

# Single Wreck

Mesa Boogie Rectifier in-a-box,  
without the post-boost bits



# Important notes

## If you're using any of our footswitch daughterboards, DOWNLOAD THE DAUGHTERBOARD DOCUMENT

- Download and read the appropriate build document for the daughterboard as well as this one BEFORE you start.
- DO NOT solder the supplied Current Limiting Resistor (CLR) to the main circuit board even if there is a place for it. This should be soldered to the footswitch daughterboard.

## POWER SUPPLY

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC.

## COMPONENT SPECS

Unless otherwise stated in this document:

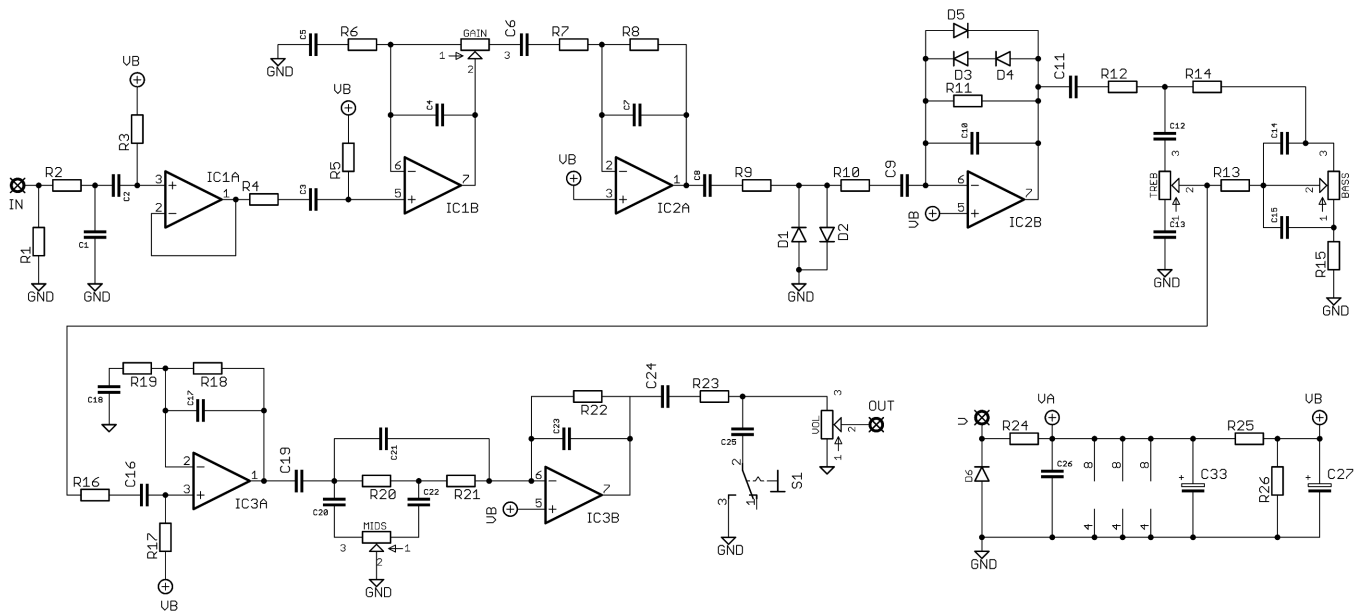
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

## LAYOUT CONVENTIONS

Unless otherwise stated in this document, the following are used:

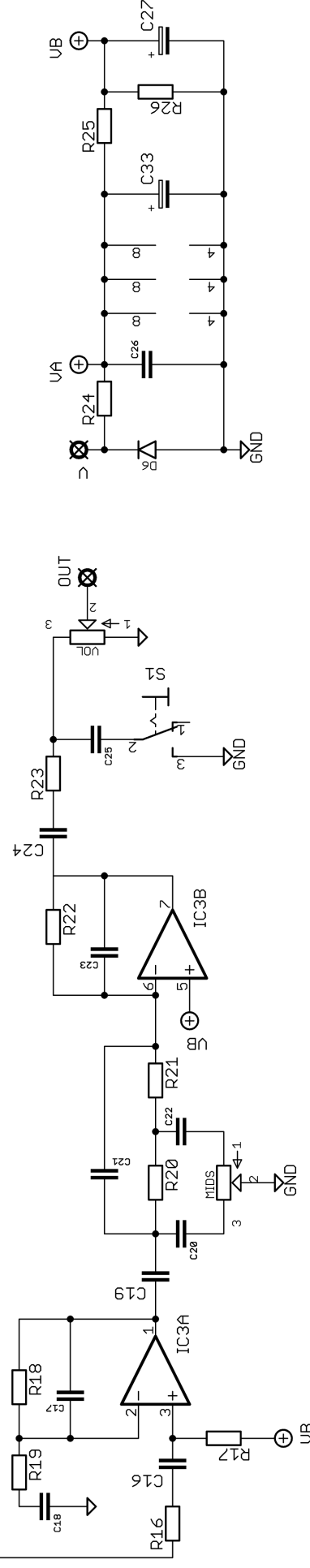
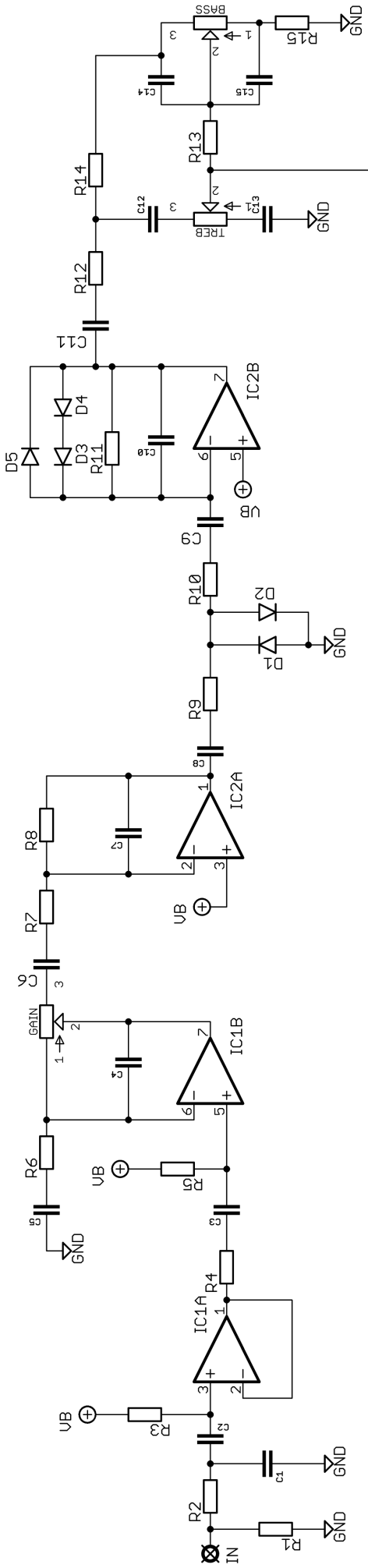
- **Electrolytic capacitors:**  
Long leg (anode) to square pad.
- **Diodes/LEDs:**  
Striped leg (cathode) to square pad. Short leg to square pad for LEDs.
- **ICs:**  
Square pad indicates pin 1.

# Schematic + BOM

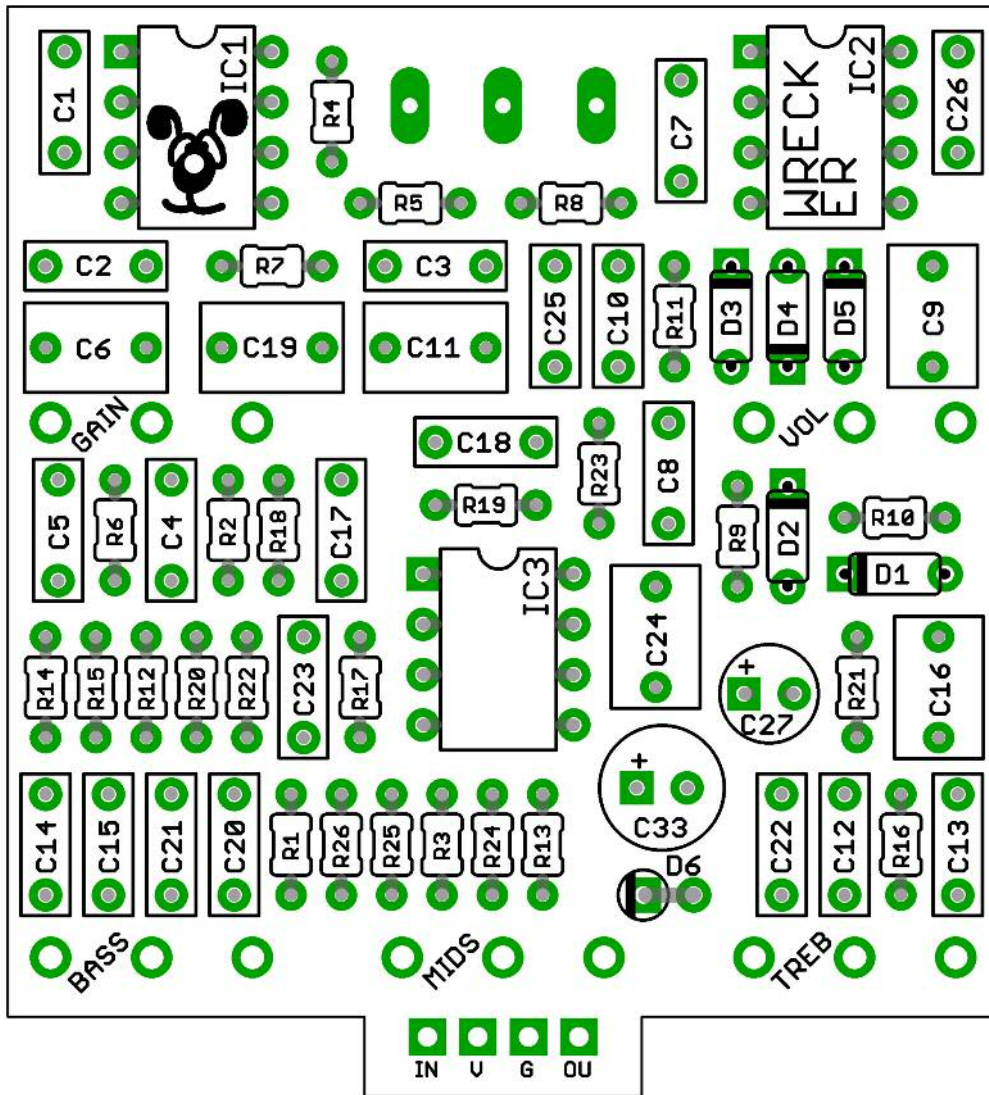


R1	1M	C1	220p	D1-5	1N4148
R2	1K	C2	220n	D6	1N4001
R3	470K	C3	33n	IC1-3	4580
R4	10K	C4	560p	BASS	100KC
R5	470K	C5	220n	MIDS	100KA
R6	1K	C6	1u	TREB	50KA
R7	10K	C7	220p	GAIN	100KA
R8	470K	C8	220n	VOL	100KA
R9	1K	C9	1u	S1	SPDT ON-ON
R10	47K	C10	220p		
R11	100K	C11	1u		
R12	1K	C12	4n7		
R13	4K7	C13	47n		
R14	10K	C14	47n		
R15	1K	C15	100n		
R16	470K	C16	1u		
R17	470K	C17	470p		
R18	47K	C18	47n		
R19	47K	C19	1u		
R20	33K	C20	100n		
R21	33K	C21	1n		
R22	680K	C22	47n		
R23	10K	C23	330p		
R24	47R	C24	1u		
R25	10K	C25	4n7		
R26	10K	C26	10n		
		C27	10u elec		
		C33	100u elec		

**The board has been designed for 3mm resistors, which are usually 0.125W or 0.4W. You can use standard 6mm 0.25W if you mount them vertically. They'll fit just fine.**







**The power and signal pads match up to the pads on our Direct Connect daughterboards.**

Be very careful when soldering the 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). Same goes for the ICs if you aren't using sockets.

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

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 to the PCB, then melt and resit each pot nicely before soldering the other two pins of each.

Same procedure for the toggle switch. One lug first, melt and tweak, then finish with the others.





# I HAVE THE POWER!

This is one of those circuits that can really benefit from some extra juice. Powering it at 18V gives extra headroom and makes the whole circuit sing.

You can match it up with our charge pump daughterboard to give it the extra goodies if you don't have an 18V supply.

Simply follow the build doc for the daughterboard kit and connect the main PCB to that instead of our standard bypass boards.



# Test the board!

**Check the relevant daughterboard document for more info before you undertake this stage.**

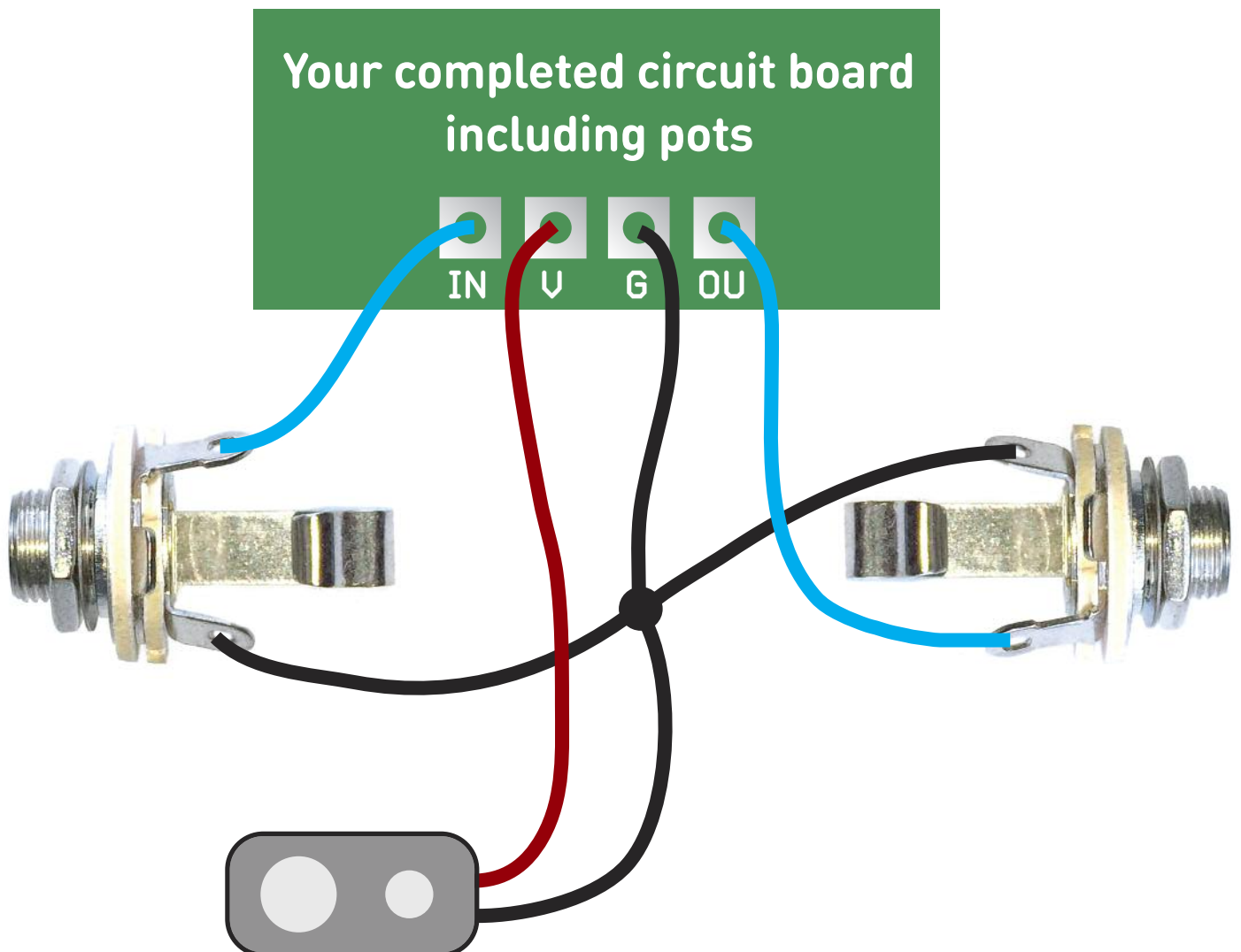
**UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.**

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.

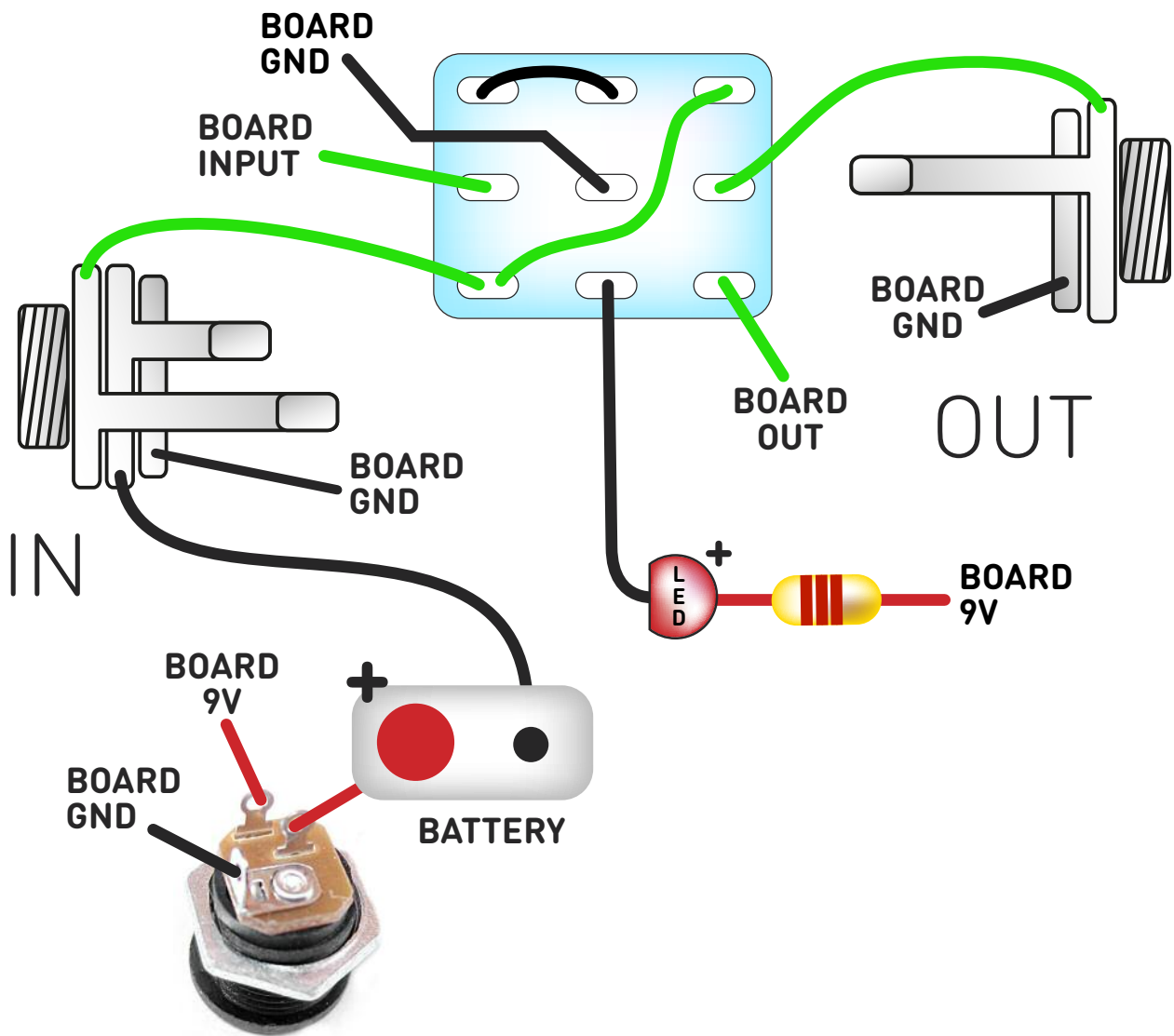
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

If you're using a ribbon cable you can tack the wires to the ends of that. It's a lot easier to take them off there than it is do desolder wires from the PCB pads.

If it works, carry 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.



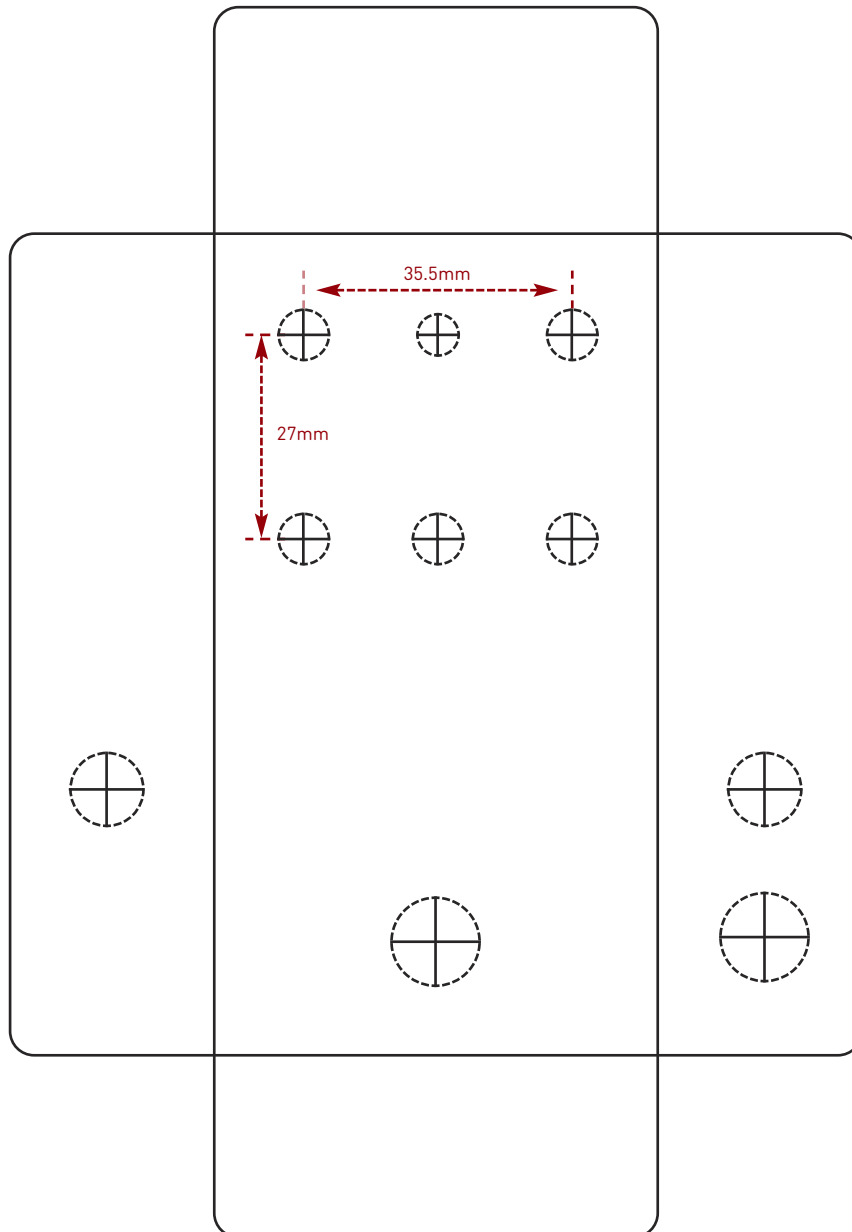
# Drilling template

Hammond 1590B  
60 x 111 x 31mm

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Toggle Switches	6mm

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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