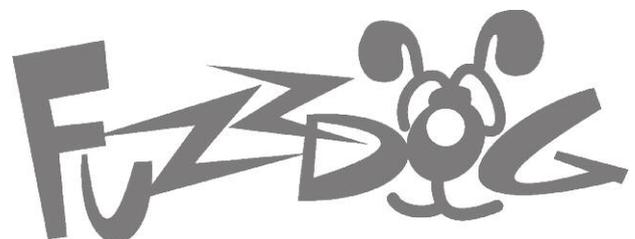
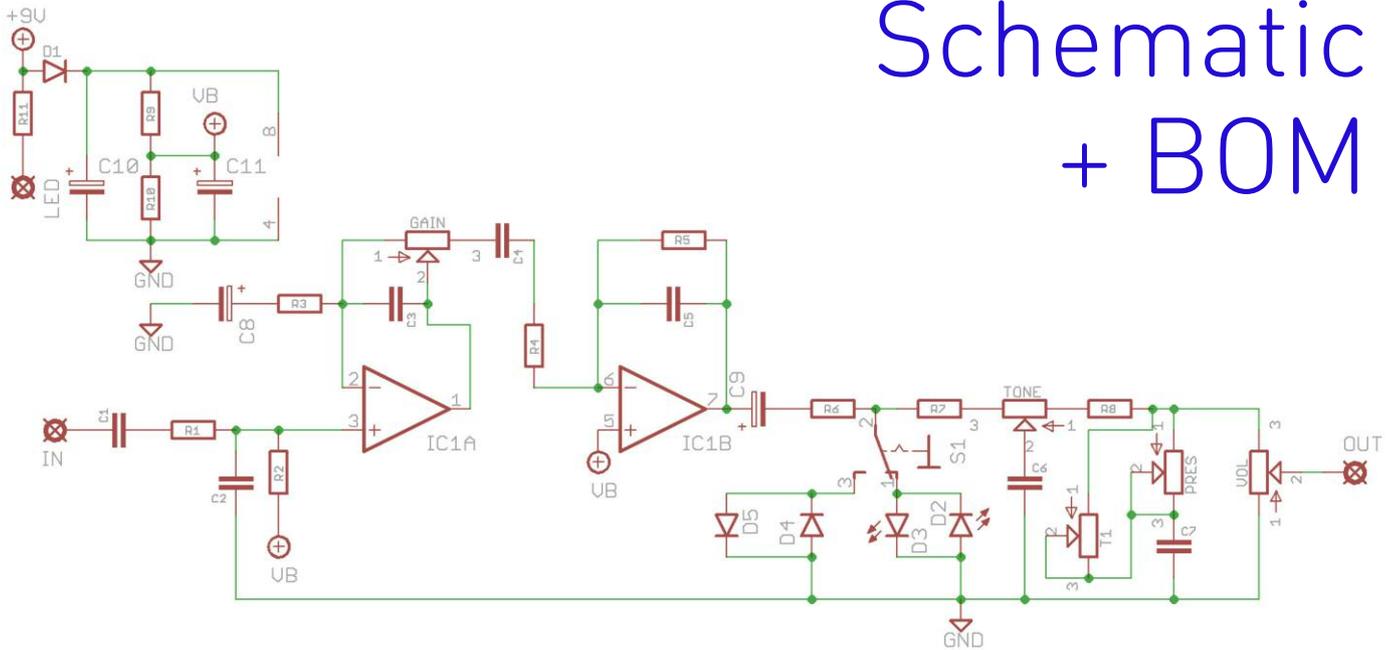


Box of Krunch

Modded Marshall-in-a-Box
Madness



Schematic + BOM



R1	1K	C1	22n	IC1	LM833
R2	1M	C2	1n	D1	1N4001
R3	1K	C3	100p	D2-3	5MM RED LED
R4	10K	C4	100n	D4-5	Your choice
R5	1M	C5	100p	TONE	10KB
R6	1K	C6	39n	GAIN	100KB
R7	100R	C7	22n	VOL	100KB
R8	10K	C8	.22u elec	PRES	20KB*
R9	22K	C9	2u2 elec	T1	20K*
R10	22K	C10	100u elec	S1	SPDT ON-ON**
R11	2K2 (CLR)	C11	100u elec		

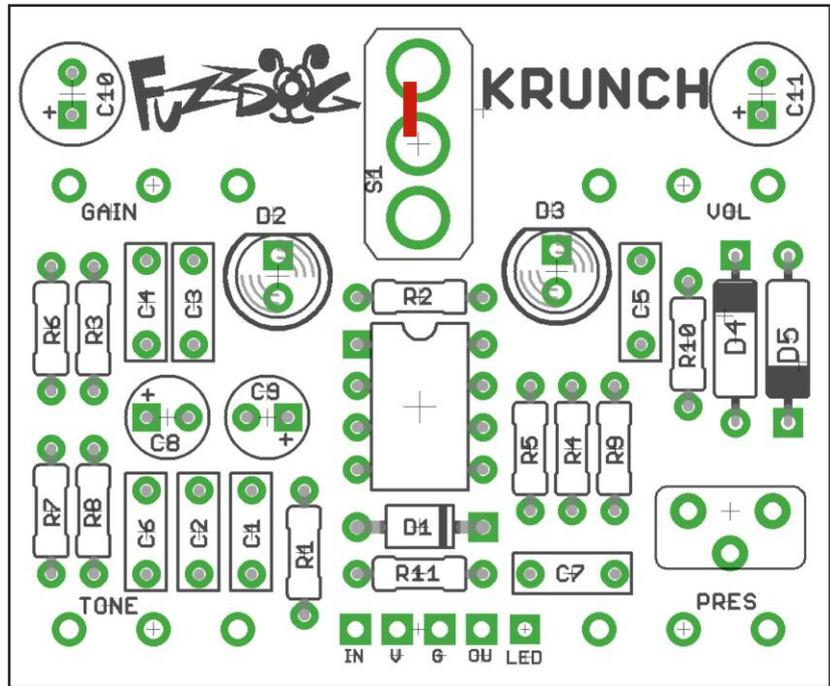
*Presence control is an internal trimmer on the original circuit, but it has a huge effect on the range available from this pedal that its worth adding it as an external pot. Use only a Presence pot or the trimmer, not both together.

**The toggle switch is optional and is used in conjunction with D4-5 to add an extra clipping option. Experiment with different combos for these diodes, or just leave them empty to go with the stock single clipping. If not using a switch you must jumper the top two switch pads - see overleaf.

The Tone pot has been incorporated as per Mark M's mod. If you want to go with the original connections just put a jumper between the protruding pins 1 & 2 of the pot once mounted on the PCB.

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 LEDs 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.



PCB Layout ©2015 Pedal Parts Ltd. All rights reserved.

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

If not using the clipping switch add a jumper across the pads as shown in red above.

Positive (anode) leg of the electrolytic capacitors go into the square pads. C10 and C11 should be placed flat to the PCB as shown in the cover image to ensure plenty of clearance when boxing up the circuit.

Negative (cathode) legs of the diodes and LEDs go to the square pads. That's the short leg of LEDs.

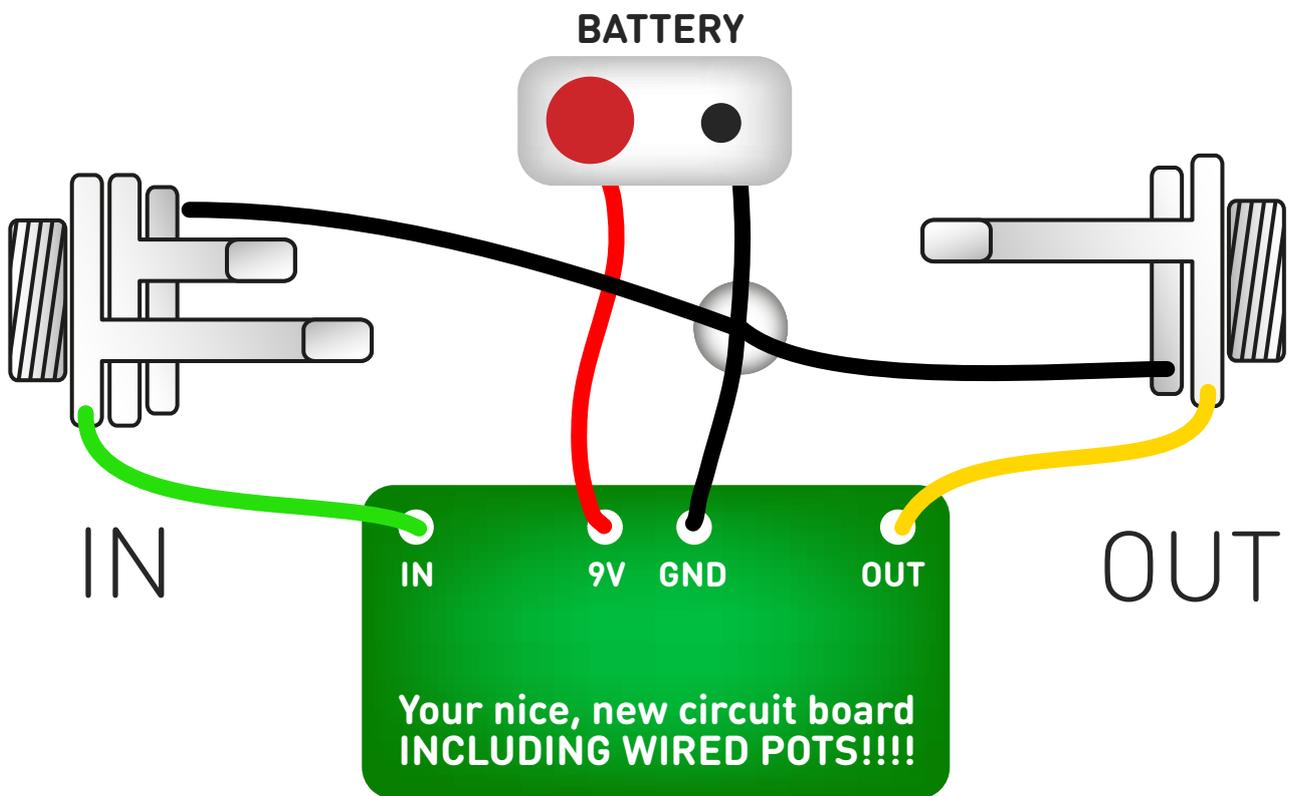
Pots mount on the back side of the board. You can use vertical-mount pots or just wire up 'normal' ones. It's a good idea to place the pots in their holes in the enclosure when you're soldering them in place on the PCB. That way you know they're going to line up ok. Best way to do it is to solder a single 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.



Test the board!



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

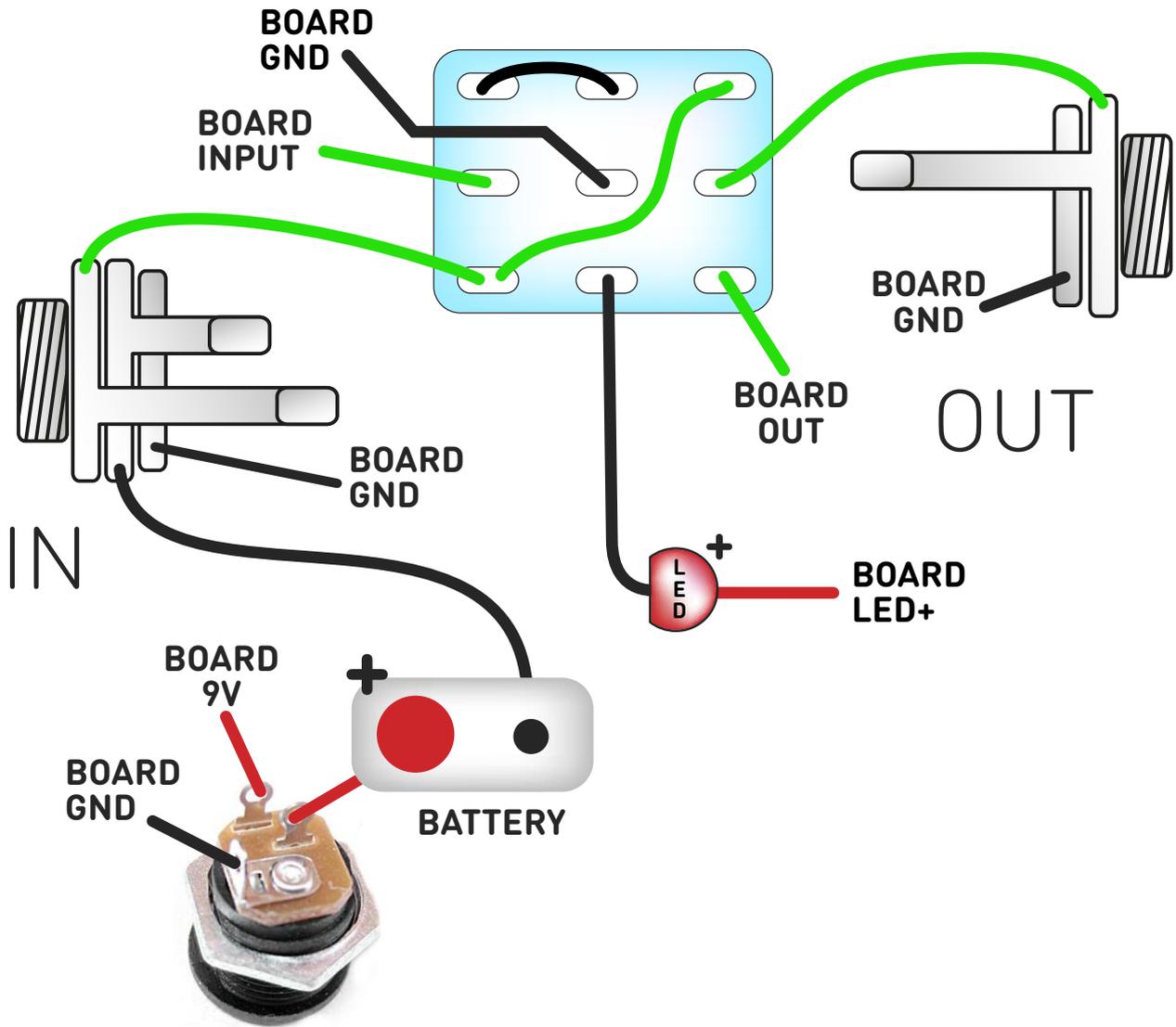
Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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 - 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.

Layout options



Stock 3-knob (internal presence control).

To do this layout you need to wire the Tone pot offboard.



3-knob (internal presence control) plus clipping switch.



4-knob with external Presence pot but no clipping switch.



Stock 3-knob (internal presence control).

Offset board-mounted Tone pot.



The works - external Presence and clipping switch.

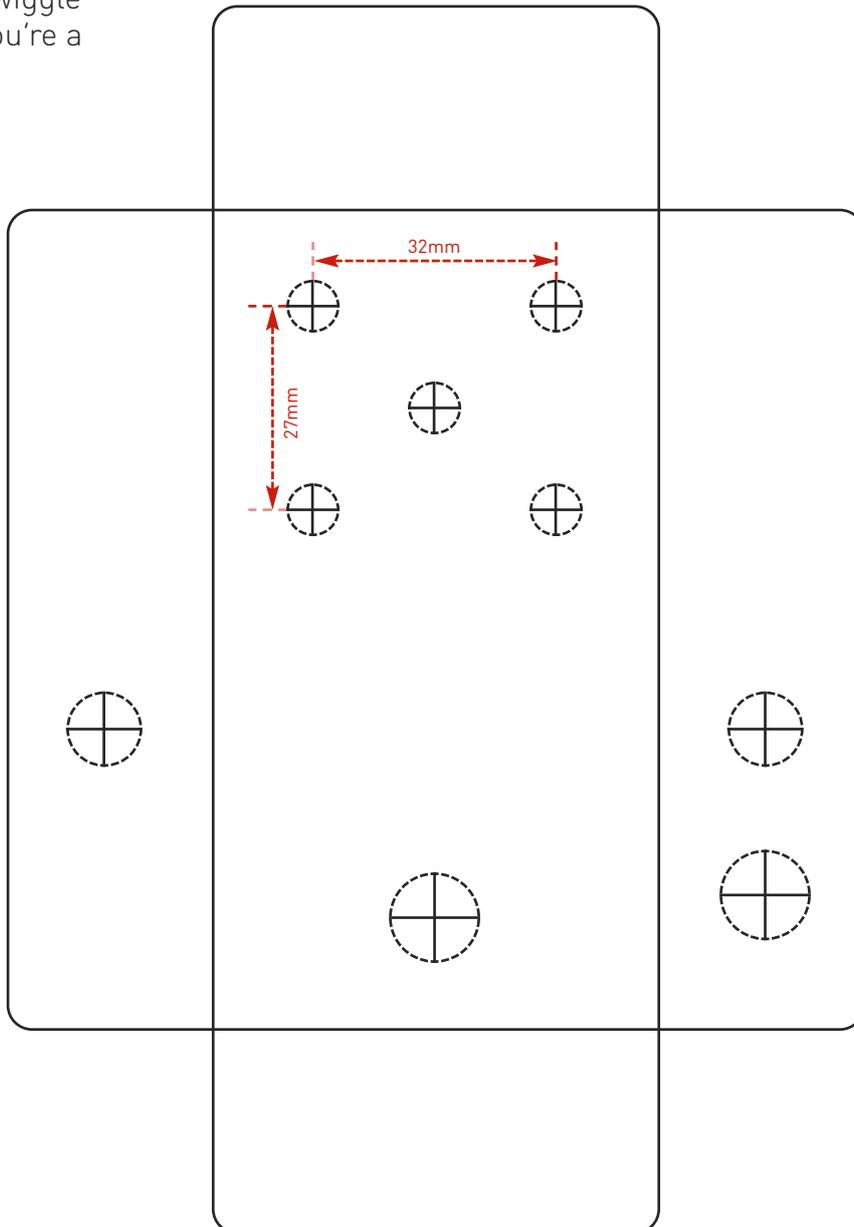
Drilling template

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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