

# Mini HellGazer

All the brutal chaos in a nice  
little-ish enclosure



# 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:

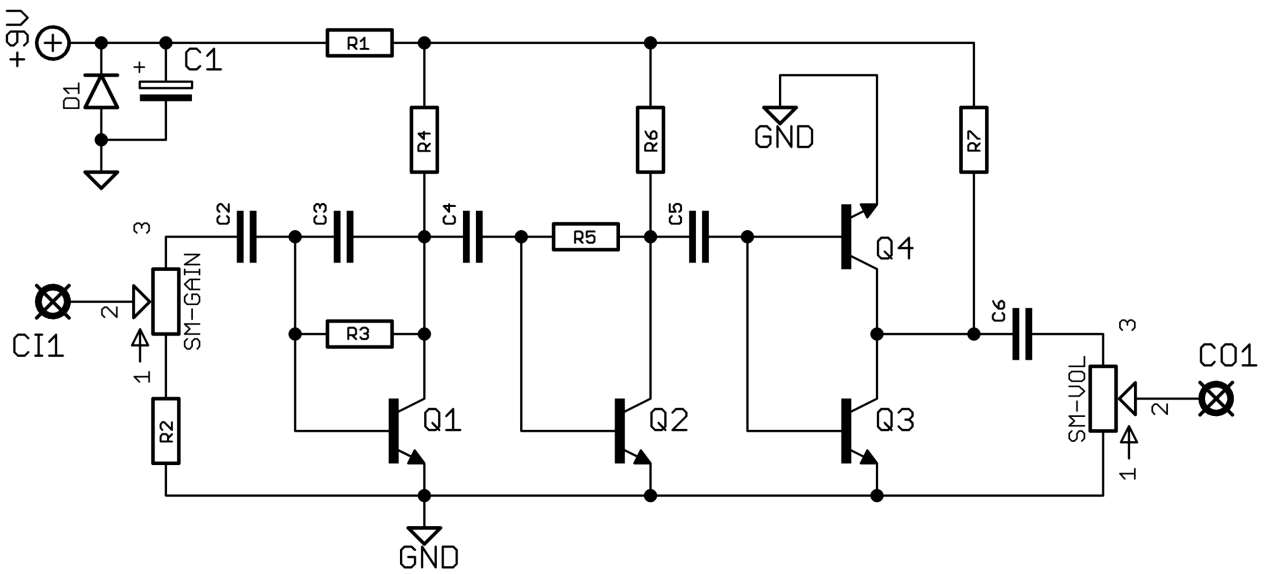
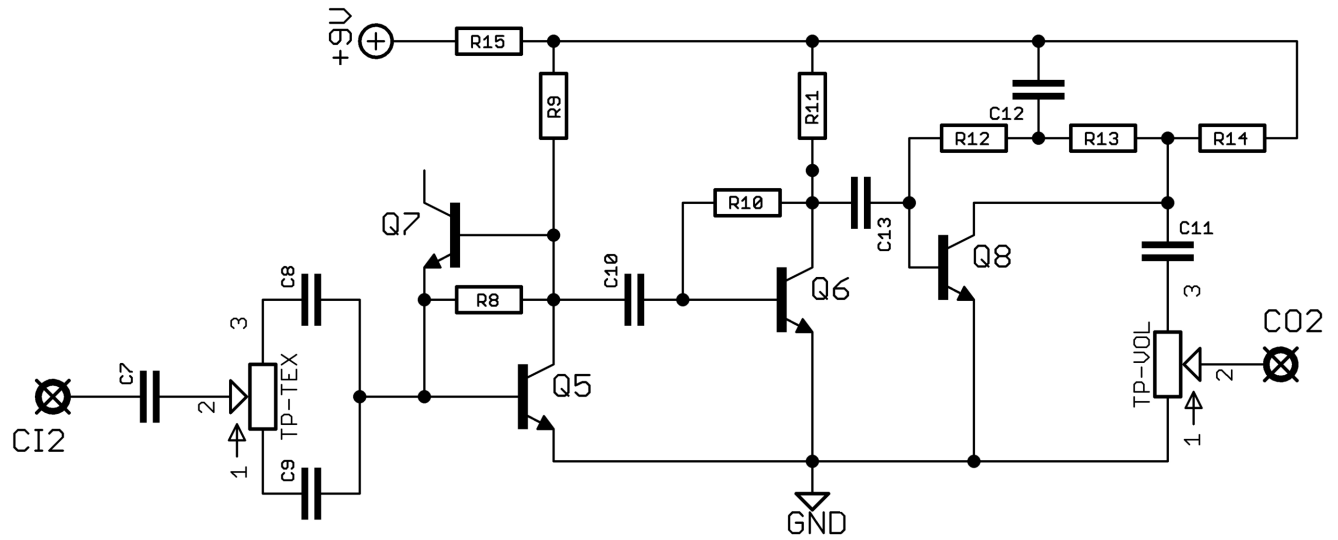
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

## LAYOUT CONVENTIONS

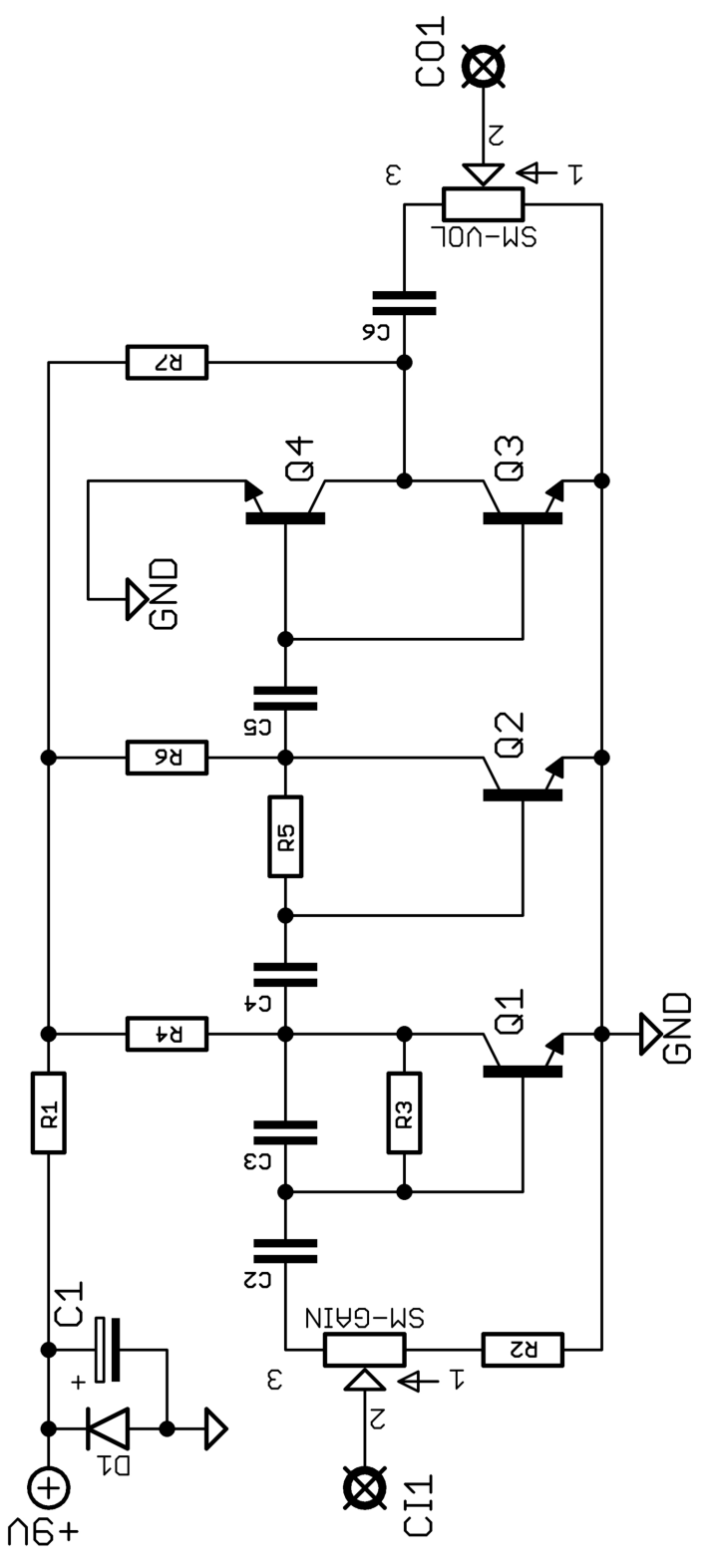
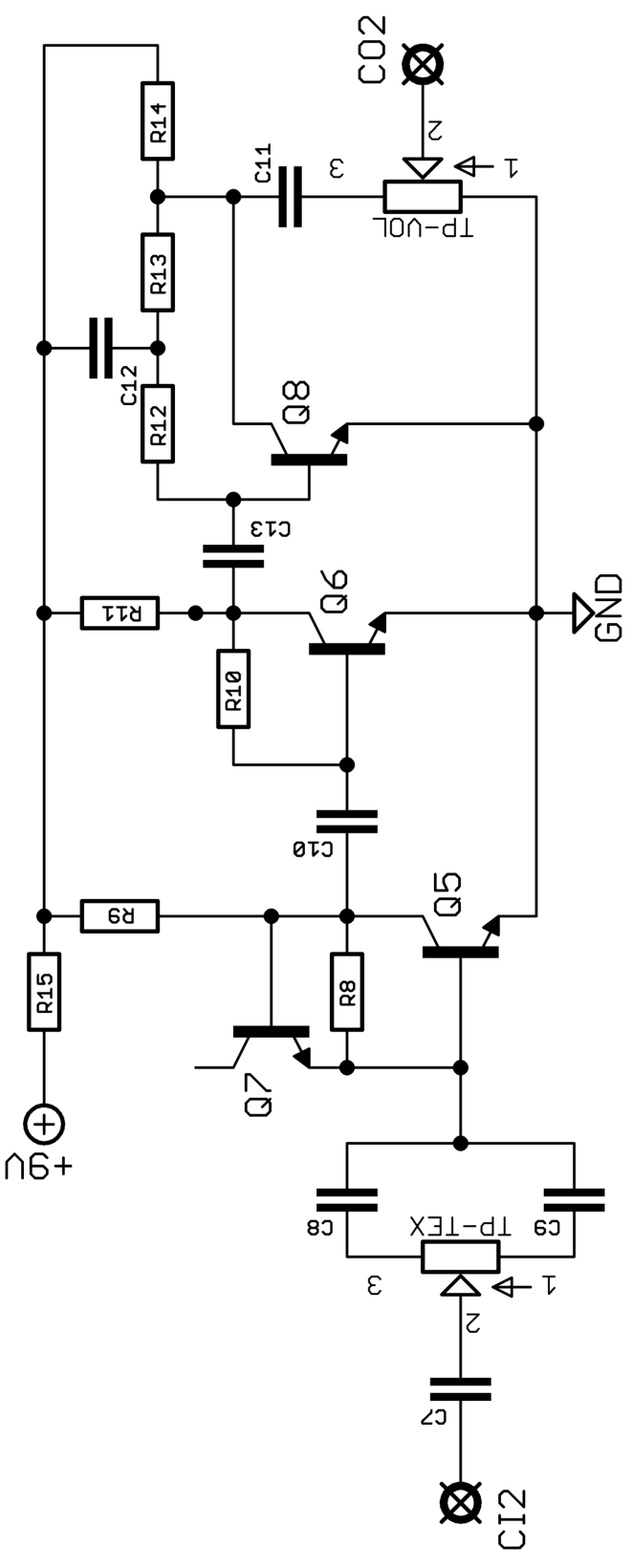
Unless otherwise stated in this document, the following are used:

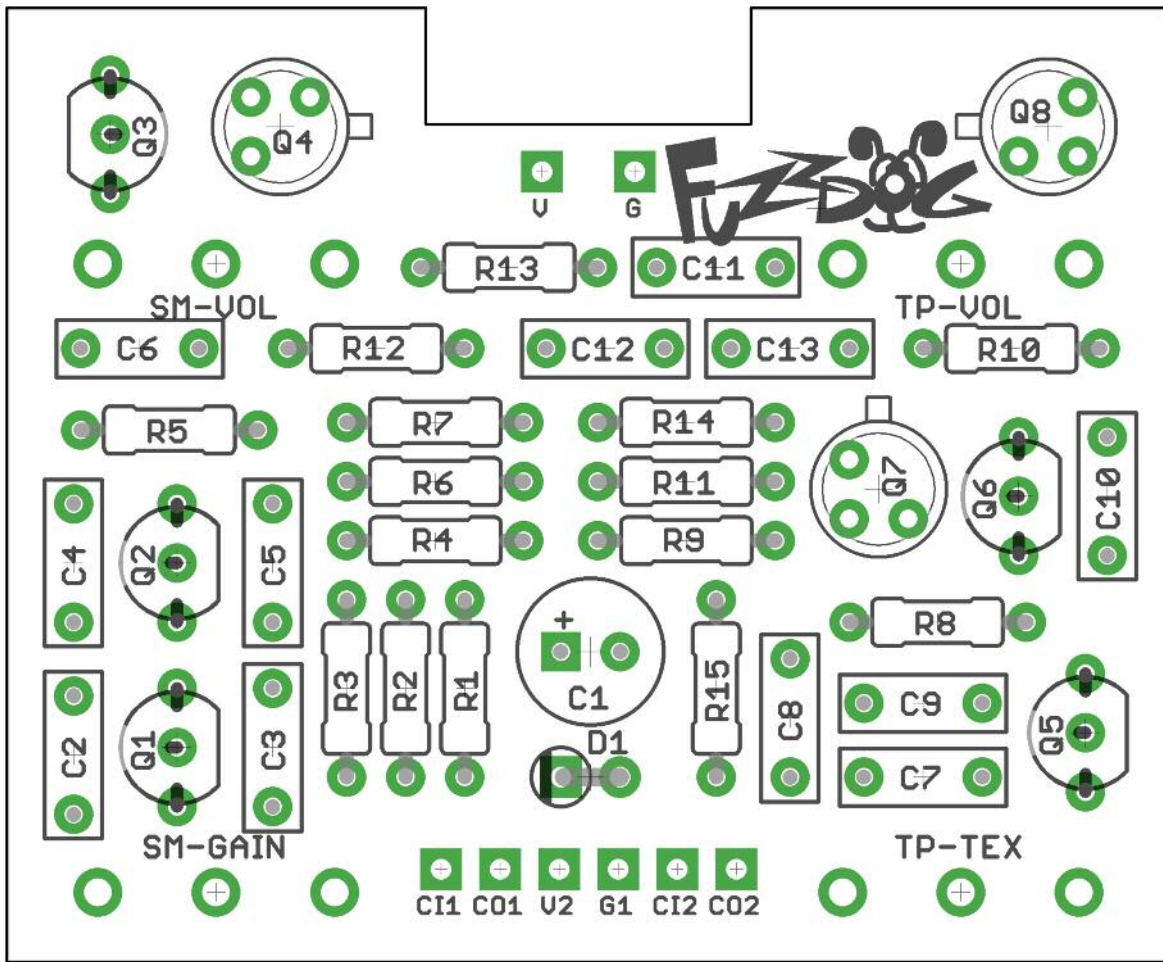
- **Electrolytic capacitors:**  
Long leg (anode) to square pad.
- **Diodes/LEDs:**  
Striped leg (cathode) to square pad. Short leg to square pad for LEDs.
- **ICs:**  
Square pad indicates pin 1.

# Schematic + BOM



R1	82R	C1	47u elec	D1	1N4001
R2	1K	C2	100n	Q1-3	MPSA18
R3	2M2	C3	100n	Q4	2N2907
R4	10K	C4	100n	Q5-6	MPSA18
R5	3M3	C5	100n	Q7-8	2N2222
R6	10K	C6	100n		
R7	10K	C7	100n		
R8	2M2	C8	22n		
R9	10K	C9	1n	SM-GAIN	100KA
R10	2M2	C10	100n	SM-VOL	100KA
R11	10K	C11	22n	TP-TX	500KA
R12	100K	C12	1n	TP-VOL	100KA
R13	100K	C13	100n		
R14	100K	C14	47u elec		
R15	82R				





PCB layout ©2022 Pedal Parts Ltd.

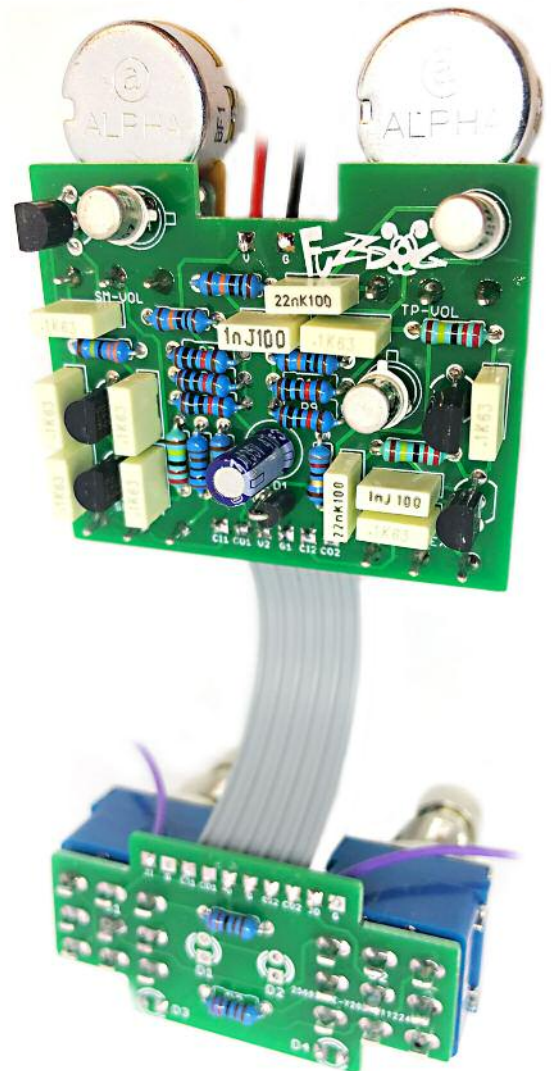
The power and signal pads match up to the dual daughterboard. You can use your own switch wiring method if you prefer. The pads are fairly self explanatory. I1 and O1 are the IN and OUT connections for the Soda circuit. I2 and O2 for the Cone Ripper.

Be very careful when soldering the diode, transistors and LEDs. 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).

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.

There's a second pair of LED spots on the bottom edge of the daughterboard. Ignore those. It was a nice idea but they're too close to the footswitches to be used.





# Connecting the boards and offboard components.

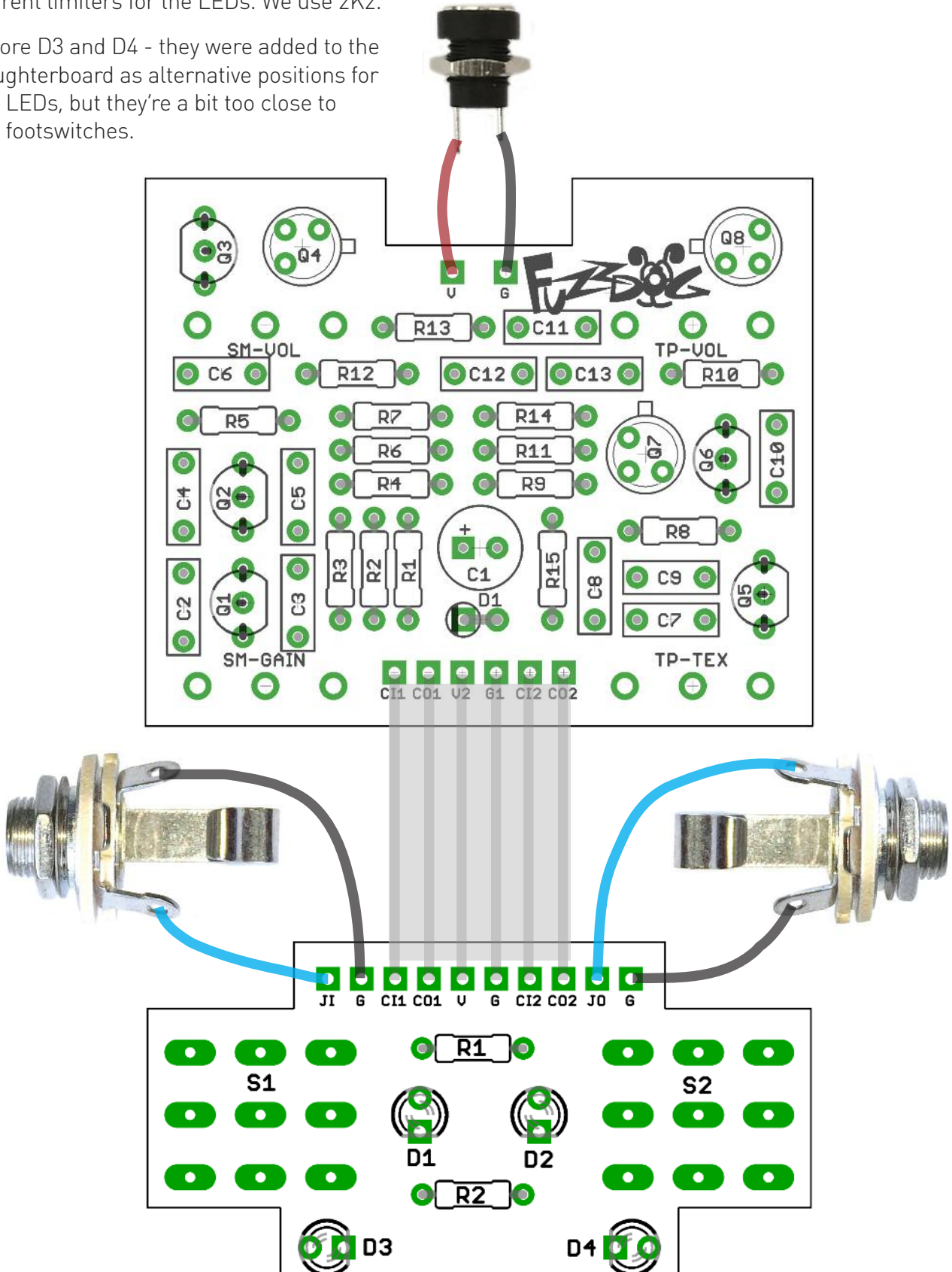
You can use a ribbon cable or just 6 lengths of wire to connect the main PCB to the daughterboard.

Use the other four pads on the connection strip of the daughterboard to connect your jacks.

The V and G pads at the top of the main PCB connect to your DC socket.

R1 and R2 on the daughterboard are the current limiters for the LEDs. We use 2K2.

Ignore D3 and D4 - they were added to the daughterboard as alternative positions for the LEDs, but they're a bit too close to the footswitches.



# Drilling template

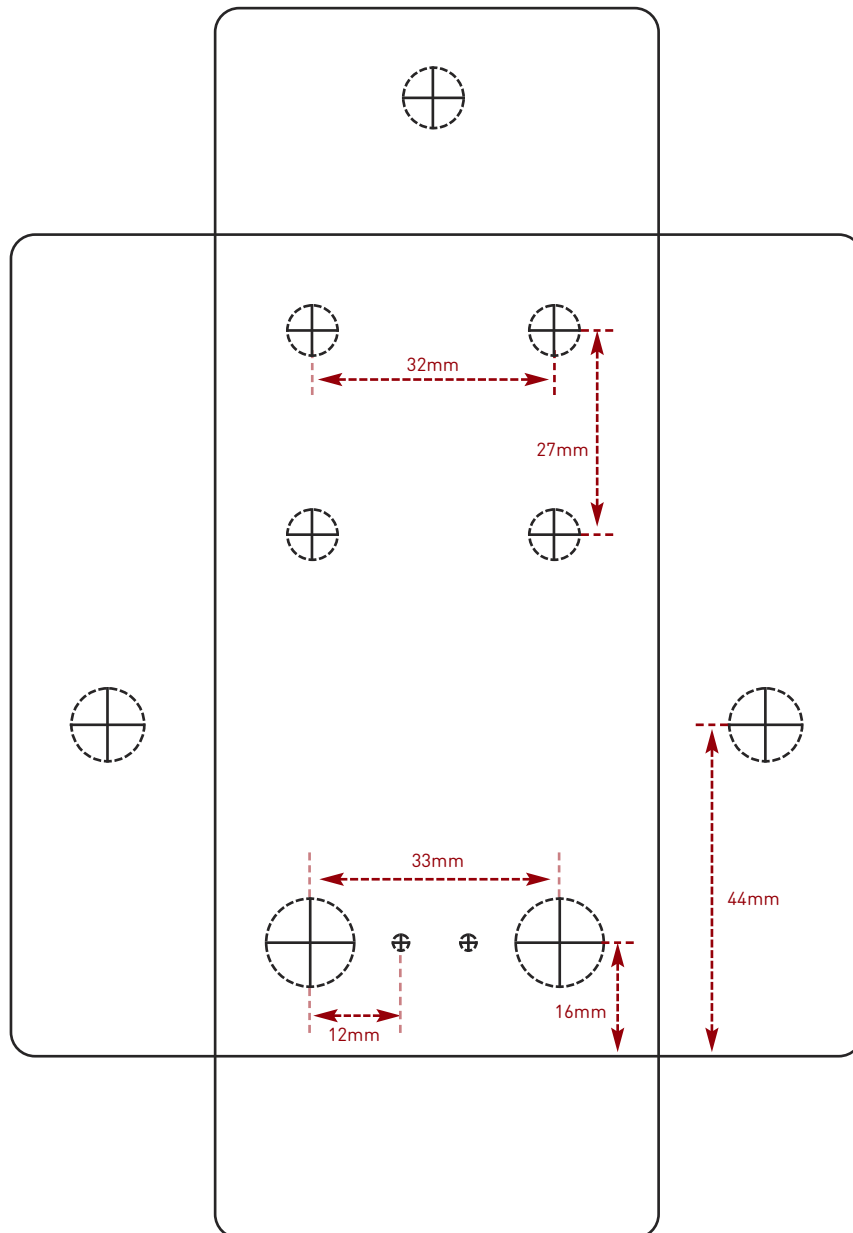
Hammond 1590BB

It's a good idea to drill the pot and footswitch holes 1mm bigger.

Wiggle room = good!

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	8mm
Toggle switches	6mm



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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