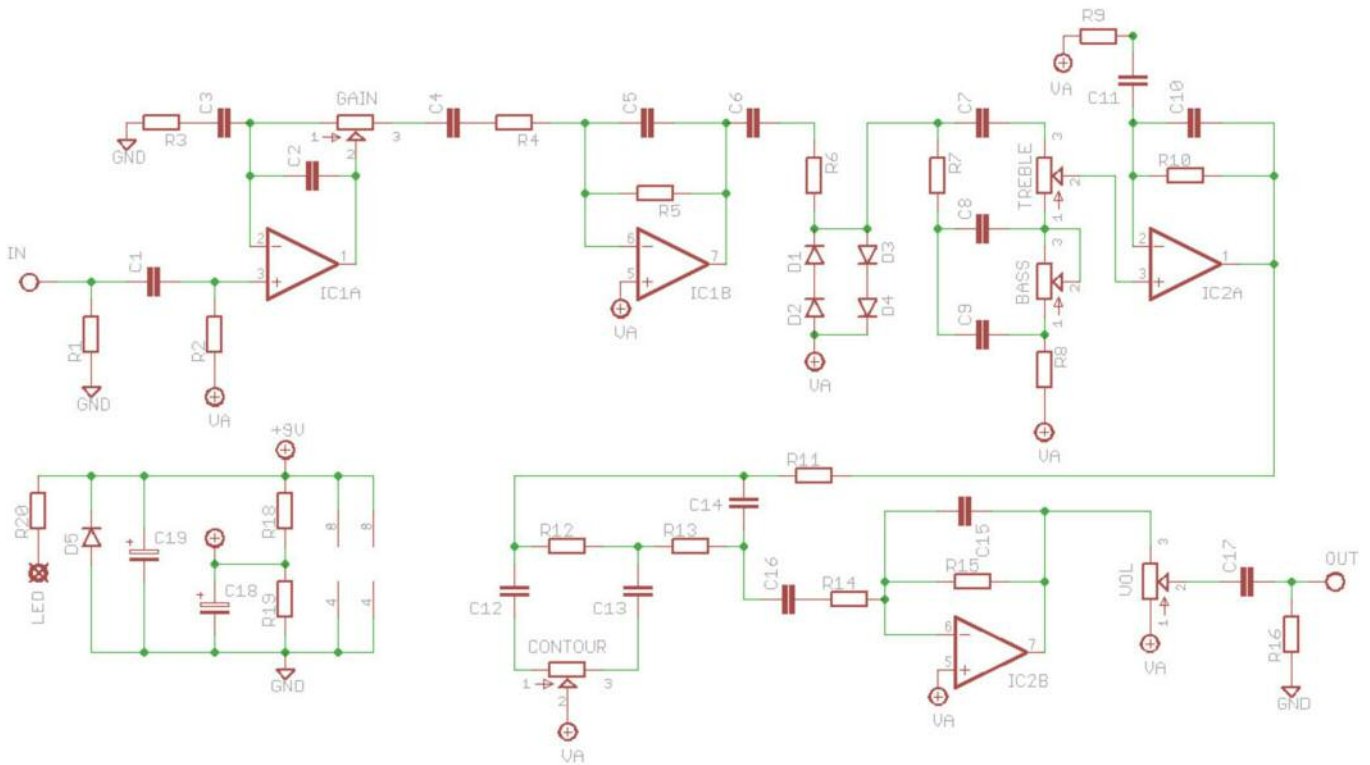


Shred Meister

High-Gain Distortion for your
Metal Chugga Chugga

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Schematic



BOM

R1	2M2
R2	1M
R3	3K3
R4	8K2
R5	680K
R6	10K
R7	6K8
R8	1K
R9	47K
R10	220K
R11	100R
R12	33K
R13	33K
R14	100K
R15	100K
R16	1M
R18	47K
R19	47K
R20	2K2 (CLR)

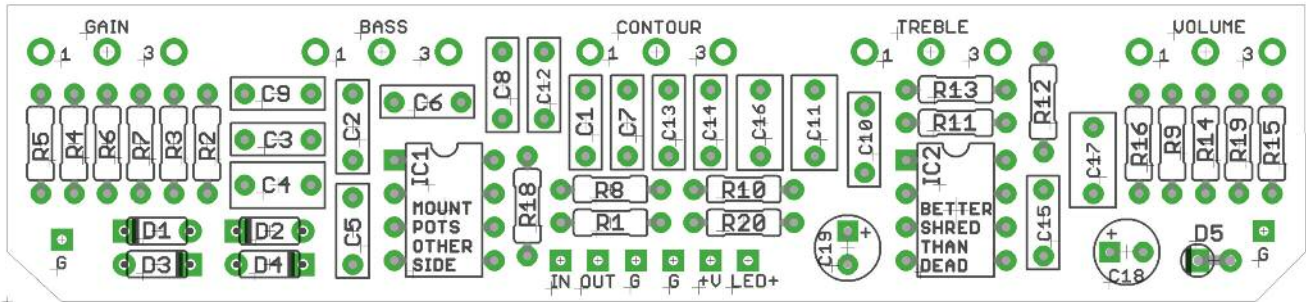
C1	10n
C2	100p
C3	47n
C4	68n
C5	47p
C6	100n
C7	22n
C8	22n
C9	22n
C10	2n2
C11	220n
C12	100n
C13	47n
C14	1n
C15	1n
C16	220n
C17	220n
C18	47u elec
C19	47u elec

D1	1N4148
D2*	jumper
D3	1N4148
D4*	jumper
D5	1N4001

IC1,2 TL072

GAIN	100KB
BASS	100KA
TREBLE	20KB
CONTOUR	100KB
VOL	100KA

D2 and D4 have been included to allow experimentation with clipping diode combinations. These should be jumpered for the standard circuit.



The PCB is designed to have the pots mounted directly to it. You can use wire if you like - simply connect the board pads to the corresponding pins on the pots.

Pots mount on the back side of the PCB, opposite side to the components.

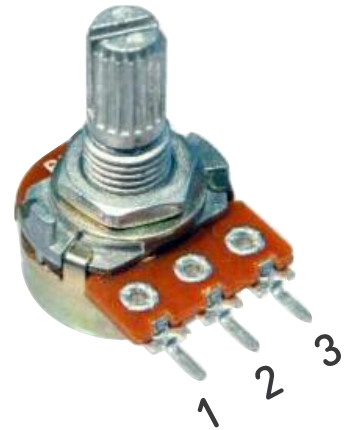
Snap the little metal tag off the pots to mount them flush in the box.

The polarity indication stripes for the diodes may not be visible on the PCB. The leg nearest the stripe goes into the square pad.

Extra GND connection pads are placed at either side of the PCB. Use these for convenient connection to the jack sockets.

You should attach the wires to the PCB according to where they'll eventually be going, so +V and one of the middle GND should have wires coming out the back side of the board. IN, OUT, another GND and LED+ should have wires on the component side. It doesn't really matter, but it makes boxing up neater.

NOTE: If you're making this in a 1590B (60 x 111mm) enclosure (which is what is supplied), it is recommended you place C18 and D5 on the back side of the board along with the pots. This will give more clearance for the jack sockets.



MODS - no rules here - try different values

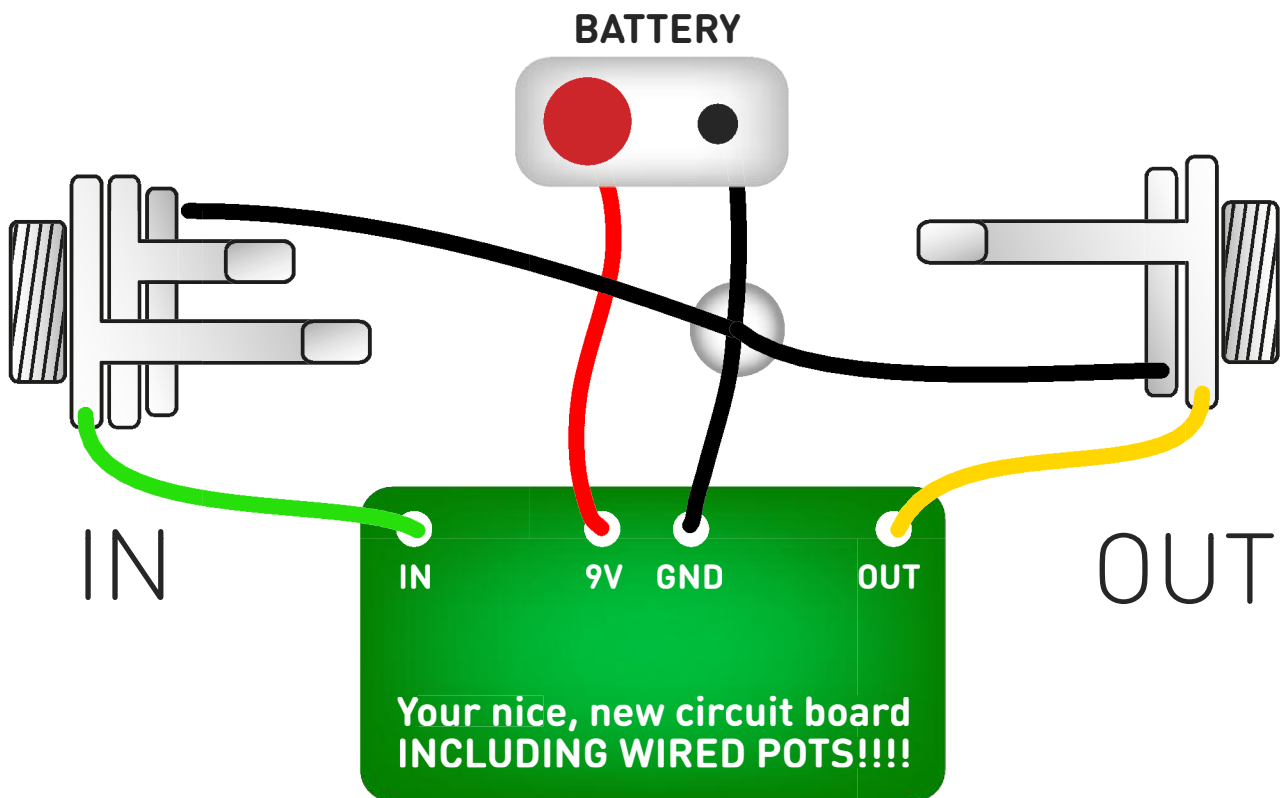
More Gain - increase R5

More Treble - decrease C7

More Bass - increase C1

Clipping - go nuts! Try having two diodes on one side, one on the other (+ jumper) for asymmetrical. Try different diodes - germanium or LEDs.

Test the board!



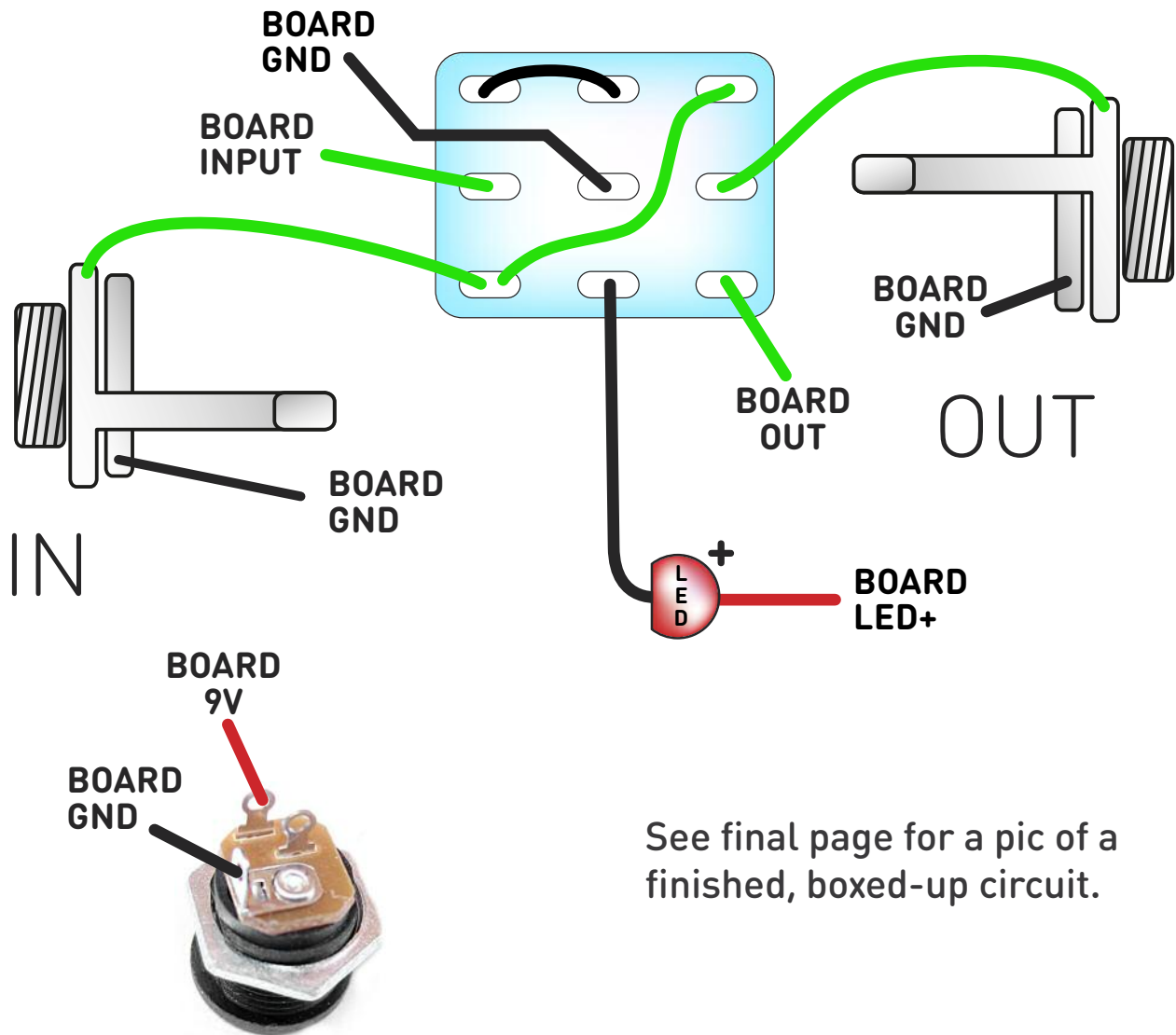
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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 (any of the GND pads will do for now), 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



See final page for a pic of a finished, boxed-up circuit.

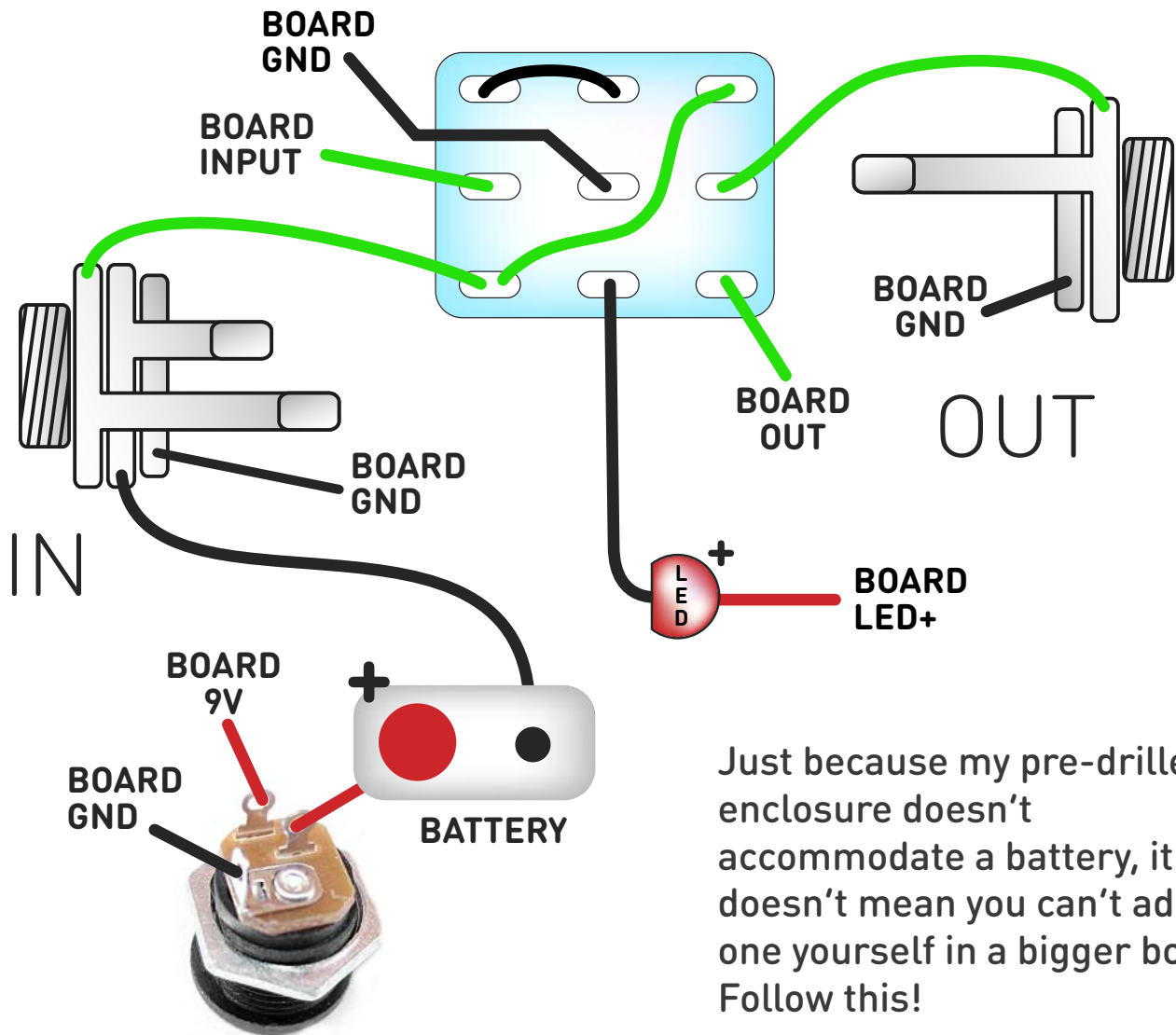
There are GND connections for both jacks at either end of the board.

All the GND pads are connected to each other in the traces on the PCB, and all of them are connected to both sides of the board.

For your convenience there is a GND pad for every required connection.

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.

Wire it up - with battery



There are GND connections for both jacks at either end of the board.

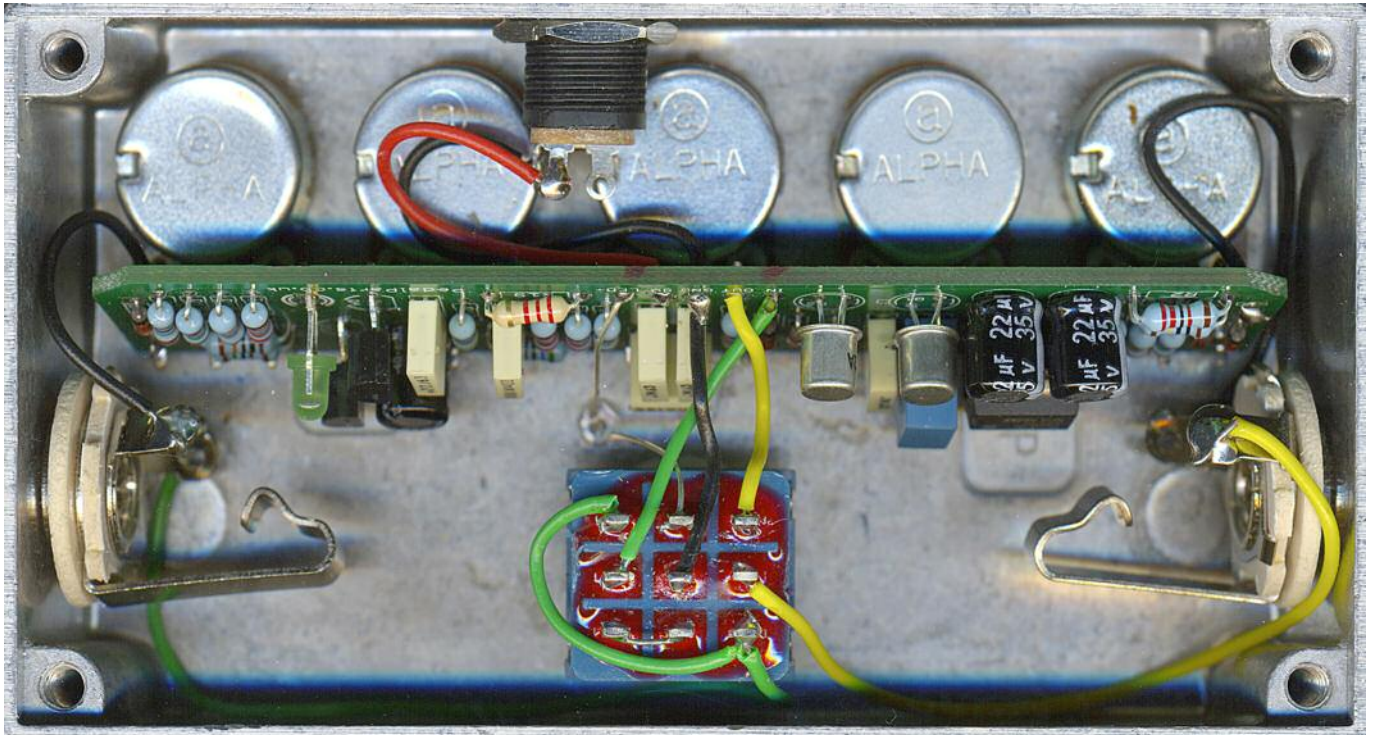
All the GND pads are connected to each other in the traces on the PCB, and all of them are connected to both sides of the board.

For your convenience there is a GND pad for every required connection.

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.

Finished article....

This is actually a Mad Mule, but the Shred Meister is the same layout



Not going to kid you - its a tight fit. I recommend having the board tipped back a bit on the pots, i.e. not at 90° to the box, as shown above. This gives a lot more clearance for the jack sockets. It also allows much more clearance when your jack plugs are inserted.

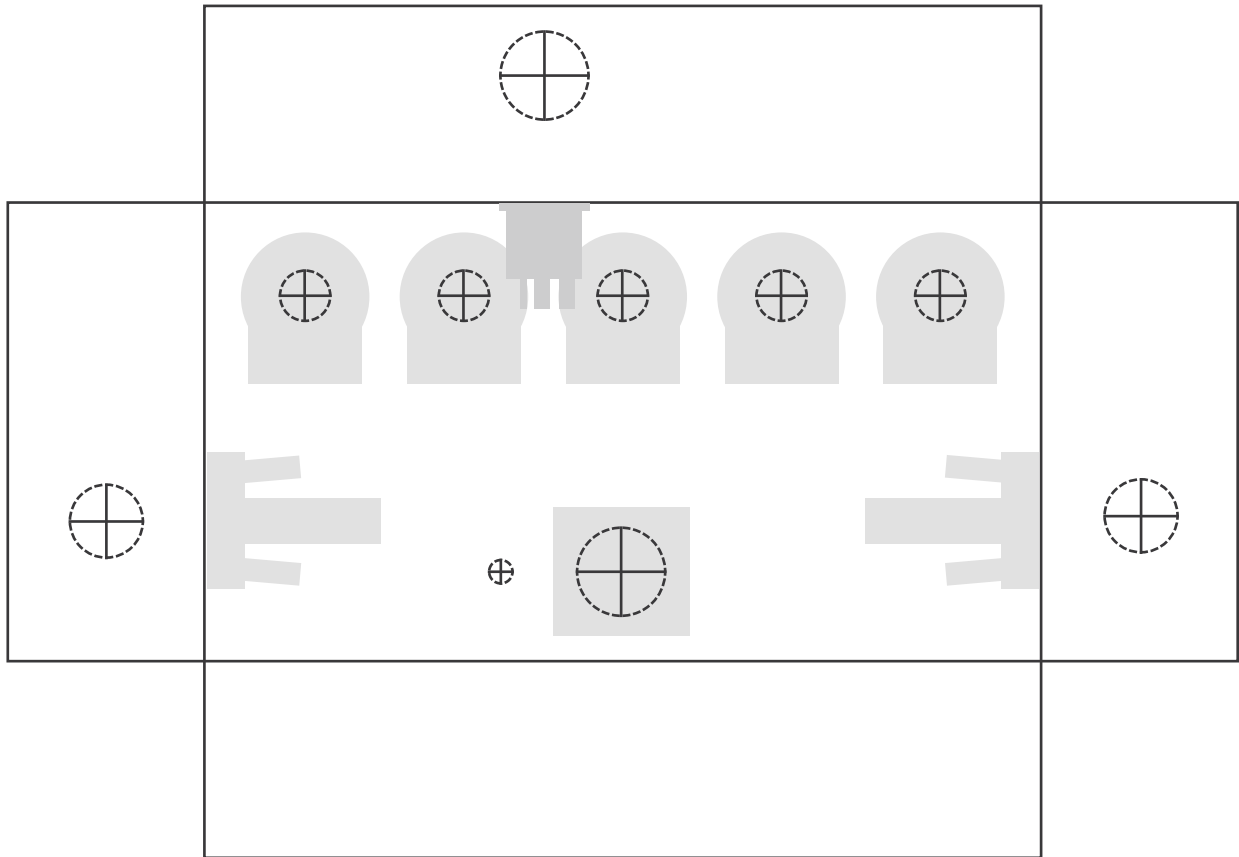
If the lugs of the jack sockets are a bit too close to the enclosure for your liking, just gently bend them in a little.

You can either solder the pots pre-angled, or solder them at 90° and gently push the board back when in-situ in the box. Easy does it... only go as far as you need to. Insert a jack plug and judge it from there.

In the pic above I have the LED attached directly to the PCB, as I have the hole higher up than normal (I have my reasons!). You should use lengths of wire.

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Drill template



Please check positioning before drilling - those holes are your responsibility and these templates are just a guide.

The best way to mark holes for the pots is to lay the PCB on the box before you start soldering anything and mark at the centre pad of each.

The DC socket needs to be quite close to the edge of the box so it comfortably clears the pots.

Recommended drill sizes:

Footswitch, DC 12mm

Jack sockets 9.5-10mm

Pots 7mm