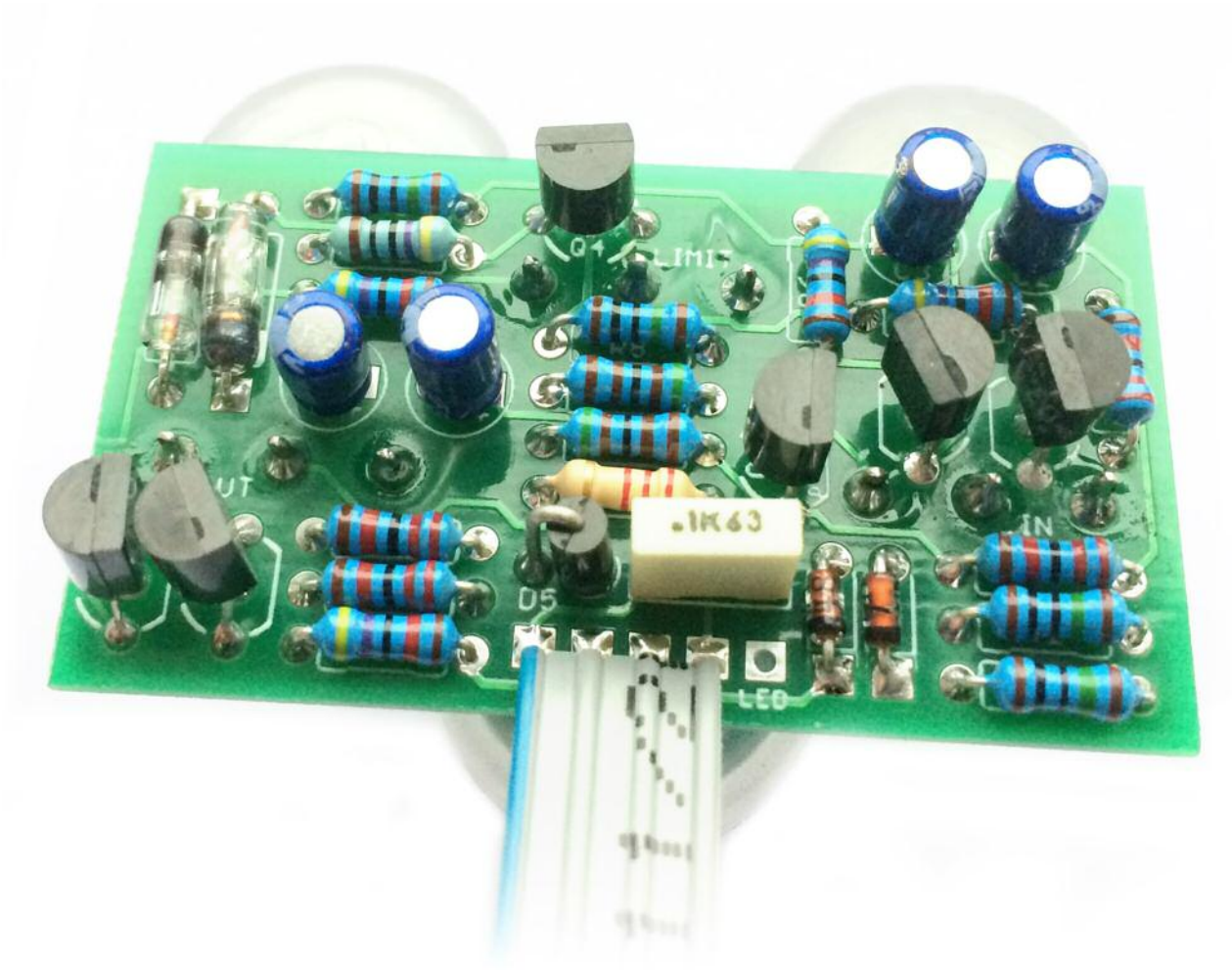
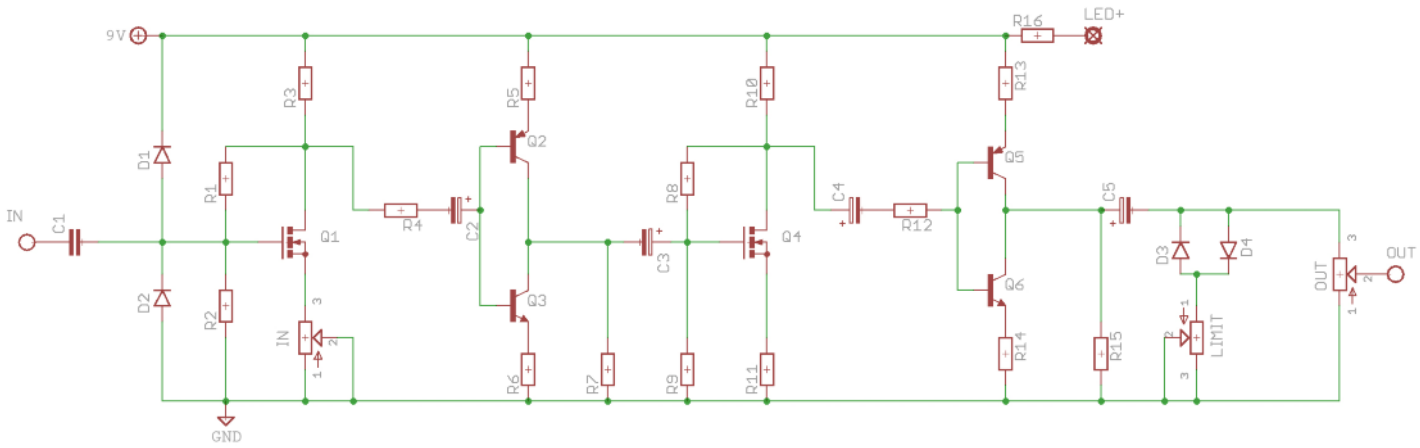


Greasy Tool

Frequency Tripling Crossover Distortion

...say whaaaat?

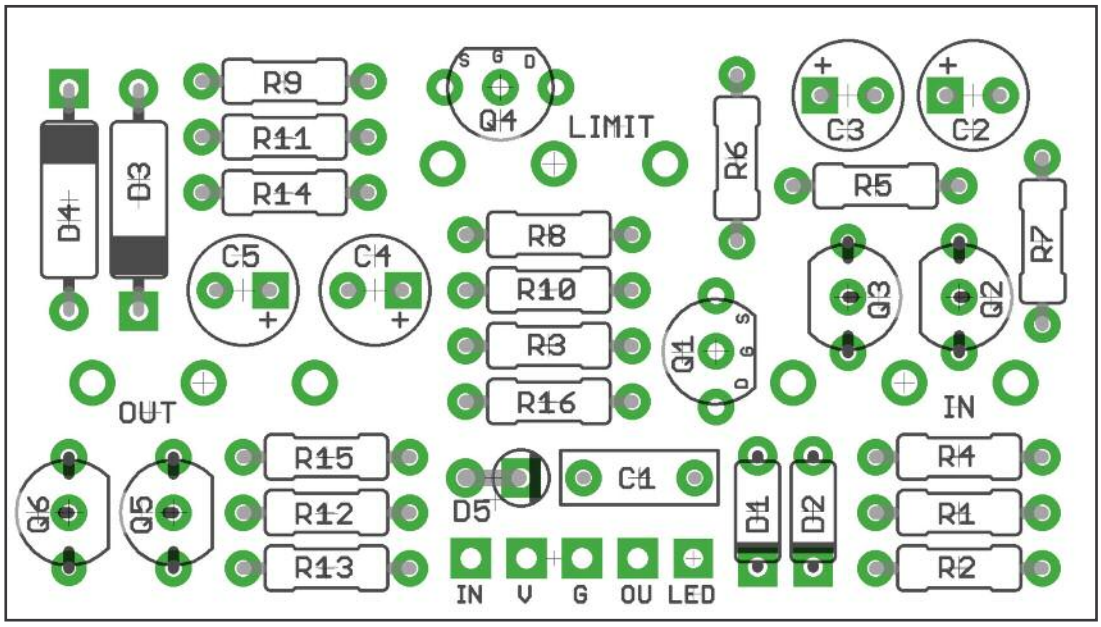
Schematic + BOM



R1	10M
R2	10M
R3	5K1
R4	22K
R5	47K
R6	47K
R7	22K
R8	10M
R9	10M
R10	5K1
R11	470R
R12	22K
R13	47K
R14	47K
R15	22K
R16	CLR (2K2)

C1	100n
C2	1u
C3	1u
C4	1u
C5	1u
Q1,4	BS170
Q2,5	2N3906
Q3,6	2N3904
D1,2	1N4148
D3,4	1N34A
D5	1N4001*
IN	5KC
LIMIT	50KB
OUT	100KB

*Not shown on the schematic -
connected between 9V and GND for polarity protection and is totally optional.



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). Be extra, doubly-super-careful when bending the legs of the 1N34A - the glass case is very brittle and can easily break. You should hold the leg you're bending with some needle-nosed pliers right up against the glass body to take the strain, then bend the leg with your fingers.

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

Positive (anode) legs of the electrolytic caps go to the square pads.

Negative (cathode) legs of the diodes go to the square pads.

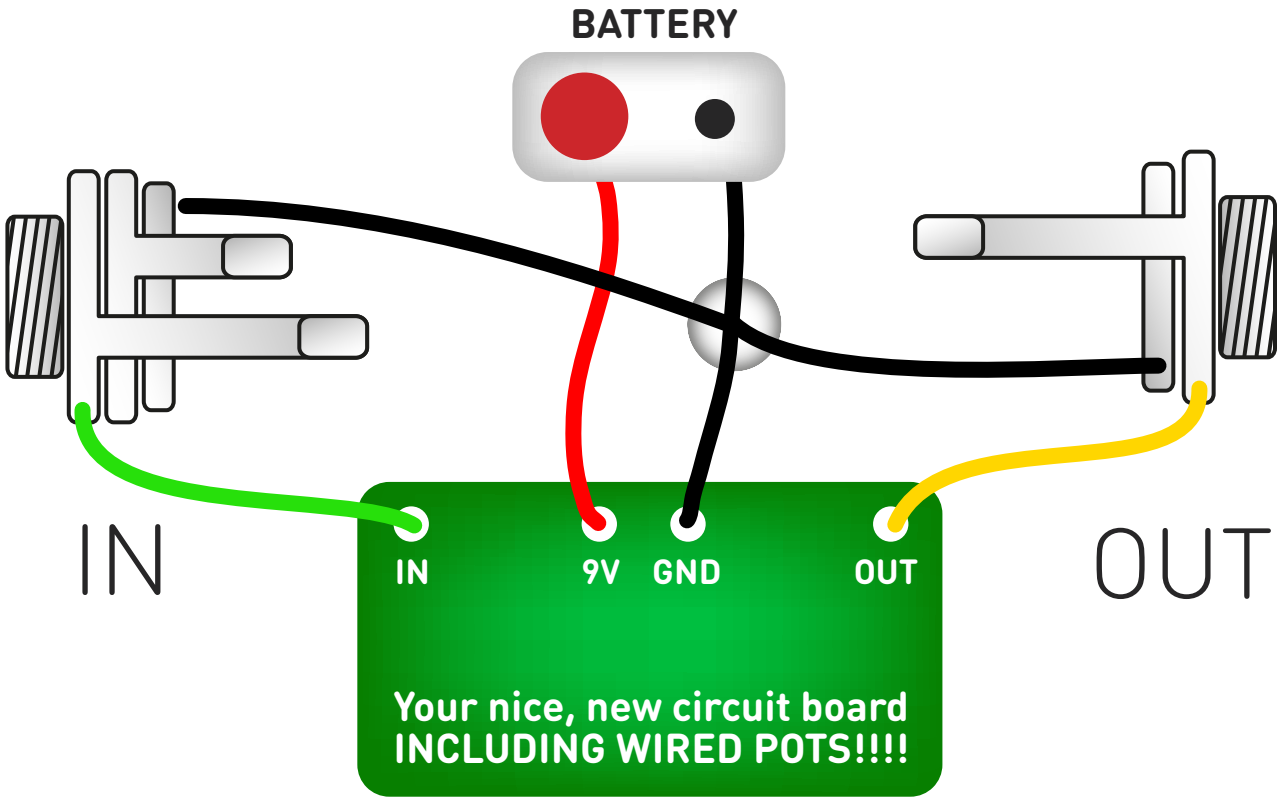
You should solder all other board-mounted components before you solder the pots. Once they're in place you'll have no access to much of the board. Make sure your pots all line up nicely. The best way to do that is to solder a single pin of each pot in place then melt and adjust if necessary before soldering in the other two pins. 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.

...And it does what?

It creates distortion in the sloped part of your signal, rather than at the peaks and troughs. Crazy huh? Why? Well, that way it can be heard through the mush of many other fuzzes and distortions, cutting right through the mix. Excellent for making yourself heard for solos. Beware though - this circuit sounds horrible on its own. And chords... forget it.

IN is your gain, LIMIT sets the clipping amount,
OUT is your level

Test the board!



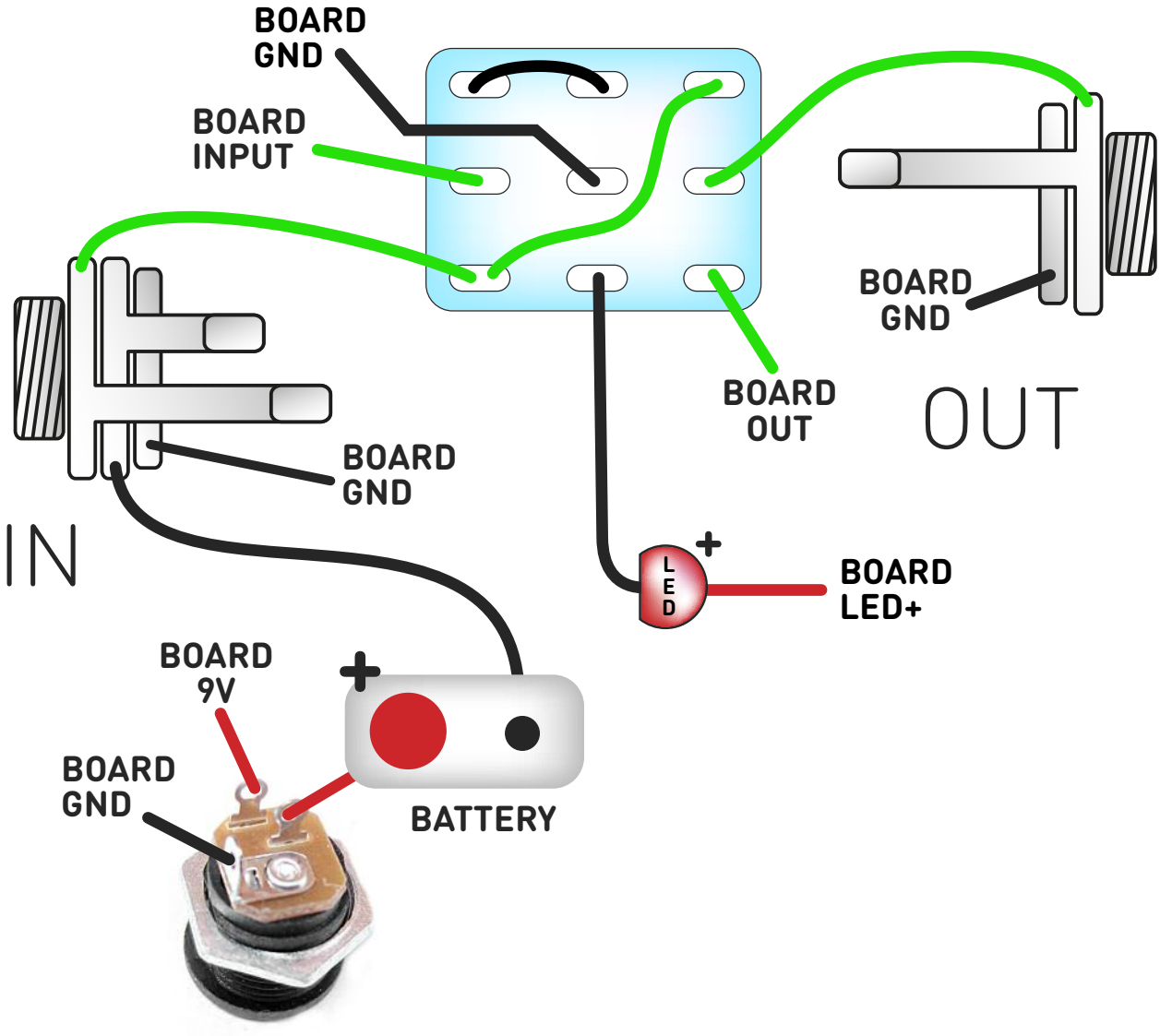
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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 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 (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

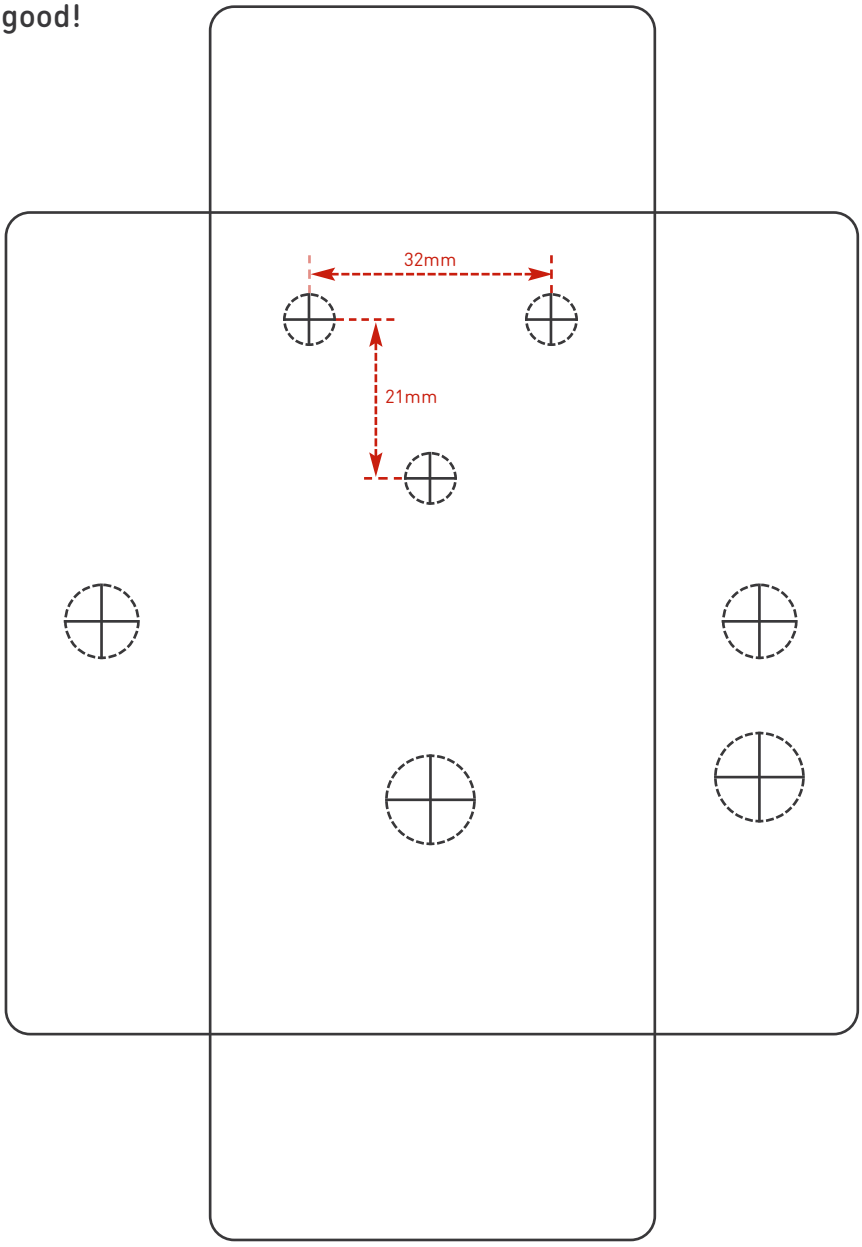
Hammond 1590B

60 x 111 x 31mm

It's a good idea to drill the pot holes 1mm bigger if you're board-mounting them. Wiggle room = good!

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.

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