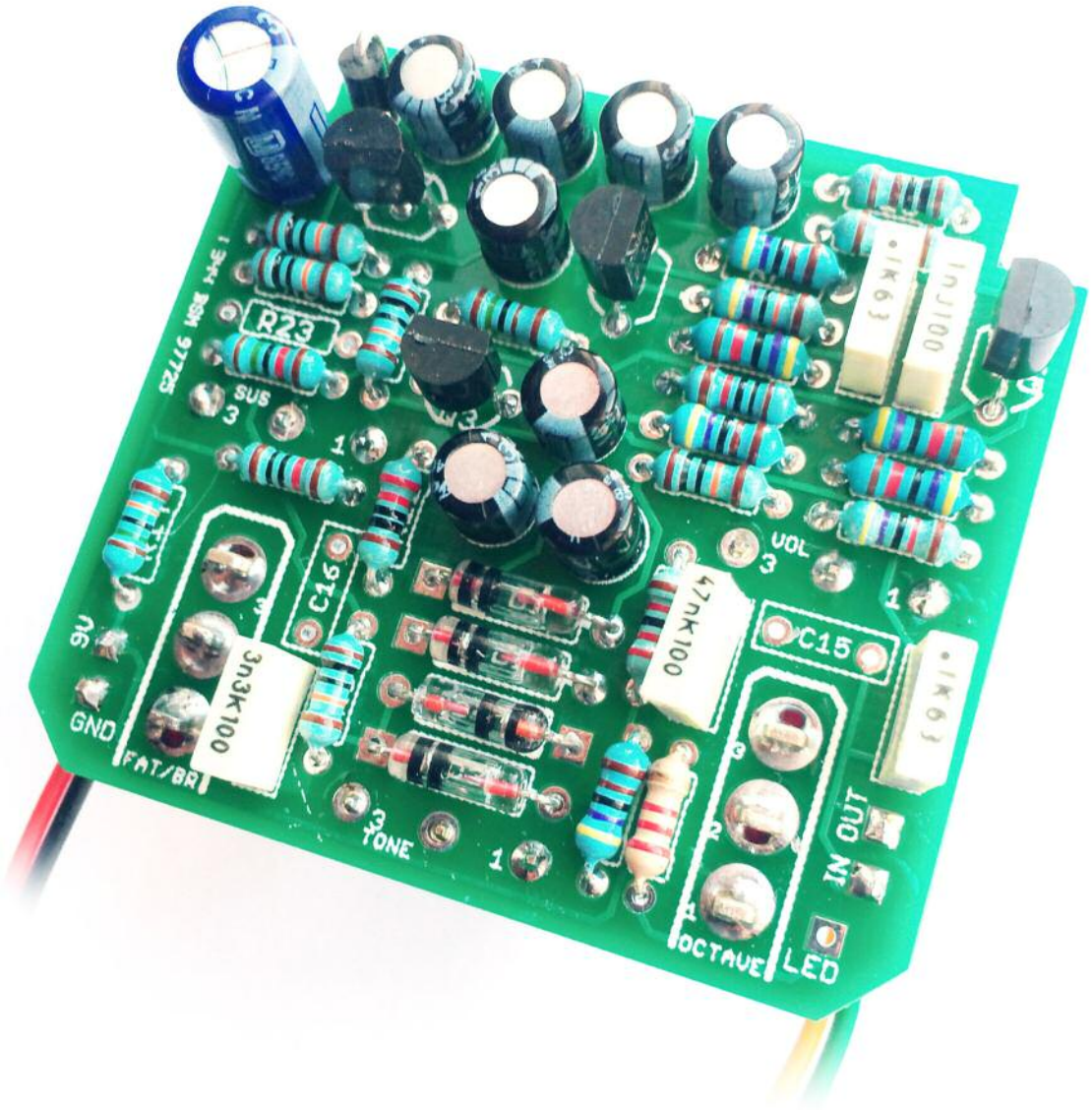

FoxxTave

Clone of the Foxx Tone Machine
with 'Ultimate' options

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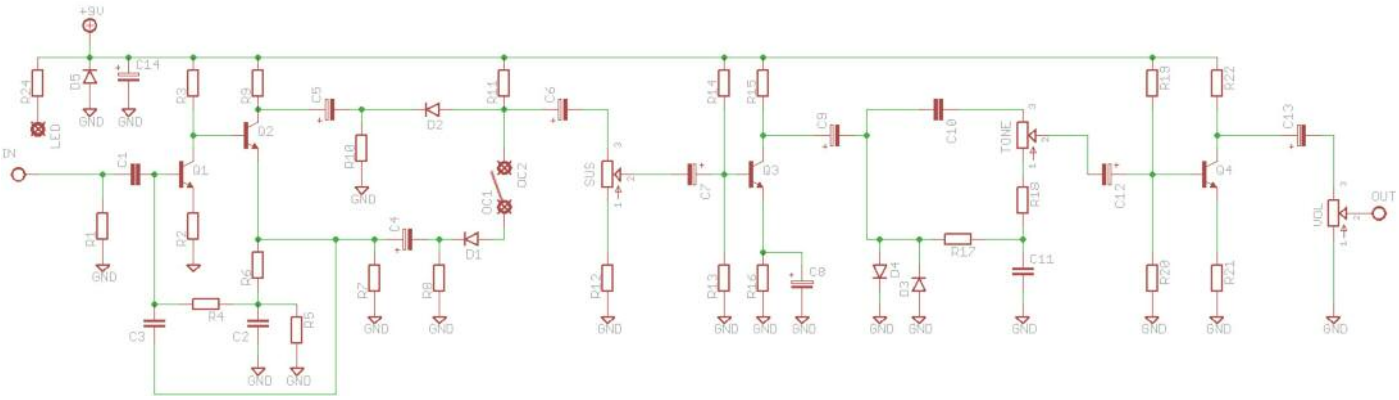
Schematic - original circuit



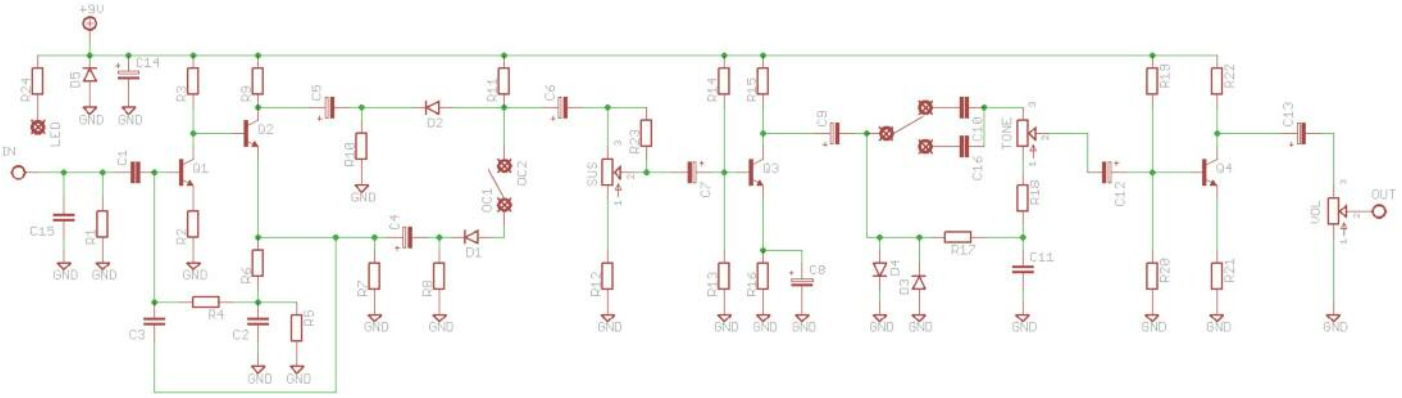
BOM

R1	1M				
R2	1K	R19	470K		
R3	47K	R20	47K	C1	100n
R4	47K	R21	1K5	C2	100n
R5	100k	R22	10K	C3	1n
R6	100K	R23	empty	C4	10u elec
R7	4K7	R24	2K2 (CLR)	C5	10u elec
R8	100K			C6	10u elec
R9	4K7	D1-4	1N34A	C7	10u elec
R10	100K	D5	1N4001	C8	10u elec
R11	100K			C9	10u elec
R12	220R	Q1-4	2N3904*	C10	3n3
R13	15K			C11	47n
R14	150K	SUS	50KB	C12	10u elec
R15	10K	TONE	50KB	C13	10u elec
R16	1K	VOL	50KB	C14	100u elec
R17	22K			C15	empty
R18	4K7	OCT	SPDT**	C16	empty

*Many different medium-gain NPN transistors can be used, i.e. 2N5088, 2N2222

**Can be wired as a footswitch instead of toggle switch

Schematic - 'Ultimate' circuit



A few component value changes, and a few extra bits and BOOM! Vintage pedal appropriated for boutique mojo vibes. C15 added at input, R23 on SUS pot, extra switch before tone for FAT/BRIGHT

BOM

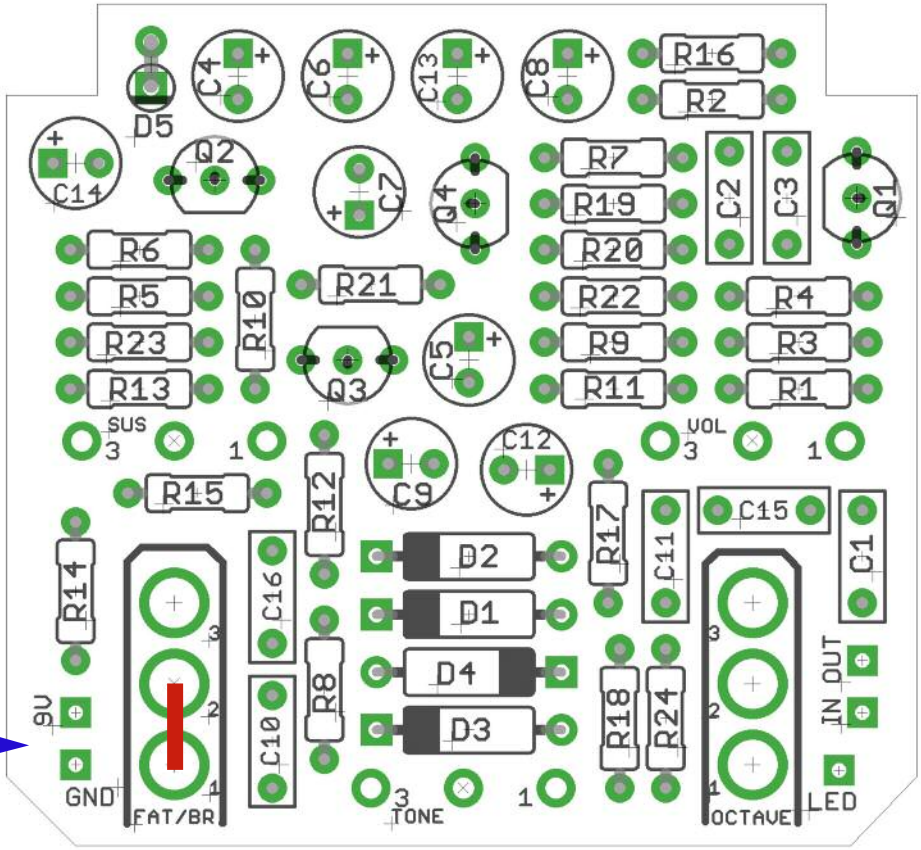
R1	1M
R2	1K
R3	47K
R4	47K
R5	100k
R6	100K
R7	4K7
R8	100K
R9	4K7
R10	100K
R11	100K
R12	220R
R13	15K
R14	150K
R15	10K
R16	1K
R17	22K
R18	4K7
R19	470K
R20	47K
R21	1K5
R22	10K
R23	100K
R24	2K2 (CLR)
D1-4	1N34A
D5	1N4001
Q1-4	2N3904*
SUS	100KB
TONE	100KB
VOL	100KB
OCT	SPDT**
FAT/B	SPDT

C1	47n
C2	47n
C3	1n
C4	10u elec
C5	10u elec
C6	10u elec
C7	10u elec
C8	10u elec
C9	10u elec
C10	15n
C11	100n
C12	10u elec
C13	10u elec
C14	100u elec
C15	10p
C16	1n

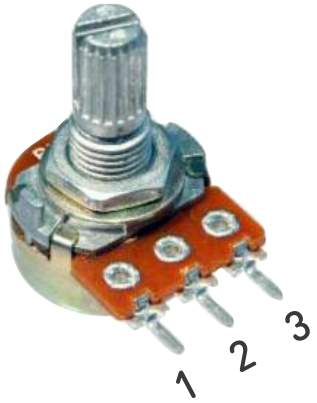
*Many different medium-gain NPN transistors can be used, i.e. 2N5088, 2N2222

**Can be wired as a footswitch instead of toggle switch

If you're making the Original version without the FAT/BRIGHT switch, connect pads 1 and 2 with a jumper wire.



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



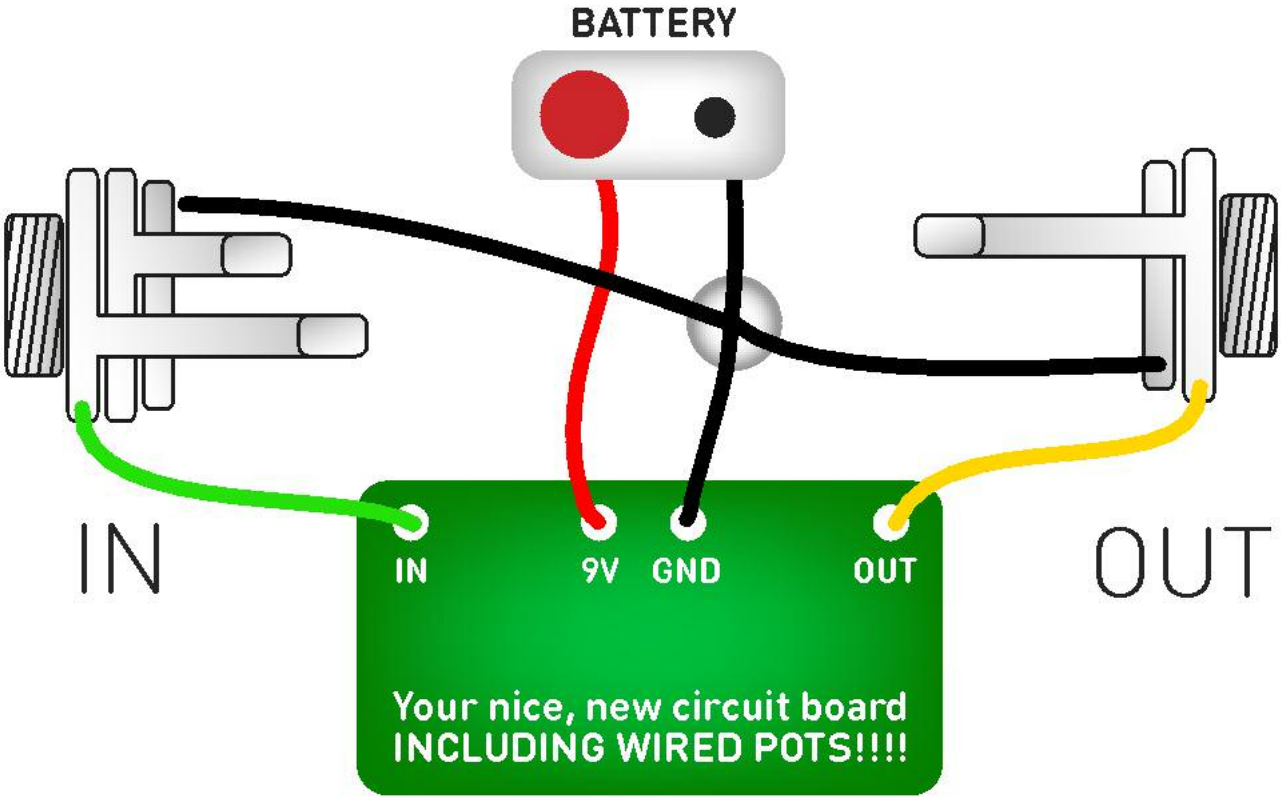
You should use some kind of heat sink on the legs of the diodes and transistors when soldering. They aren't keen on heat. Any more than 3-4 seconds of iron and they're toast.

Pot pads are placed so that header pins can be used to attach them to the board if desired. However, the TONE pot will have to be wired if making the Original version with a supplied enclosure, as the hole for it is offset to balance the layout.

If making a horizontal, twin footswitch version all pots will have to be wired. See further on for off-board footswitch wiring.

Pots and Toggle Switches mount to the underside of the PCB.

Test the board!

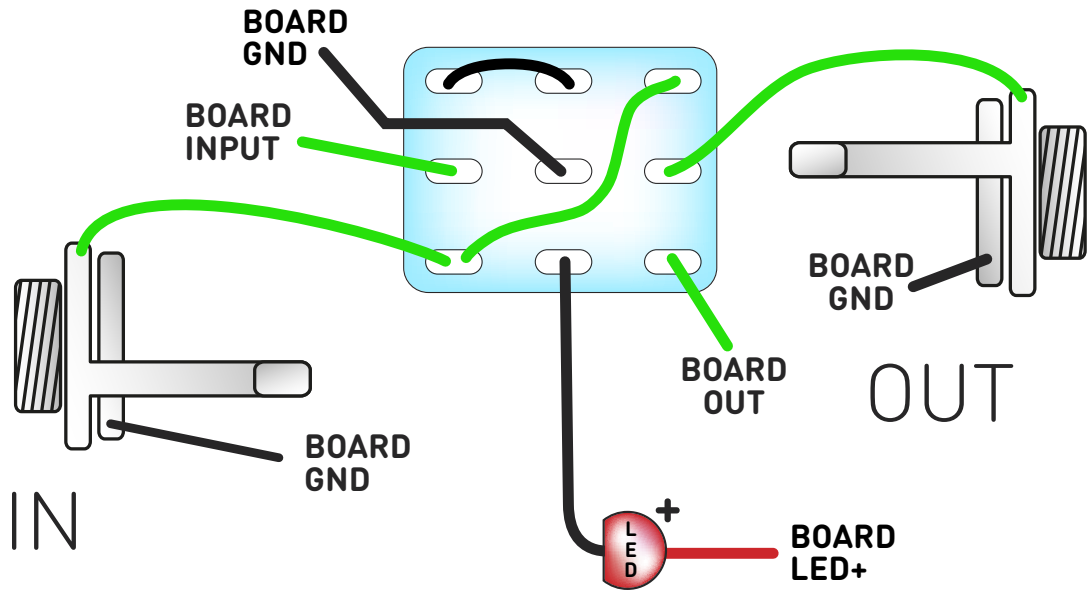


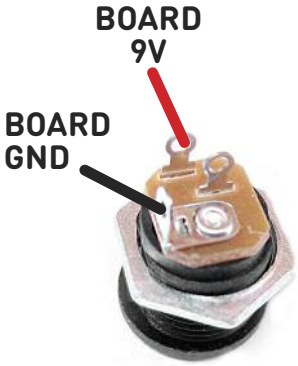
Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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!

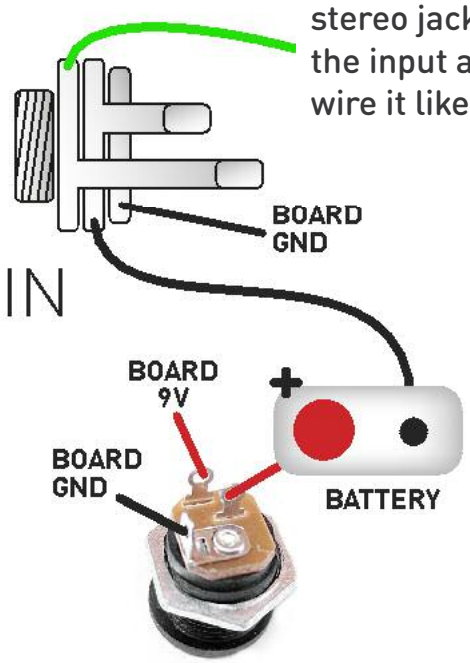
If it works, crack on and do your switch wiring. If not... aw man.
At least you know the problem is with the circuit. Find out why, get it working, THEN worry about the switch etc.

Wire it up - single footswitch





If you're adding a battery, use a stereo jack for the input and wire it like this



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.

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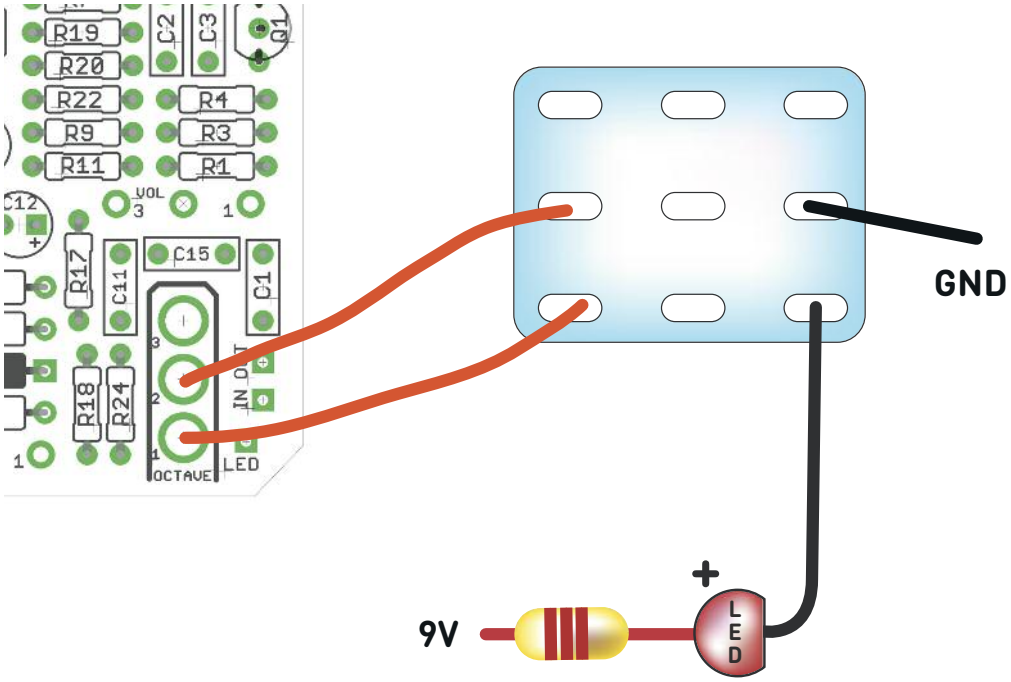
Wire it up - Octave footswitch

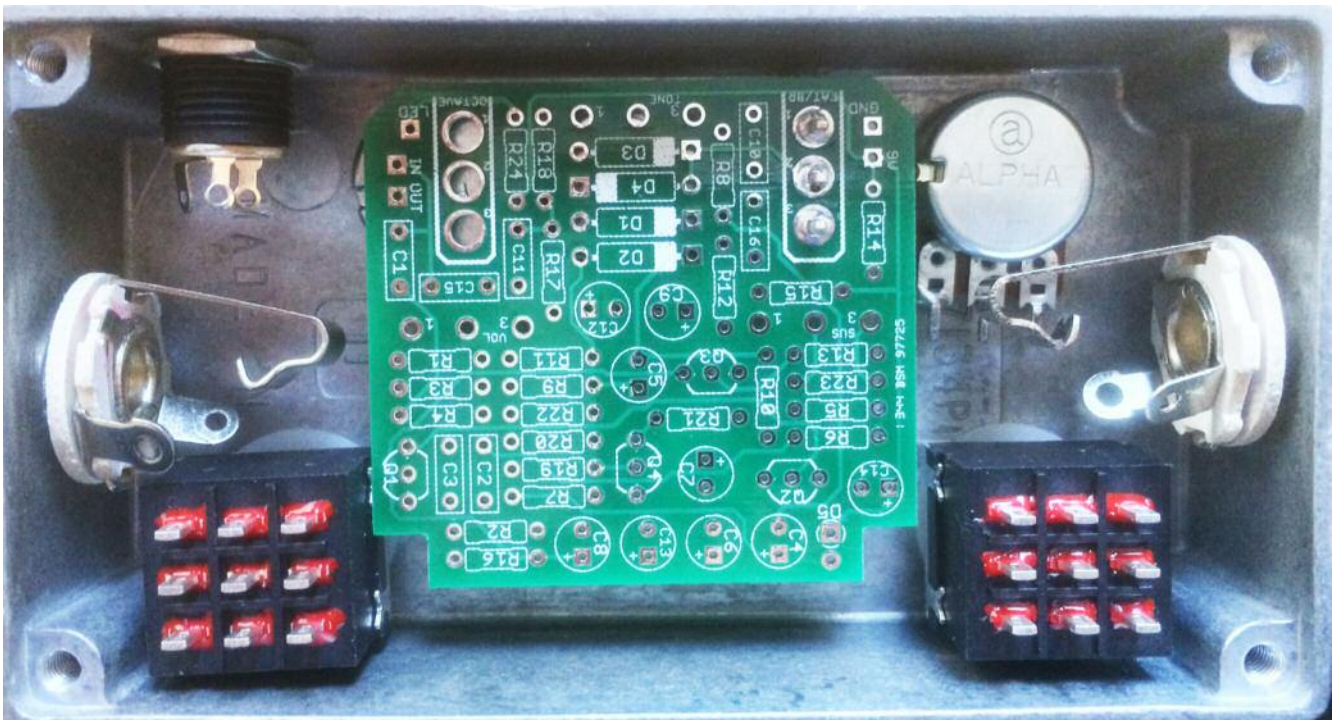


3PDT is supplied with kit - you can use a DPDT if you like - just ignore the middle column shown above.

The shown configuration will have the LED lit when the octave is engaged. To have it lit when the octave is off, just connect pad 1 of the octave switch on the PCB to the top lug of the footswitch rather than the bottom.

First footswitch is wired as on the previous page - it's up to you which way round you want the footswitches to be - Bypass on left or right, ditto for the Octave.

Box layout - two footswitch Ultimate version



If you've opted for the twin footswitch Ultimate version, you need to position the PCB as shown above, mounted on the Fat/Bright toggle switch. If you've gone for the standard version you can position the board whichever way up you like, since the Fat/Bright switch isn't used.

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