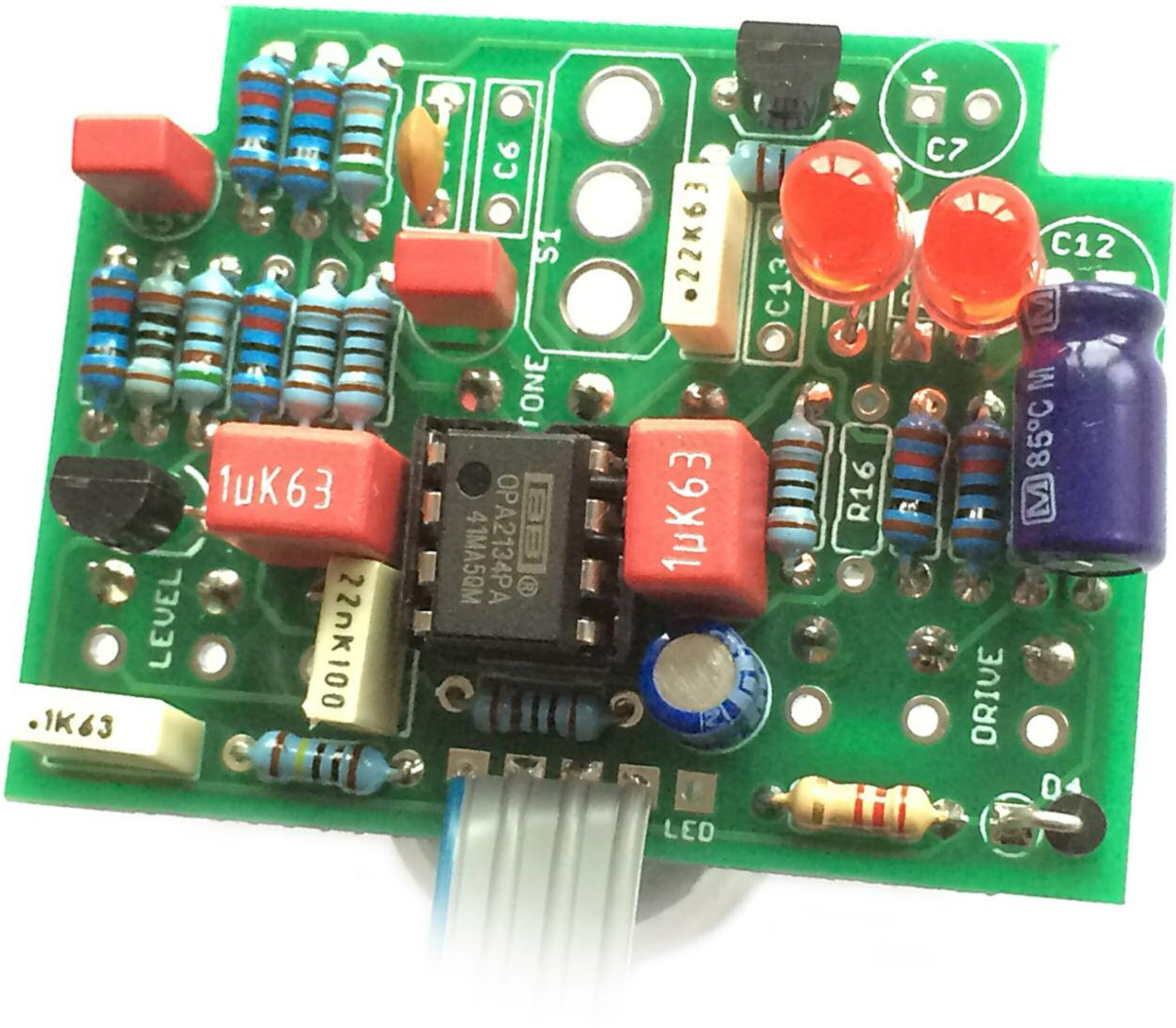
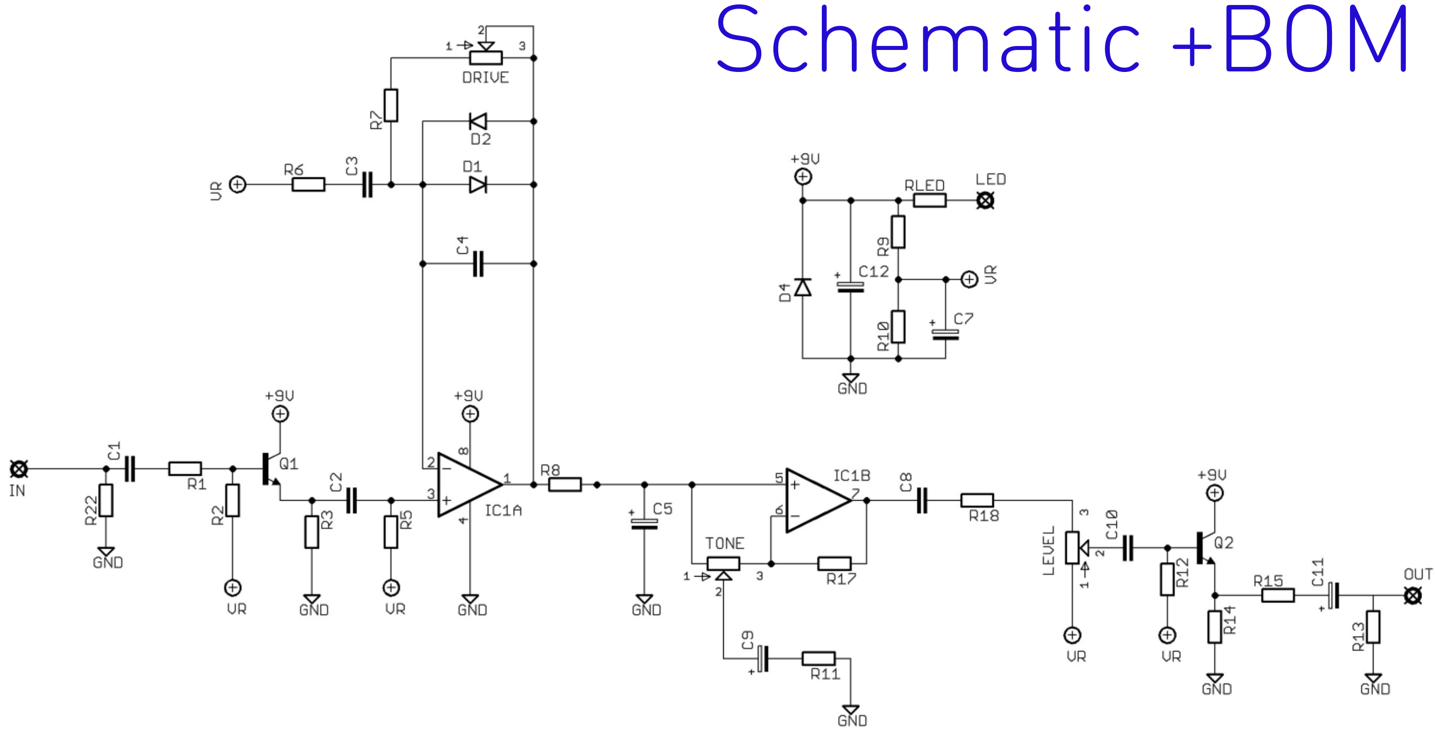


Clay Jones OD V2

Super-rare, silly-expensive boutique Tube Screamer

Schematic +BOM



R1	1K	C1	22n	IC	OPA2134
R2	510K	C2	1u	Q1,2	BC546B***
R3	10K	C3	220n		
R5	10K	C4	50p‡	D1,2	3mm red LED
R6	1K	C5	220n**	D3	Jumper
R7	10K	C7	47u	D4	1N4148
R8	1K	C8	1u		or 1N4001
R9	10K	C9	220n**		
R10	10K	C10	100n	TONE	20KB/W
R11	220R	C11	10u	DRIVE	1MA
R12	510K	C12	100u	LEVEL	100KB
R13	10K				
R14	10K				
R15	100R				
R16	empty				
R17	1K				
R18	1K				
R22	1M*				
RLED	2K2				

*R22 - optional anti-pop resistor not on original.

**C5 and C9 are polarised tantalums on a normal Tube Screamer. In the CJOD they're non-polarised film, so you'll have to source some with 2.5mm pitch if you want them to fit nicely.

***BC546B has pin-out opposite to the 2N3904 the PCB was designed for. They should go the opposite way round to those shown on the PCB. See image on first page.

‡47p at C4 will be totally fine - seriously.

As this circuit is being built on a Tube Screamer PCB that has extra component spots for modifications you'll find you have empty spaces. Don't worry about it.

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.

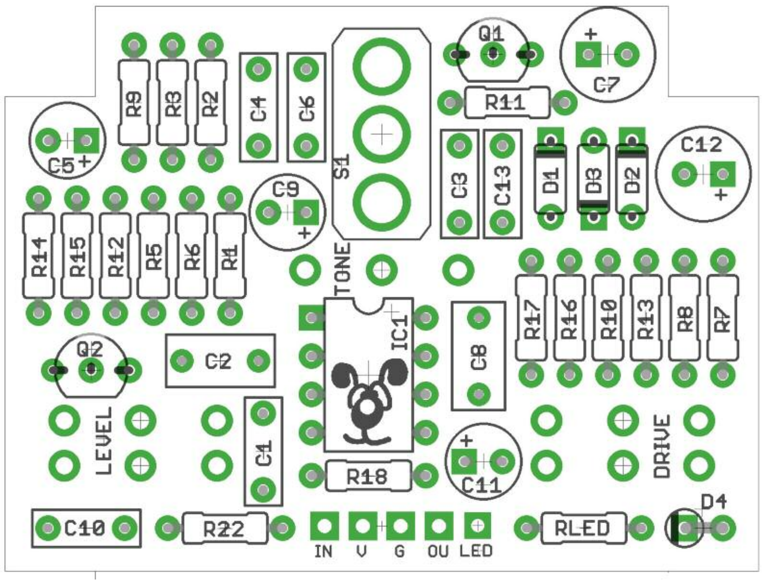
Be very careful when soldering the LED, transistors and diodes. They're very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds). You should use a socket for IC1 or be ultra careful when soldering.

The cathode (striped end) of the diodes go into the square pads. The anode (long leg) of electrolytic capacitors go into the square pads. C12 can be bent over the adjacent resistors to save on height (see pic on first page), giving more clearance when mounting in the enclosure.

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

If you're using a footswitch daugherboard don't bother soldering RLED. You'll use that on the daughterboard instead. What does CLR mean? Current Limiting Resistor. It's what stops your LED from popping. You can use anything from 1K-4K7 here, depending how bright you want your LED to be. Lower value = brighter.

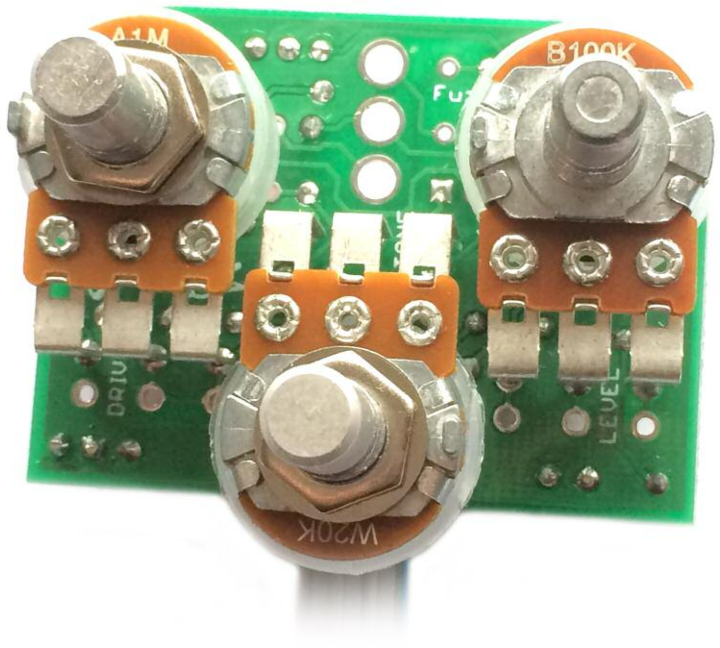
Pots mount on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones. It's a good idea to place the pots in their holes in the enclosure when you're soldering them in place on the PCB. That way you know they're going to line up ok. Best way to do it is to solder a single pin of each pot in place, then do a visual check to see that they're sitting at the same height. If not, melt the joints and readjust any that are off.



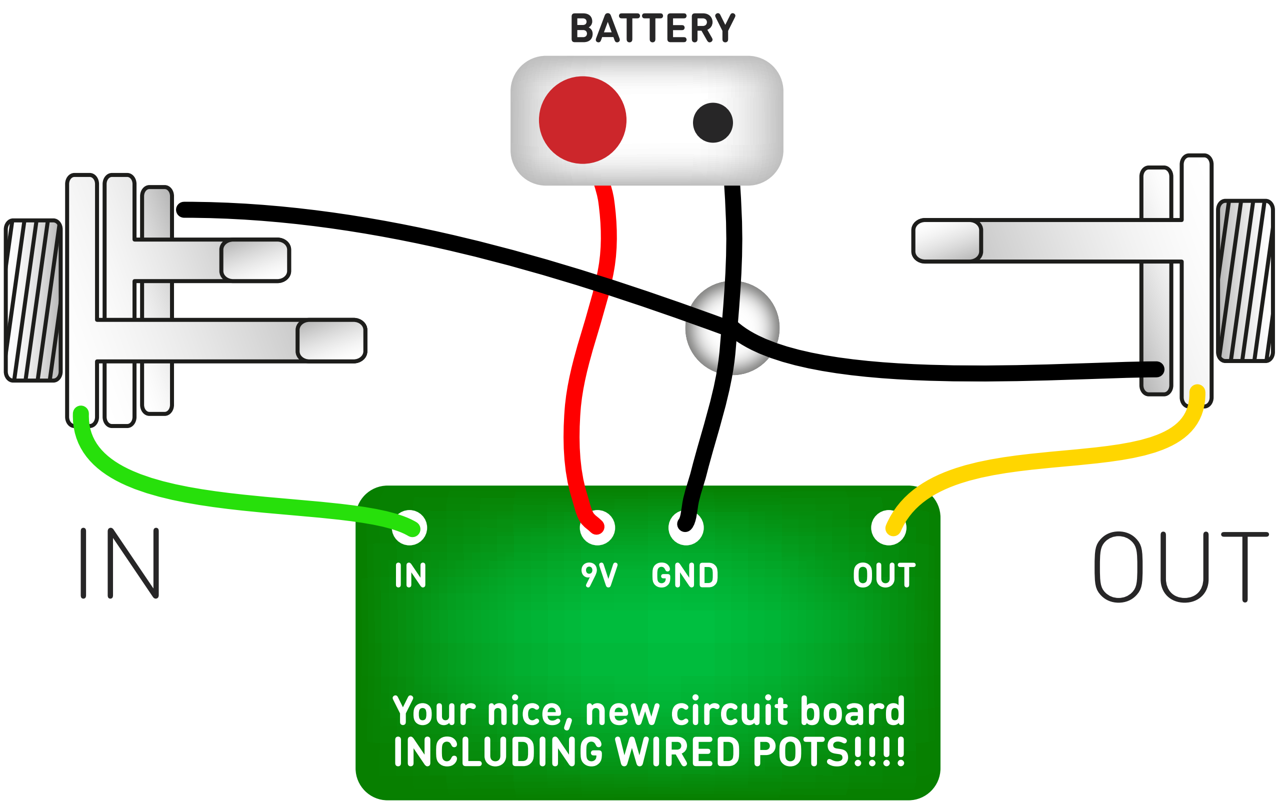
POT POSITIONS

You'll notice there are two lots of pads for LEVEL and DRIVE. The lower set were added so those pots could be offset if using the switch S1 for a Tube Screamer More Bass mod. For correct postitioning you should use the upper pads on your build.

The cover image doesn't show C7 in place. The pretty photo was taken before we realised it was missing. Make sure you include it.



Test the board!



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

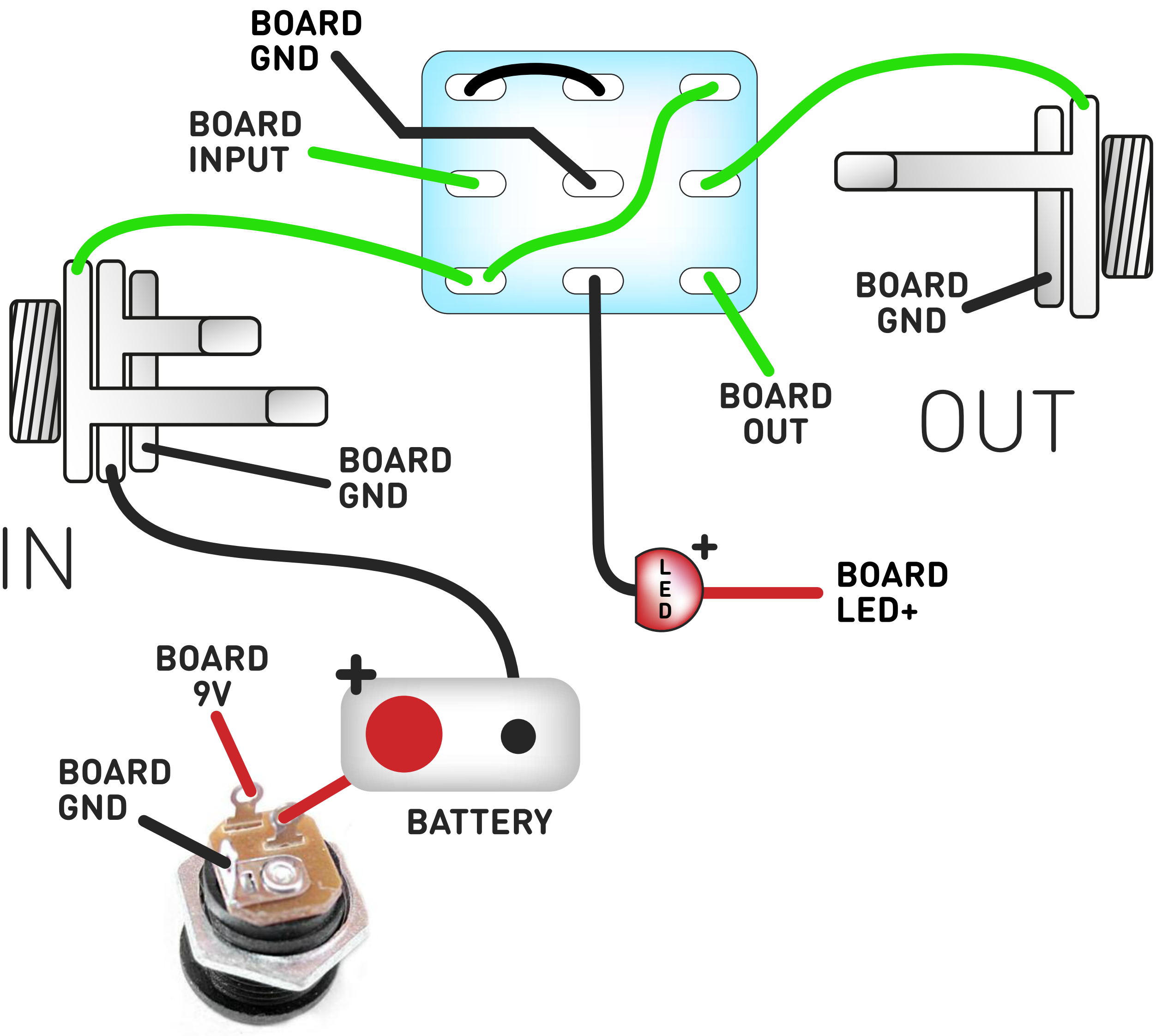
Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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 - with battery

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

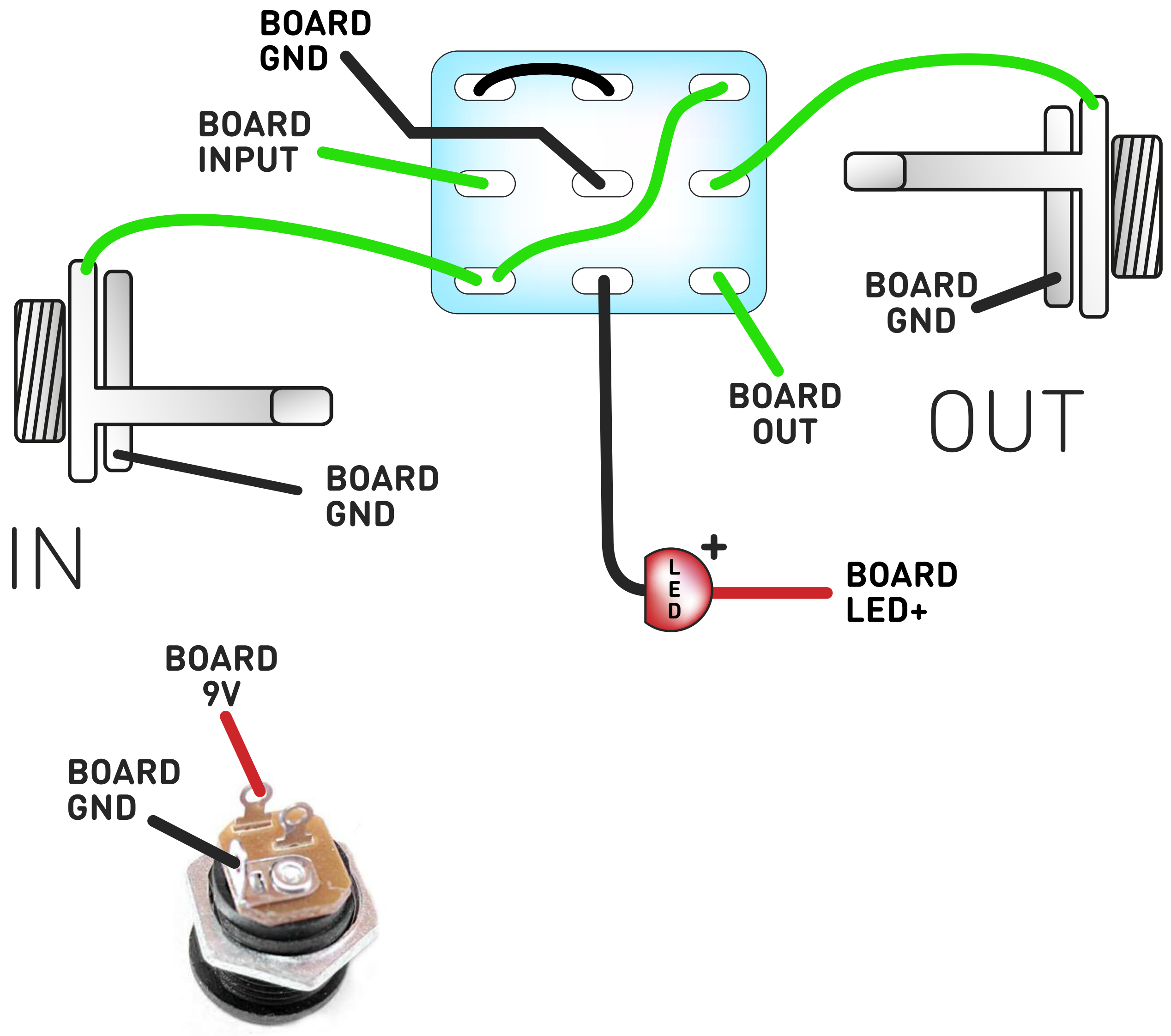


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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 - 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.

Drilling template

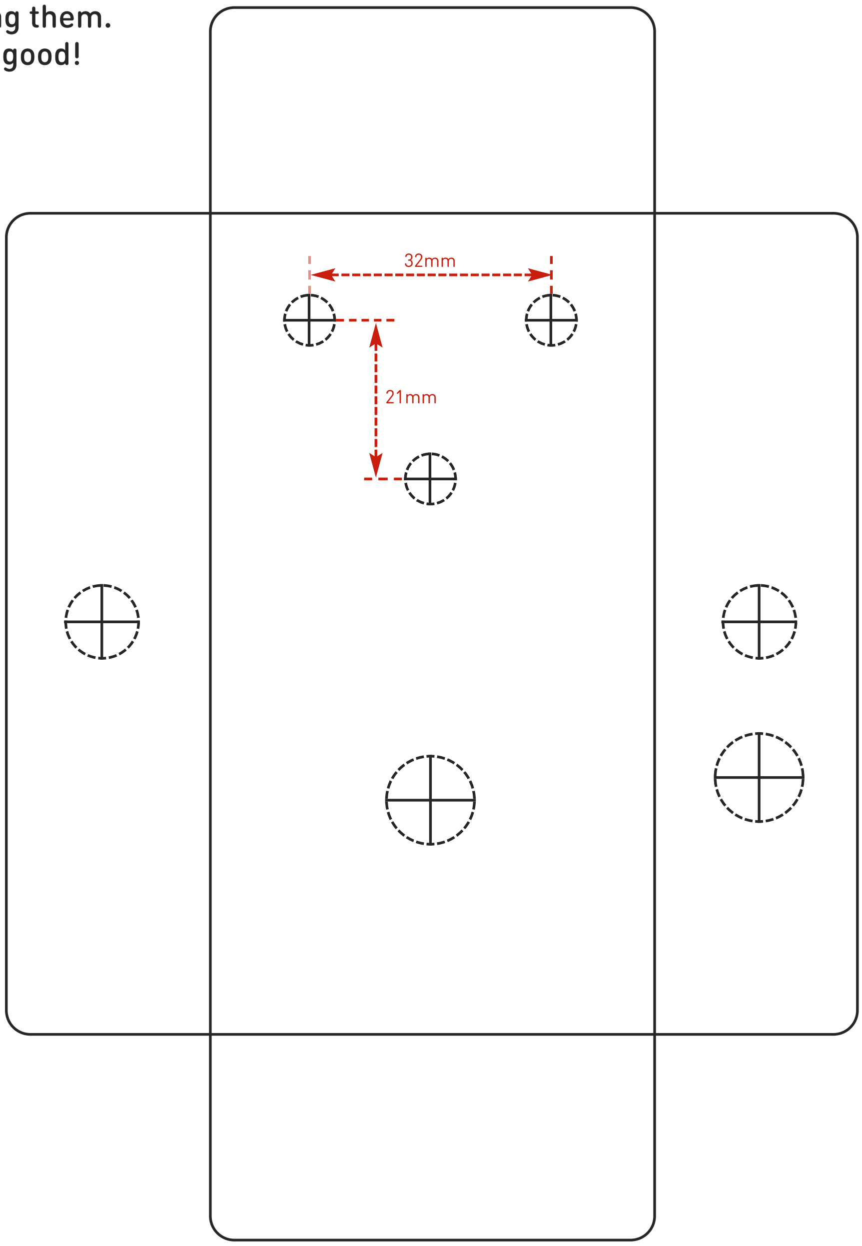
Hammond 1590B

60 x 111 x 31mm

Recommended drill sizes:

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

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



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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