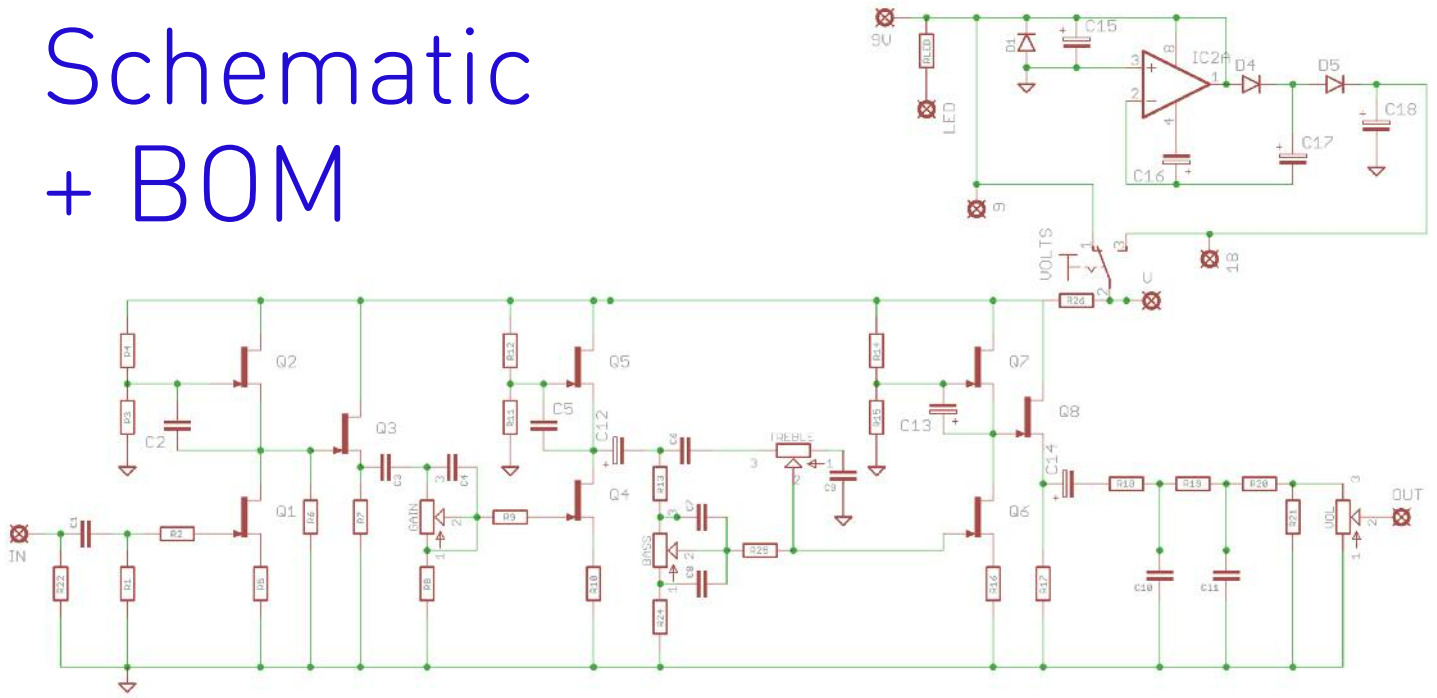


# Ampegulator

Heavy, heavy Ampeg tone with optional 18V charge pump



# Schematic + BOM



R1	2M	C1	100n	Q1-8	2N5457
R2	47K	C2	470n	IC1	TL7660S
R3	1M	C3	100n	D1	1N4001
R4	1M	C4	47p	D4-5	1N4148
R5	22K	C5	1u	BASS	1MA
R6	200K	C6	1n	TREB	1MA
R7	4K7	C7	1n	GAIN	1MA
R8	22K	C8	4n7	VOL	100KA
R9	100K	C9	10n	VOLTS	SPDT ON-ON**
R10	2K	C10	2n2		
R11	1M	C11	2n2		
R12	1M	C12	4u7 elec		
R13	100K	C13	4u7 elec		
R14	1M	C14	4u7 elec		
R15	1M	C15	100u elec		
R16	10K	C16	10u elec		
R17	4K7	C17	10u elec		
R18	10K	C18	10u elec		
R19	10K				
R20	100K				
R21	100K				
R22	2M2*				
R24	4K7				
R25	200K				
R26	47R				
RLED	2K2 (CLR)				

\*Optional anti-pop pulldown resistor.

\*\*Only used if you're using the 18V charge pump and want to have this as an external switch. See overleaf.

Parts in **BLUE** are optional charge pump. Leave out if you're only going to run at 9V

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 transistors, LED 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 the IC, or be super careful not to overheat. Take your time.

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

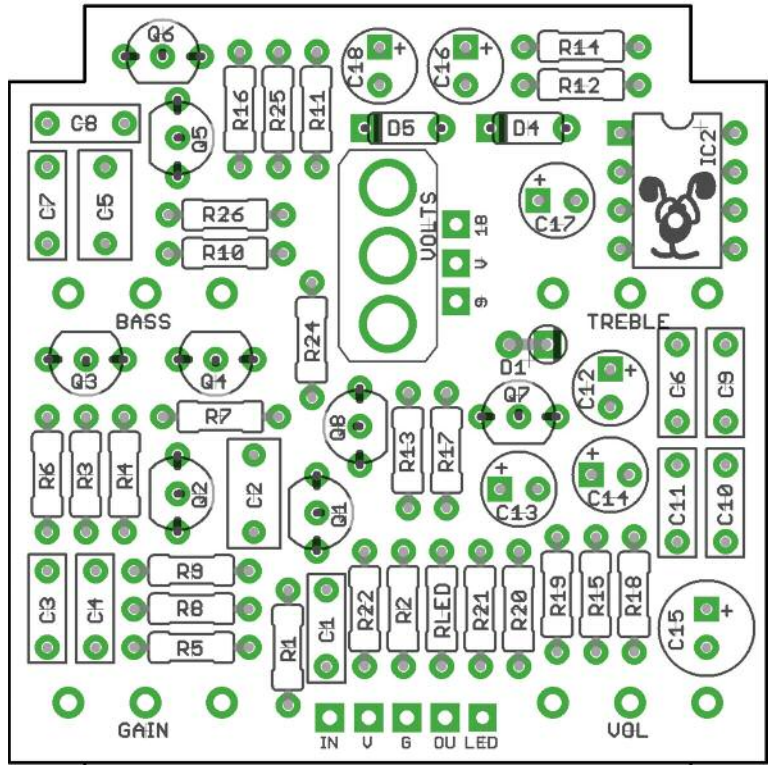
Positive (anode) leg of the electrolytic capacitors go into the square pads. C15 should be placed flat across the adjacent resistors as shown in the cover image to ensure plenty of clearance when boxing up the circuit.

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

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 all sitting at the same height. If not, melt the joints and readjust any that are off.

If your pots don't have protective plastic covers you should place a strip of thick card between them and the board when soldering to keep them a good distance from the pcb to avoid shorting other components.

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 underside of the board.



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# IMPORTANT

See next page for information about connecting the power supply pads.

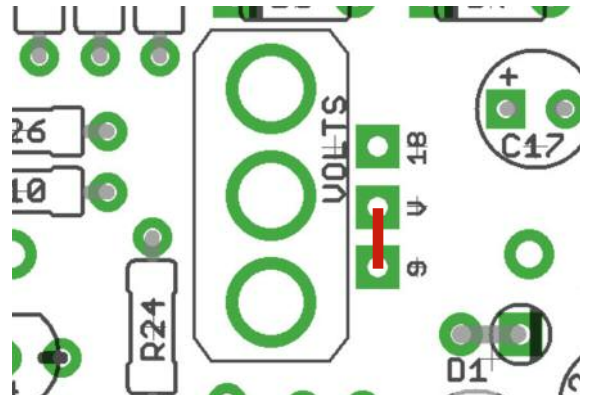


# SUPPLYING THE VOLTAGE

As the board has an optional 18V charge pump there are several variations for connecting the power.

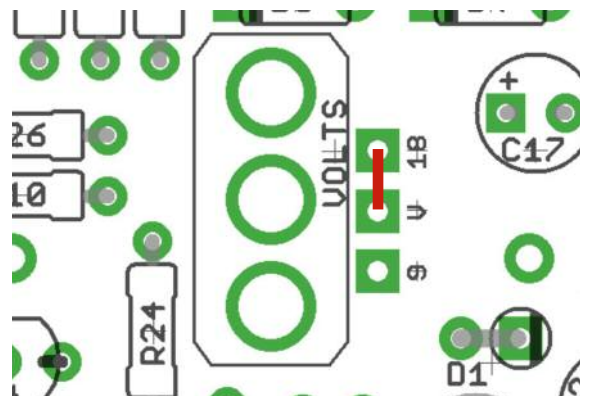
## NO CHARGE PUMP, 9V ONLY

Leave off the charge pump parts shown in the BOM and connect the 9 and V pads with a jumper wire



## CHARGE PUMP, 18V ONLY

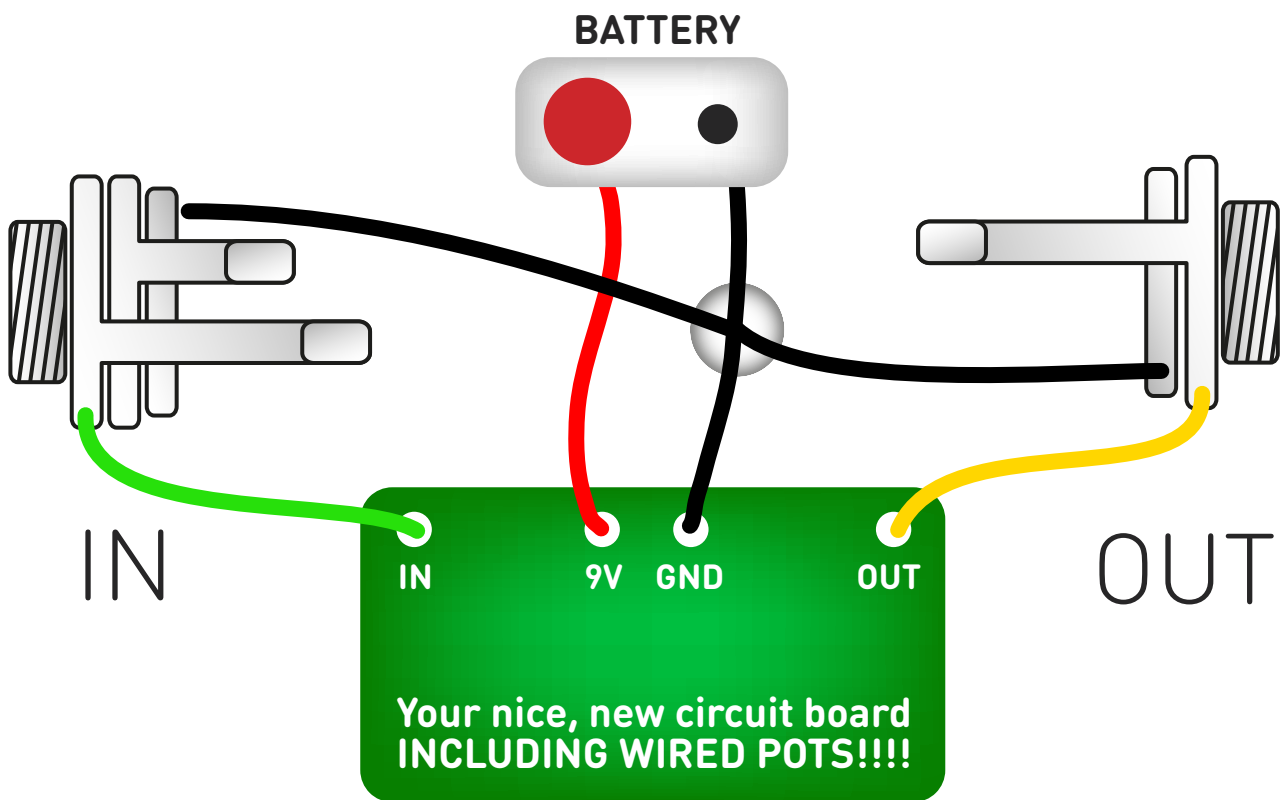
Add the charge pump parts shown in the BOM and connect the 18 and V pads with a jumper wire



## CHARGE PUMP, SELECTABLE 9 OR 18V

Add the charge pump parts shown in the BOM and add a SPDT switch. This can either be a toggle switch as shown in the image on the previous page, or you can use a small slide switch with 2.5mm pitch pins. This will fit neatly into the 9-V-18 pads next to the VOLTS switch position. No need to add any jumper wires for this option.

# Test the board!



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

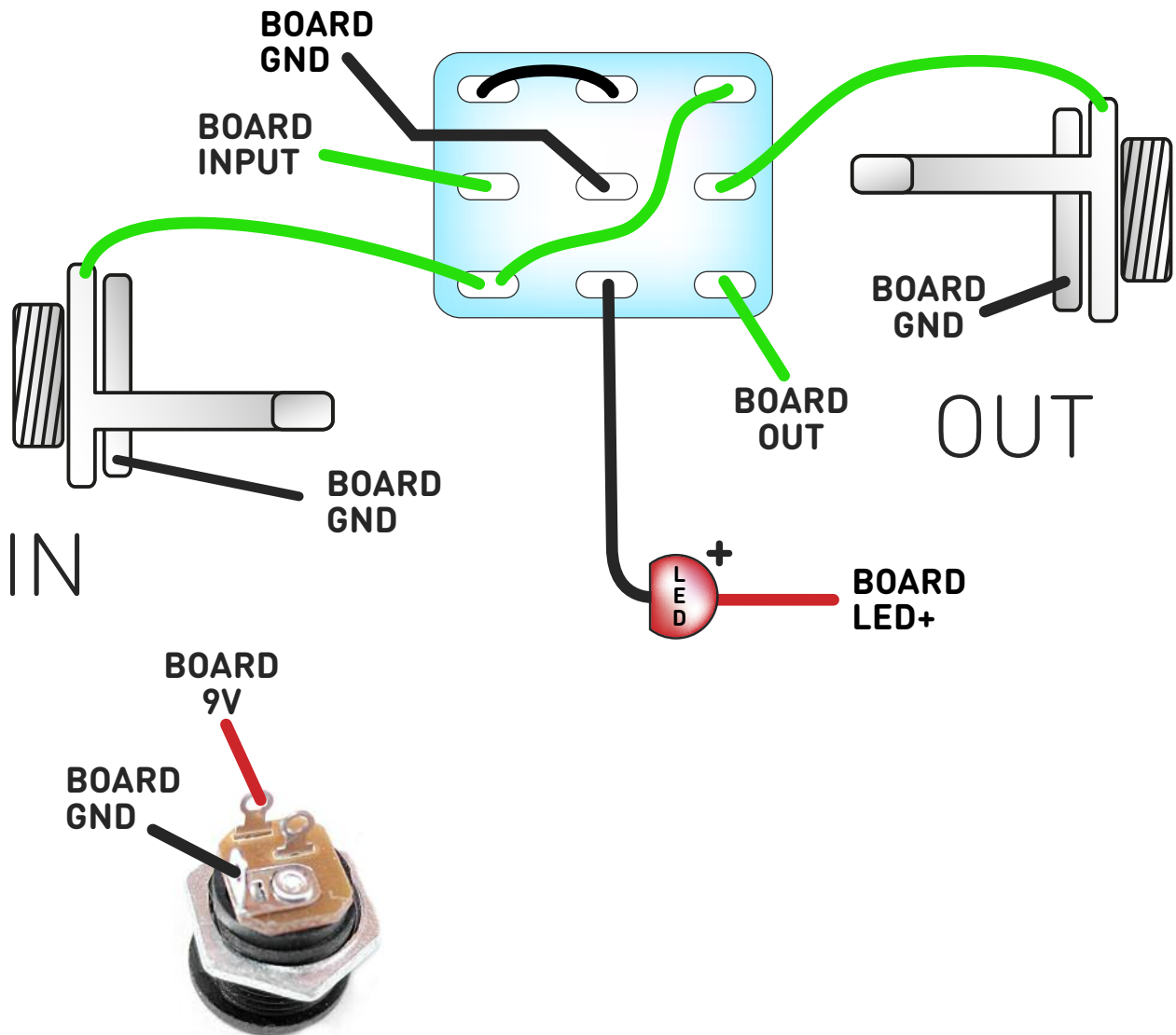
Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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)

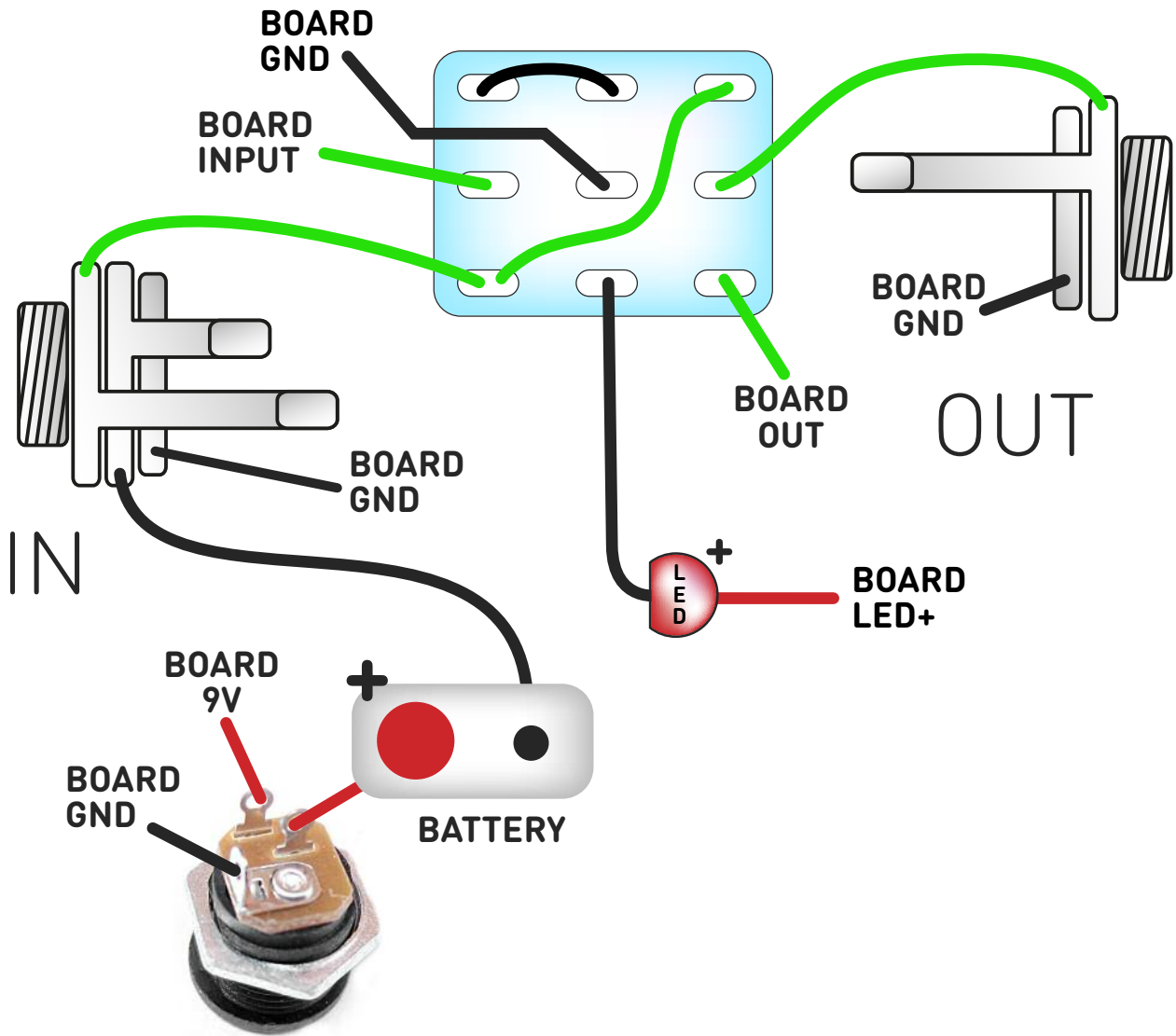


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

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)



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.

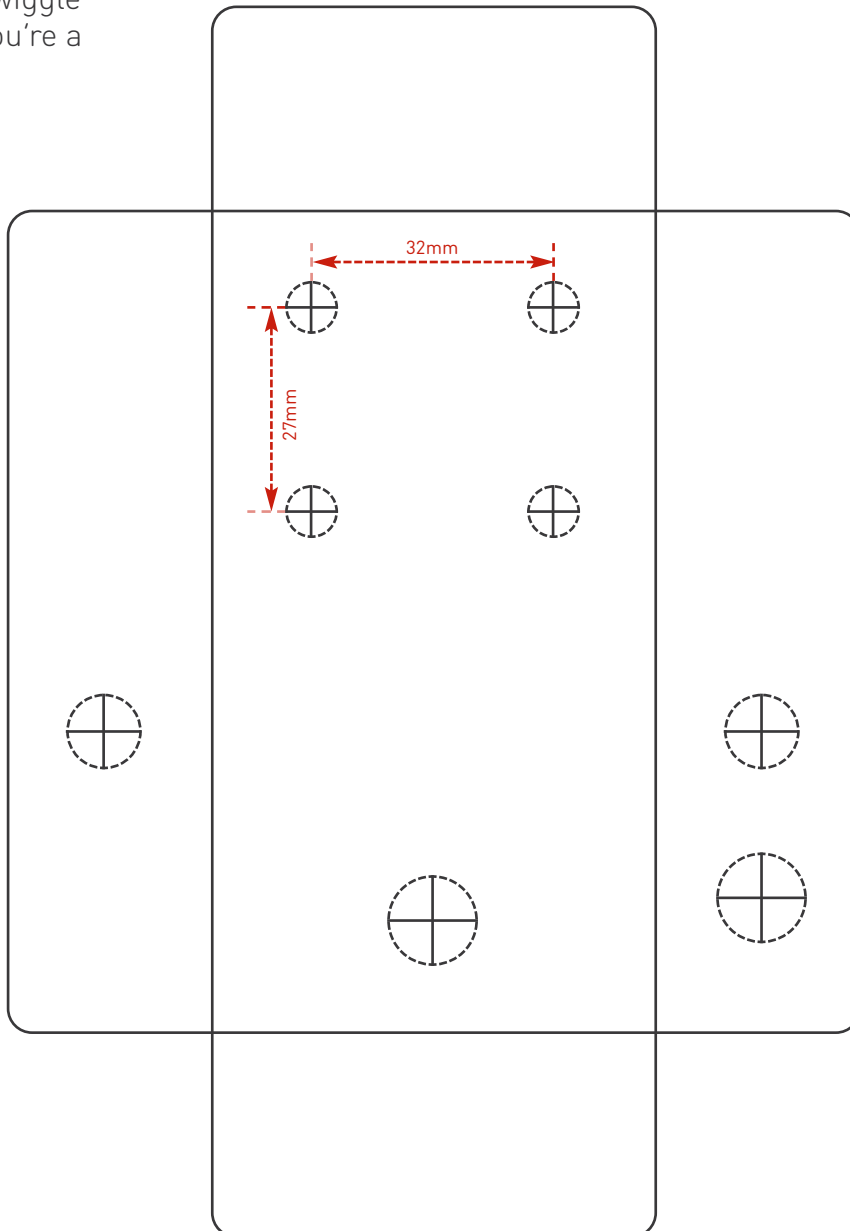
# Drilling template

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 holes for the pots 1mm bigger 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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