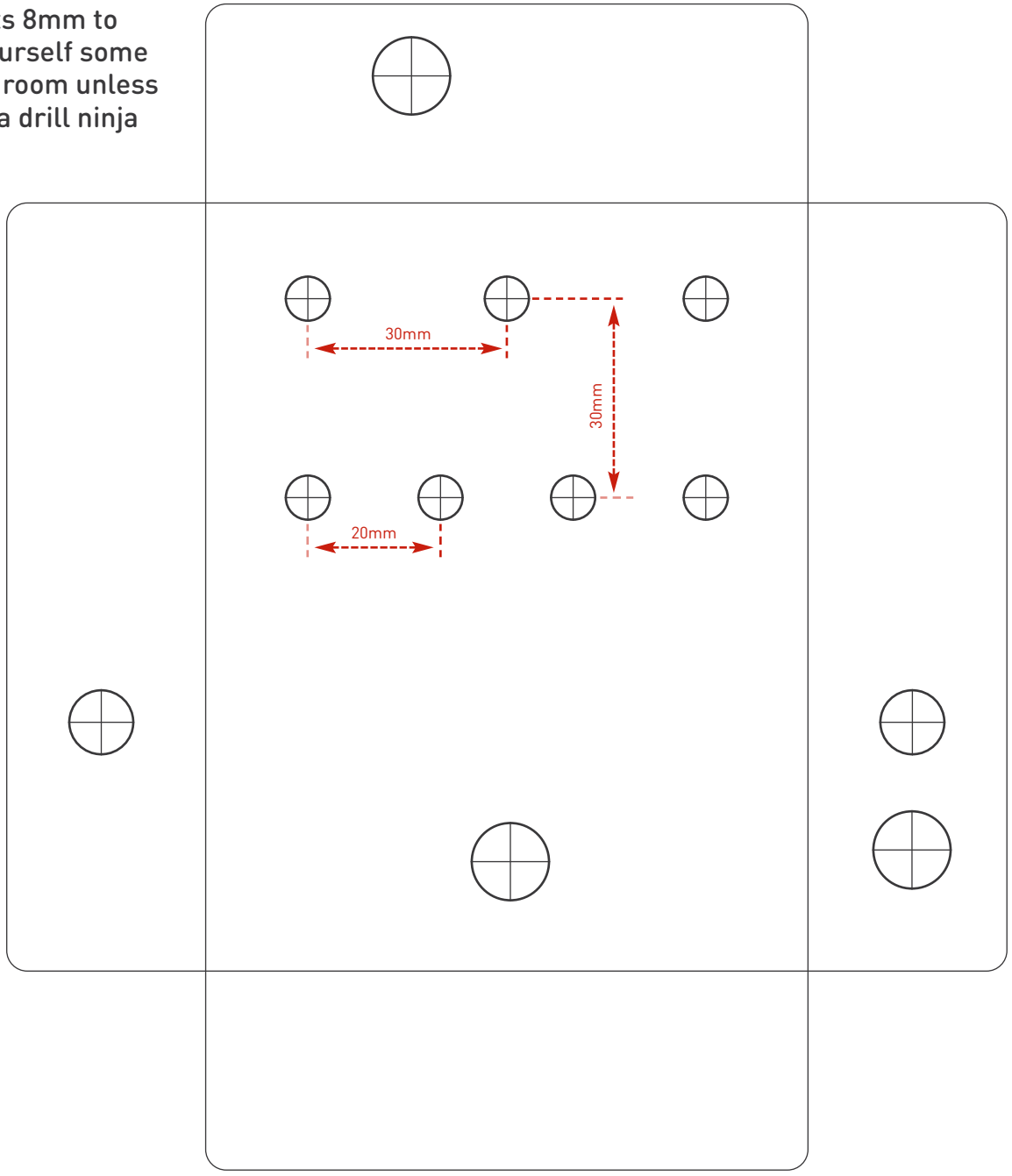
Recommended drill sizes:

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

Hammond 1590BB

91 x 116 x x 31mm

It's a good idea to drill the holes for the pots 8mm to give yourself some wiggle room unless you're a drill ninja



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.

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