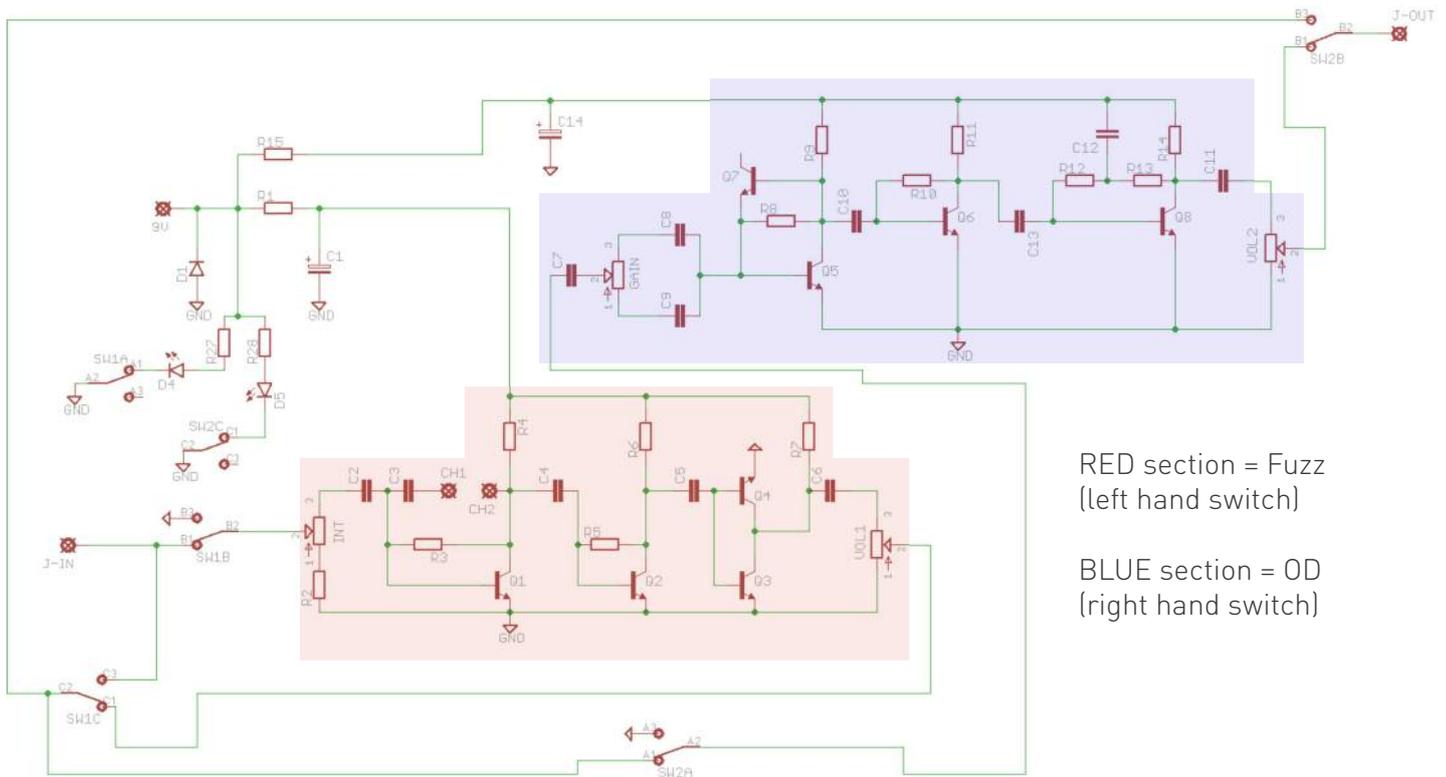


Hell Gazer

Two extreme circuits =
Total Sonic Annihilation

PedalParts.co.uk

Schematic



RED section = Fuzz
(left hand switch)

BLUE section = OD
(right hand switch)

C8 and C9 can be increased to allow more bottom end into the OD section if desired.

The MPSA18 can be swapped out for other NPN BJTs, but they will change the nature of the pedal. After much experimentation the stock cans sounded best to me.

BOM

R1	82R
R2	1K
R3	2M2
R4	10K
R5	3M3
R6	10K
R7	10K
R8	2M2
R9	10K
R10	2M2
R11	10K
R12	100K
R13	100K
R14	100K
R15	82R
R27	2K2 (CLR)
R28	2K2 (CLR)

DESTRUCTION control is optional, and can be replaced with a SPST toggle switch or left out altogether.

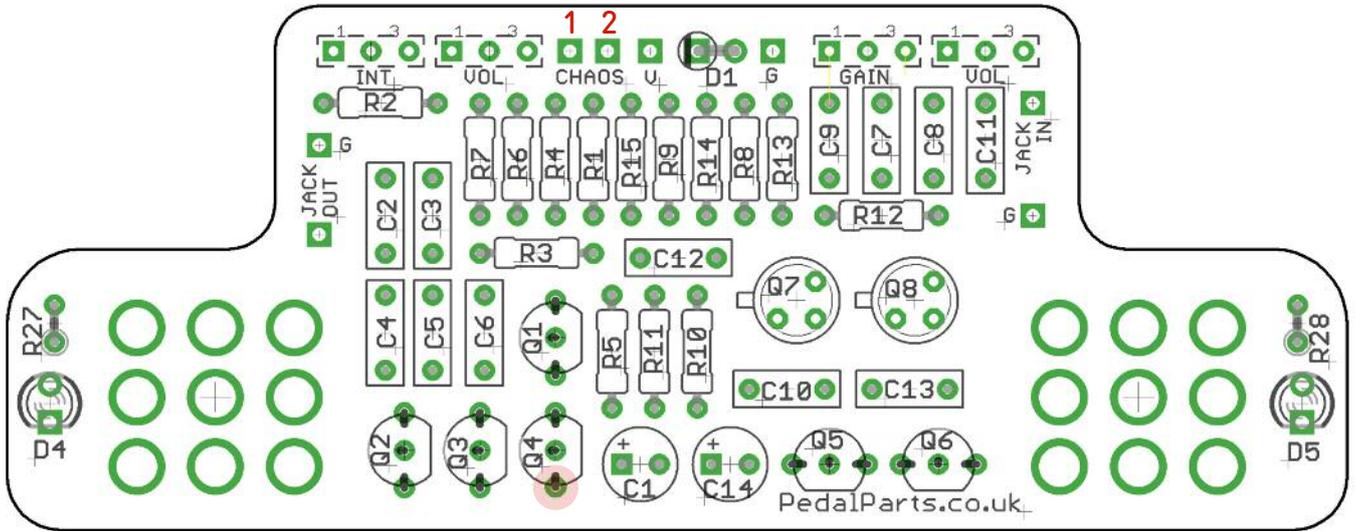
C1	47u elec
C2	100n
C3	100n
C4	100n
C5	100n
C6	100n
C7	100n
C8	22n
C9	1n
C10	100n
C11	100n
C12	1n
C13	100n
C14	47u elec

Q1-3	MPSA18
Q4	2N2907
Q5-6	MPSA18
Q7-8	2N2222

D1 1N4001

INTENSITY	100KB
VOL1	100KA
GAIN	500KB
VOL2	100KA
CHAOS	100KB*

SW1-2 3PDT FOOTSW.



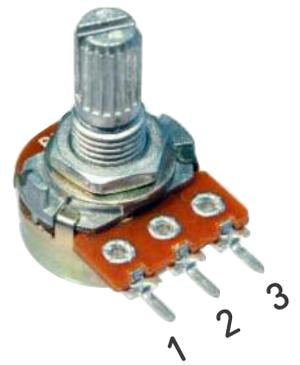
Snap the little metal tag off the pots to mount them flush in the box.

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

ALL the components mount on the top side of the board.

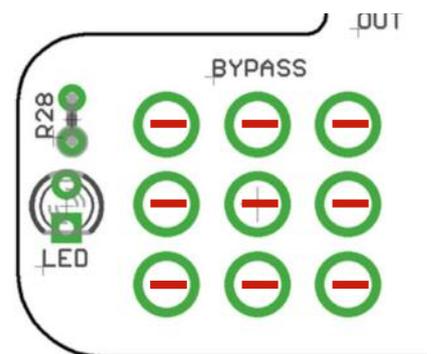
It's a good idea to run the pot wires from the back of the PCB (opposite side to the components) in order to ensure plenty of clearance for the jack sockets when assembling. Make sure you give yourself plenty of length on the wires so assembly isn't tight.

Q4 emitter is marked in red above. The orientation of Q4 can be reversed if you want a crazy pronounced octave-up effect, but the fuzz is so crazy it isn't advisable to throw anything else into the mix.



FOOTSWITCHES

Make sure you orientate them with the tags horizontally as shown. It's a good idea to put them in place in the enclosure and loosely tighten them, then place the PCB on top to get the position right before soldering.



CHAOS CONTROL

NONE - join pads 1 and 2 with a jumper wire.

SWITCH - doesn't matter which way round the pads are connected.

POT - Connect pins 1 and 2 to the corresponding pads. Leave pin 3 disconnected.

LEDs

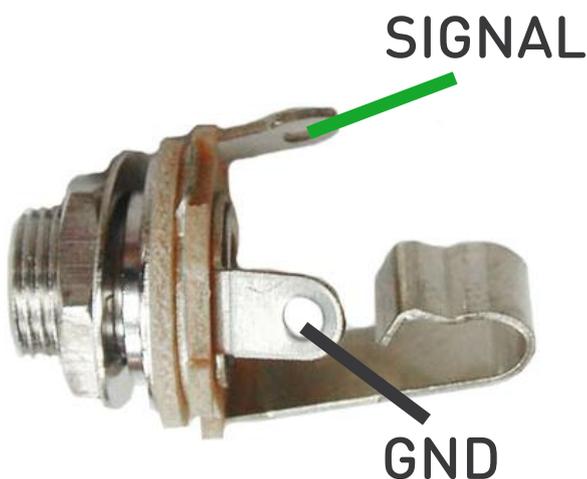
Leave these out until you're boxing it all up - see later.

WIRING FOR TESTING

Connect everything up but the LEDs. That includes the footswitches.

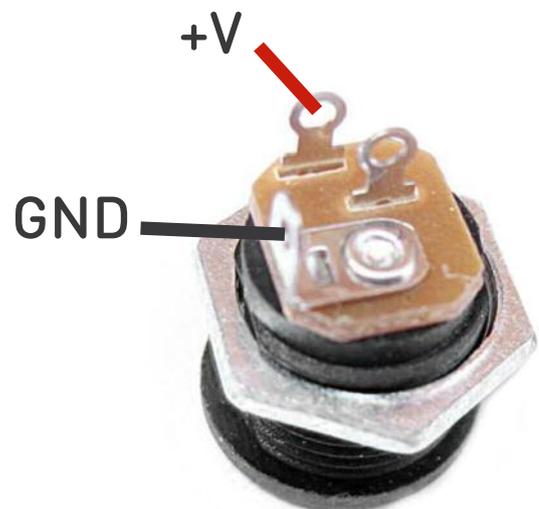
Ensure your power supply is 9V Tip Negative, or connect up a battery for now. If connecting a battery, solder long lengths of wire to the +V and GND pads on the PCB, then attach the battery to the other end of these. This saves desoldering stuff from the board, which is a pain.

JACK SOCKETS



SIGNAL is JACK IN and JACK OUT on the PCB. Each socket has its own GND connection conveniently placed.

DC SOCKET



Ignore the third tag - you only need that if wiring up for battery.

Plug in. Go!

If it works, crack on and get it in the box. If not, troubleshoot. Check you have everything in the right place and reflow any poor joints.

What about my LEDs?

Pre-drilled enclosures are supplied with 3mm holes for the LEDs, rather than larger ones that require a mounting bezel. Why? Because you can hold the LED securely in place with the PCB. When you come to box up your lovely new circuit, get the pots in place first. Then the jacks. Now, slide your LEDs all the way into the PCB (short leg to square pad) and bend the legs ever so slightly so they don't fall out. Alternatively put a little bluetac on there. Now locate your footswitches into place and tighten.

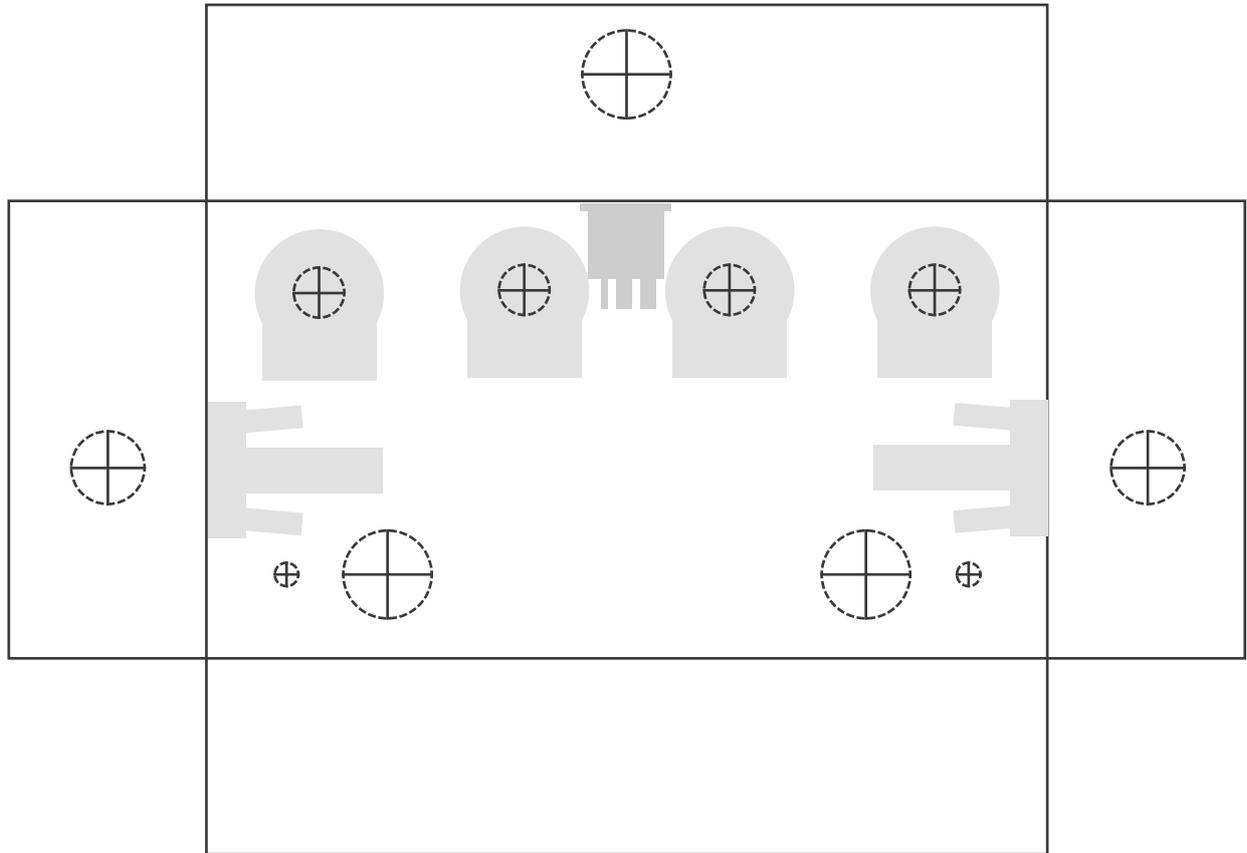
When everything is secure, let your LEDs slide down into the holes - use some needle-nosed pliers or skinny fingers to position them fully in the holes. I won't kid you, its a little fiddly but worth it for the neat finish you'll get.
No bezel = happy pedal.

Once in place, solder. Those little lights aren't going anywhere!

Jack Sockets - you may need to turn these one way or the other to make sure they clear the pot pins.

Drilling template - 1590B

No Chaos



Please check positioning before drilling - those holes are your responsibility and these templates are just a guide. Pots are spaced 27mm.

Recommended drill sizes:

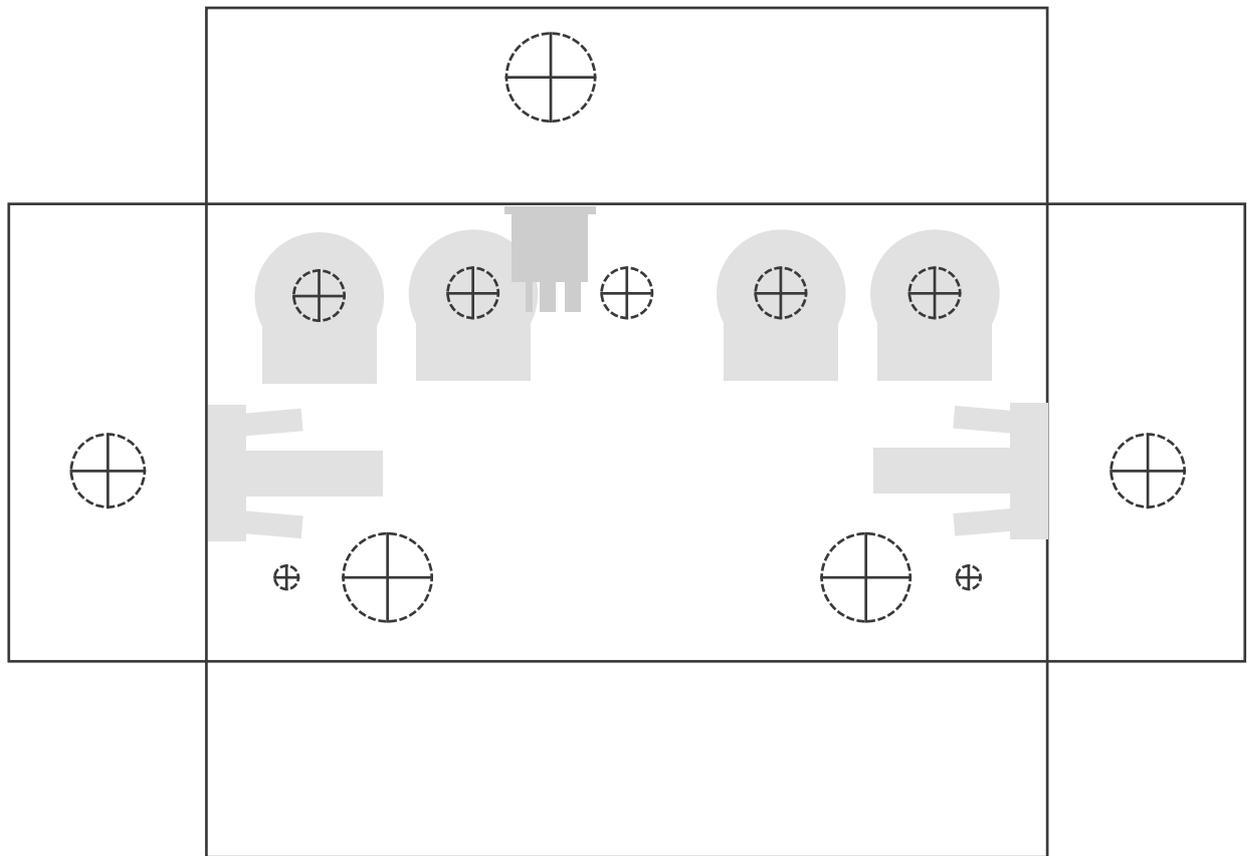
Footswitch, DC 12mm or 13mm with wiggle room

Jack sockets 9.5-10mm

Pots 7mm

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Drilling template - 1590B Chaos switch or pot



Please check positioning before drilling - those holes are your responsibility and these templates are just a guide. Pots are spaced 20.25mm.

Recommended drill sizes:

Footswitch, DC 12mm or 13mm with wiggle room

Jack sockets 9.5-10mm

Pots 7mm

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