

Double-Down Boner Boost

Twin Boner action
in a vertical box format



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:

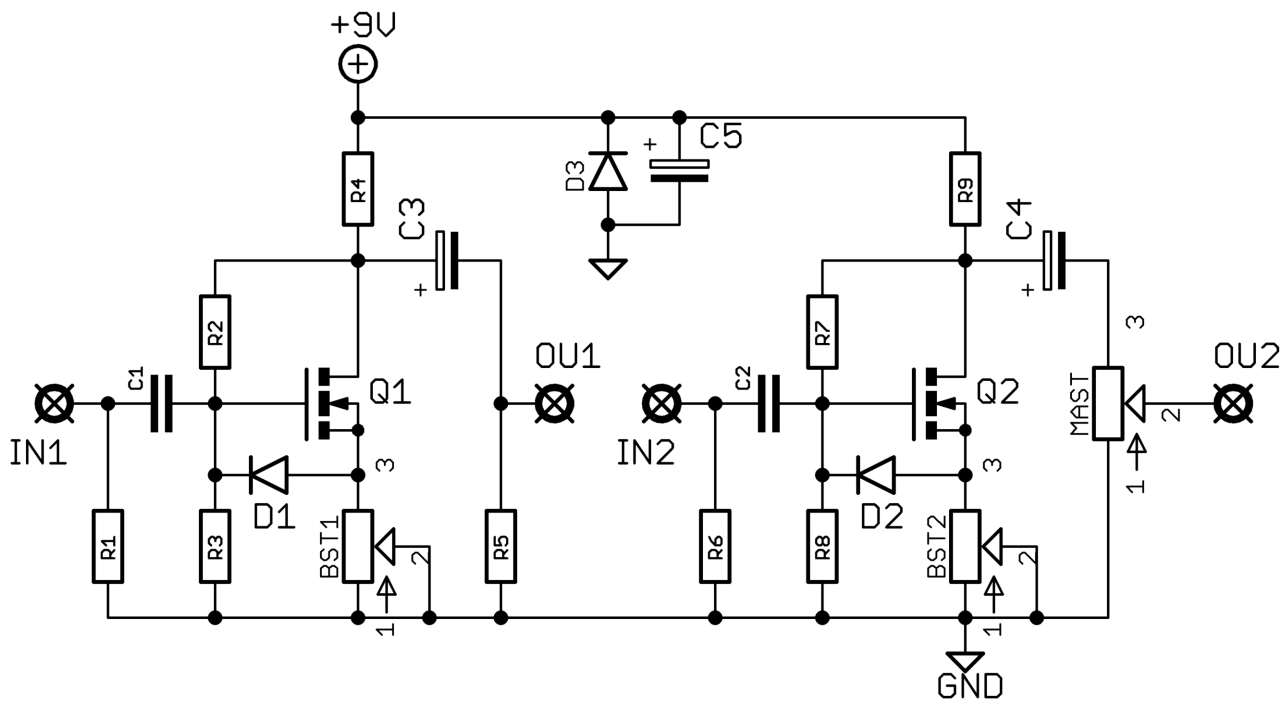
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

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

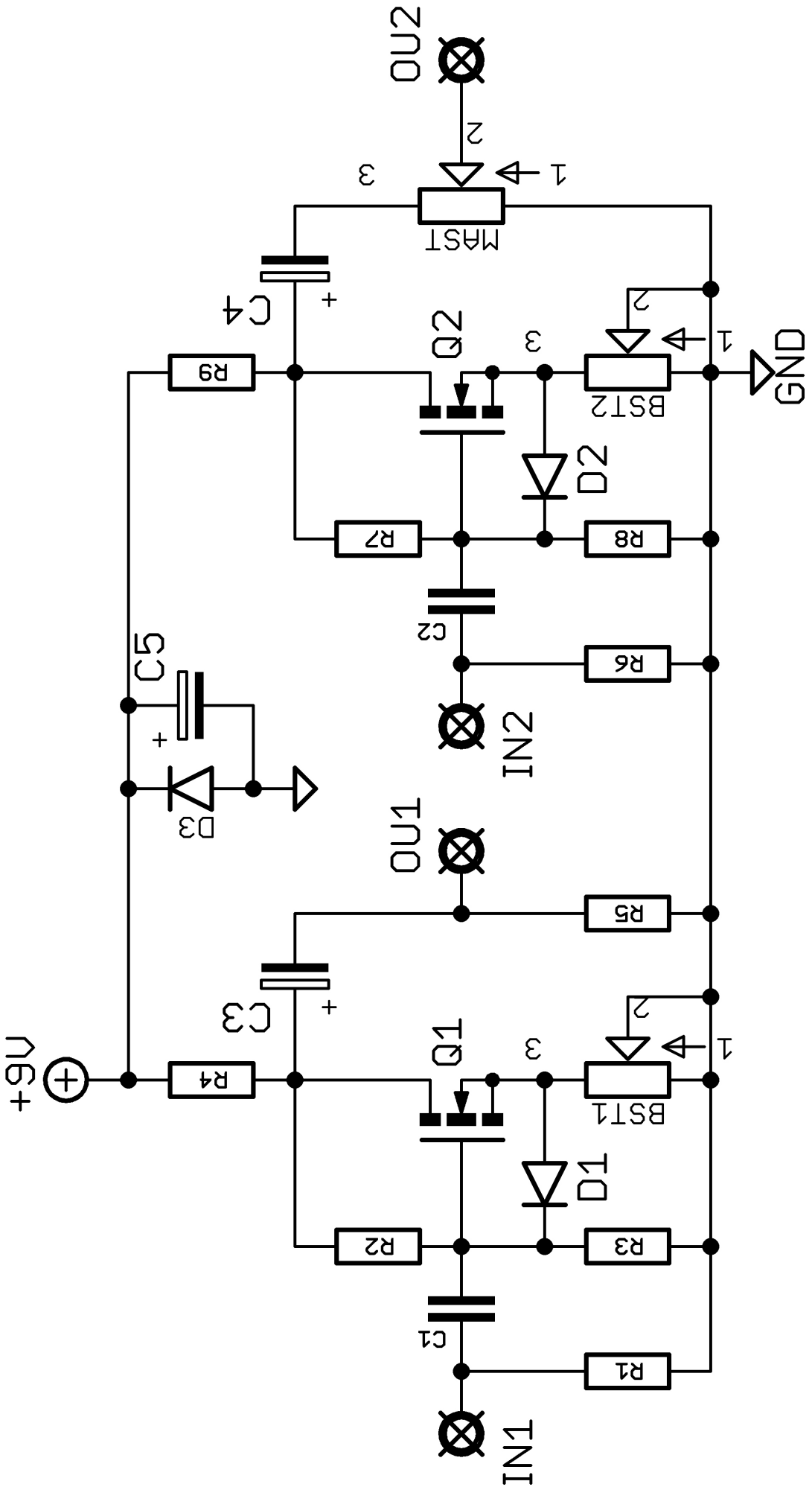


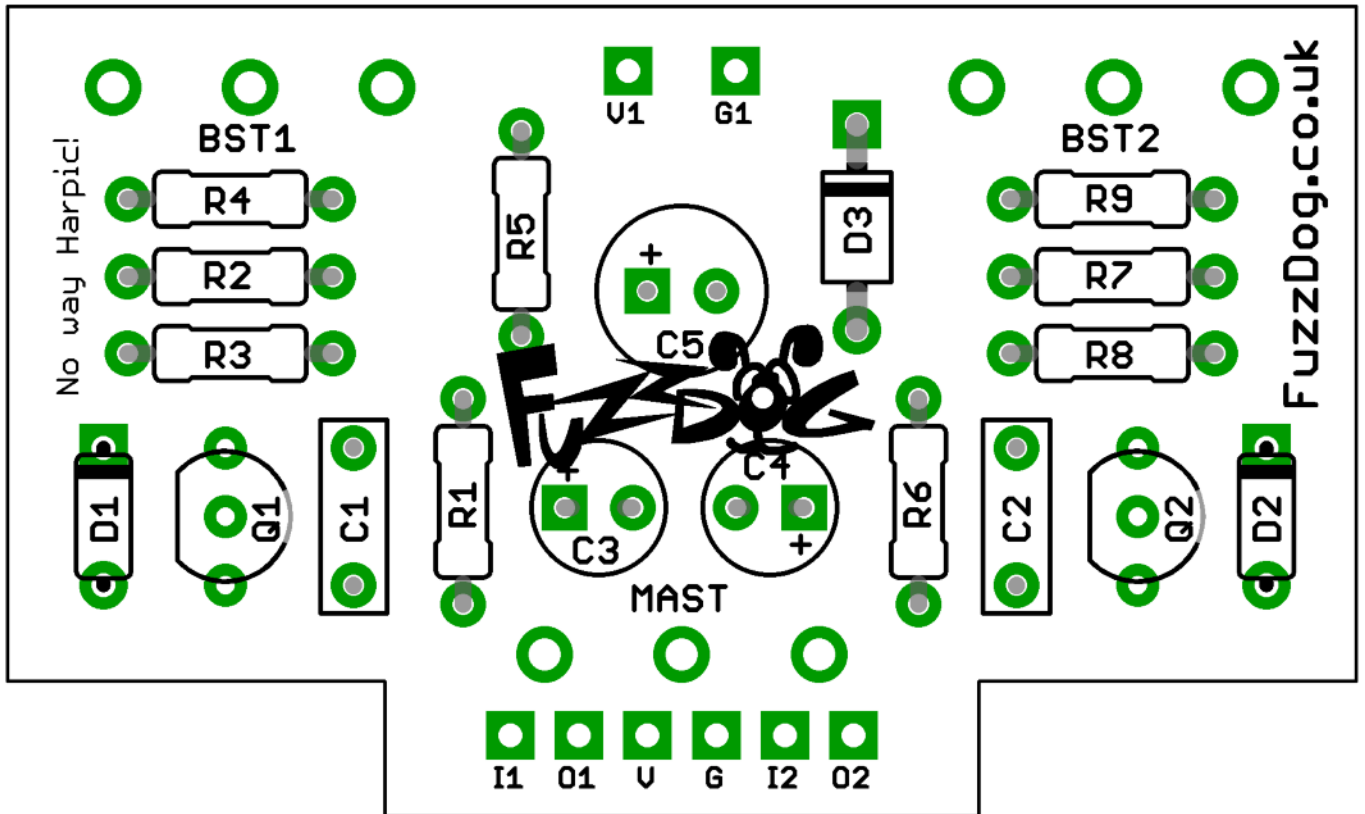
R1	1M*	C1	100n	D1-2	9V1 zener
R2	10M	C2	100n	D3	1N4001
R3	10M	C3	10u elec	BST1	5KC
R4	5K1	C4	10u elec	BST2	5KC
R5	100K	C5	100u elec	MAST	50KB
R6	1M*	Q1-2	BS170		
R7	10M				
R8	10M				
R9	5K1				

This is essentially two Boner Boosts in series with a master volume on the second. They are independent of each other, so you can use the first on it's own, the second on it's own with the master volume, or both in series, boost 1 pushing boost 2 with the resulting oomph kept in check with the master.

*Optional anti-pop pulldown resistors.

The resistor spots on the dual daughterboard are the current limiters for the LEDs. We normally use 2K2.





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 first Boner circuit. I2 and O2 for the second.

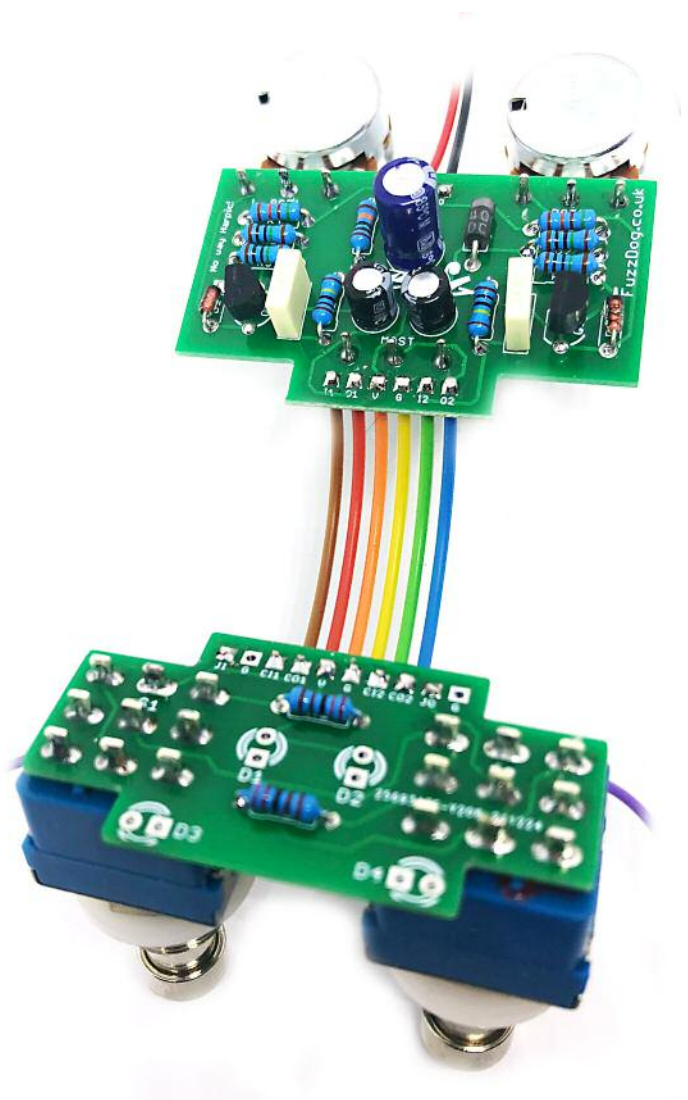
Be very careful when soldering the diodes, FETs and LEDs. They're very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds).

Extra care should be taken with the BS170s. They are incredibly sensitive to static. Ensure you're not buzzing with charge before handing them or they'll simply fry.

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.

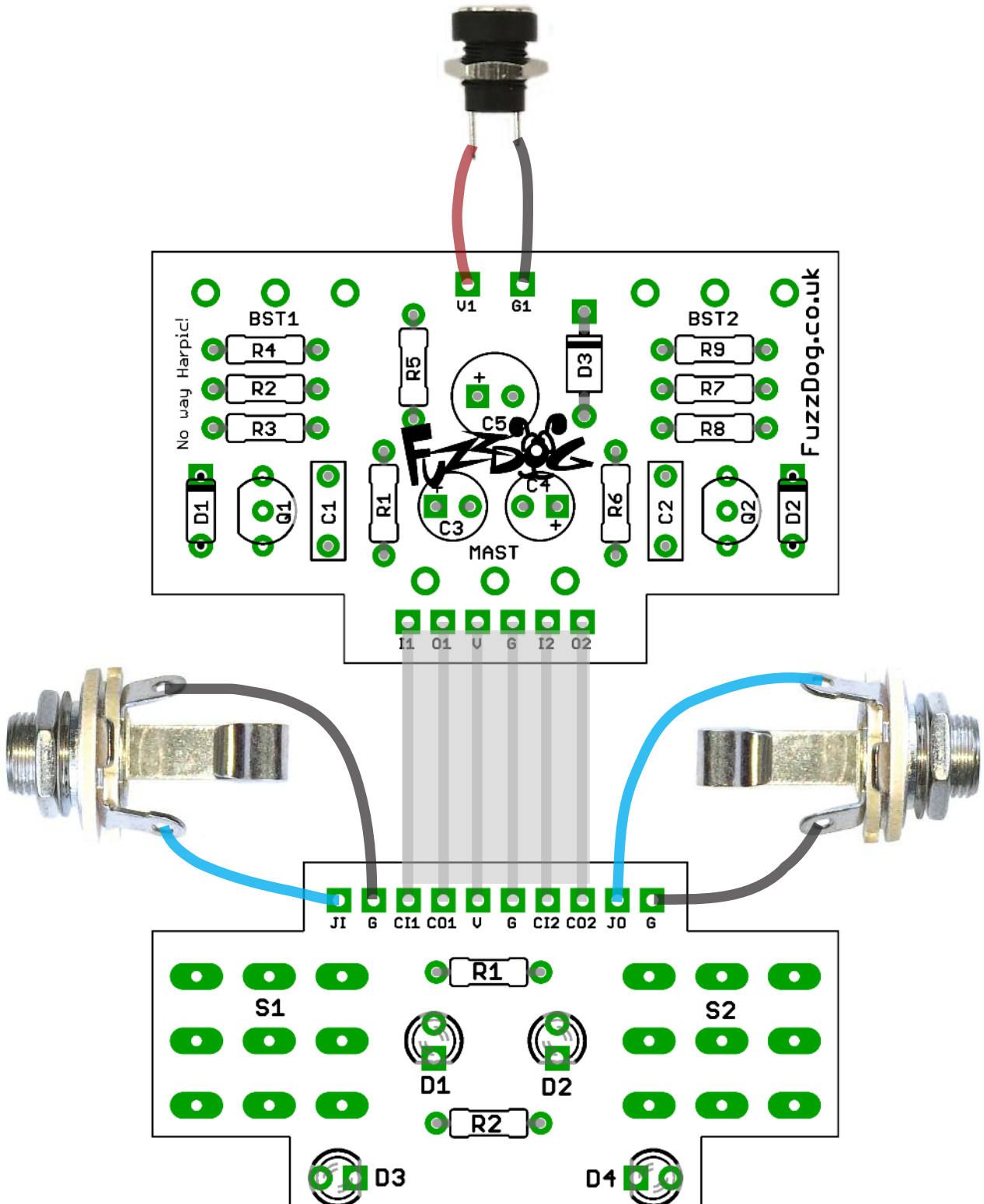


Connecting the boards and offboard components.

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.



Signal path

Here's what happens....Input jack to right hand footswitch. This is Boost 1, which is the right hand knob.
The output of the first switch, whether bypass or Boost 1, feeds footswitch 2 - Boost 2 with master vol.
The two sides are completely independent, and can be used individually or Boost 1 pushing Boost 2.



Drilling template

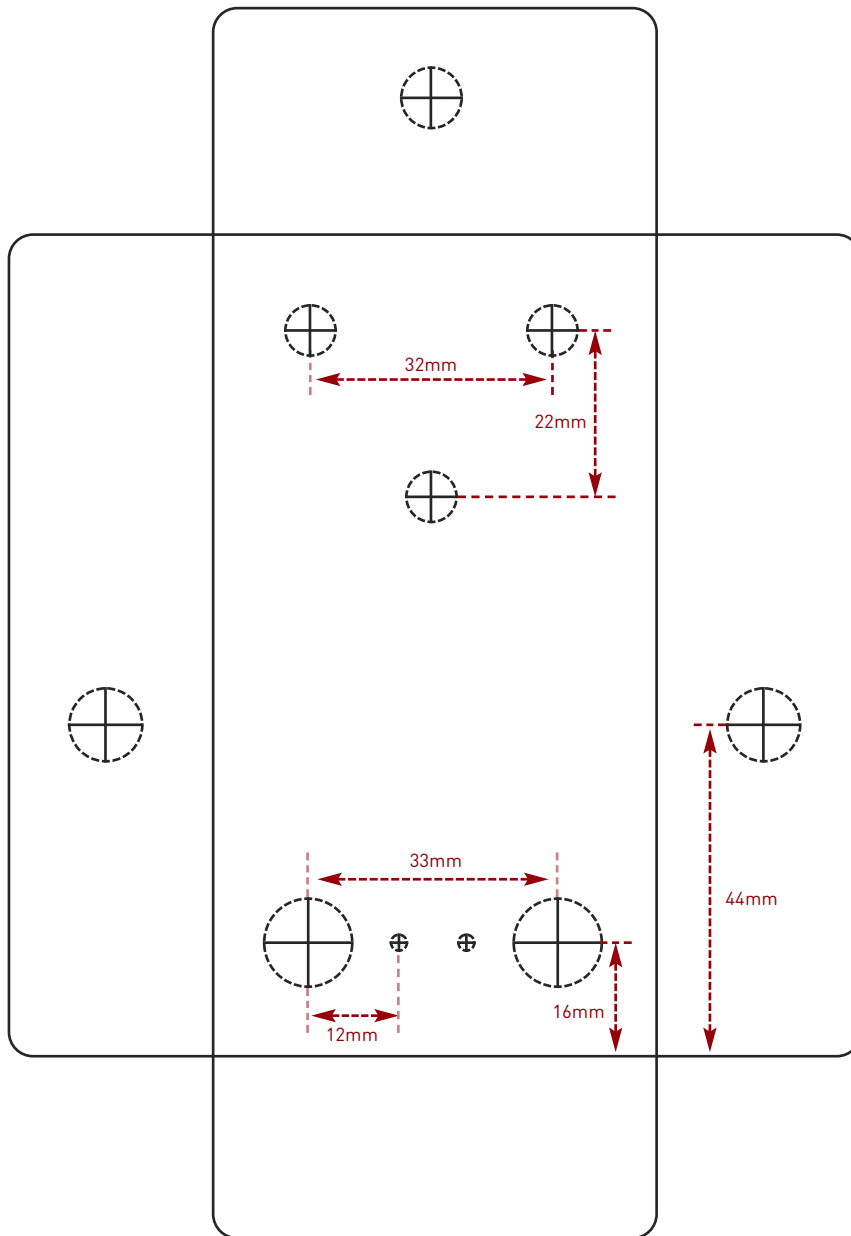
Hammond 1590BB

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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