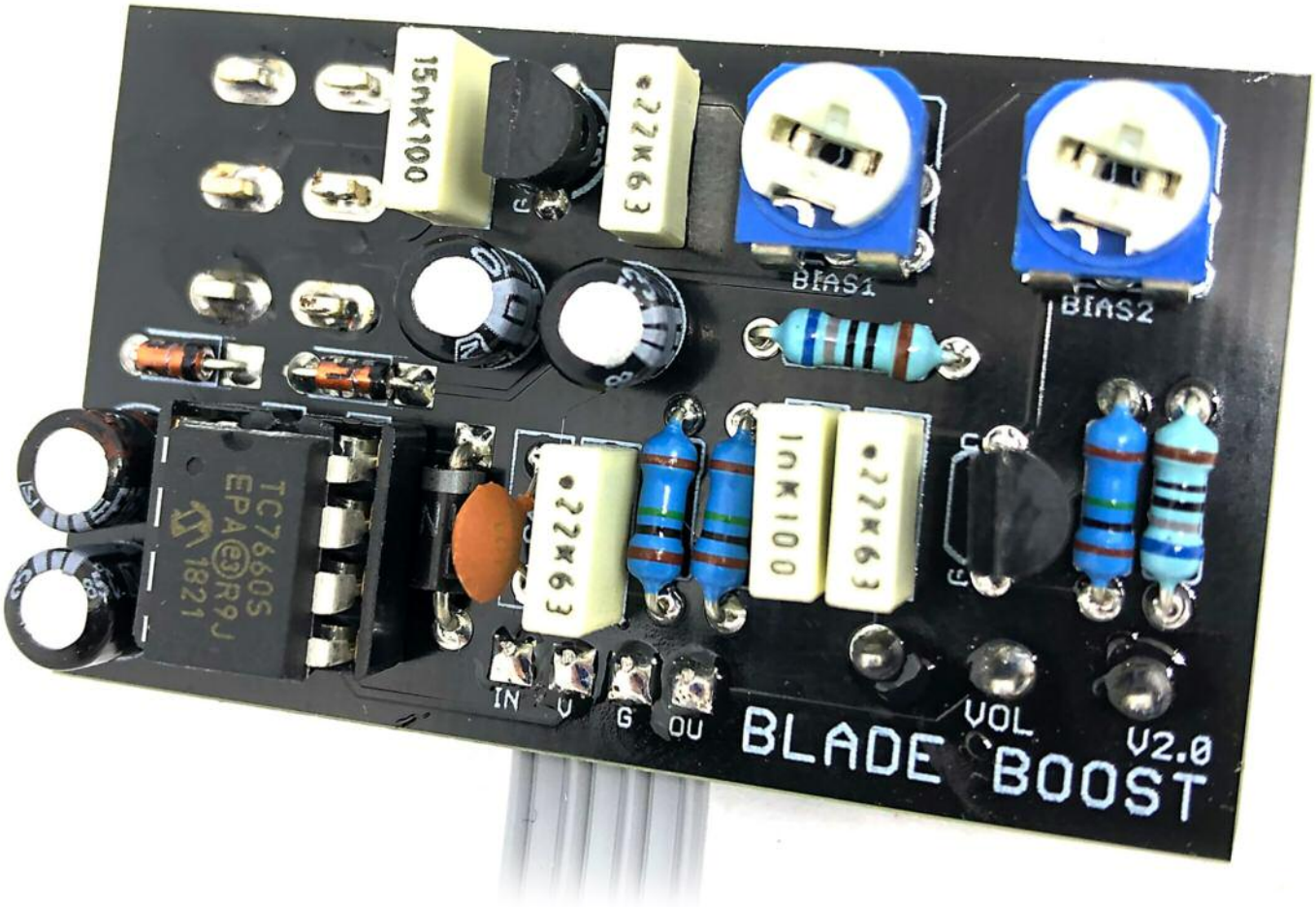
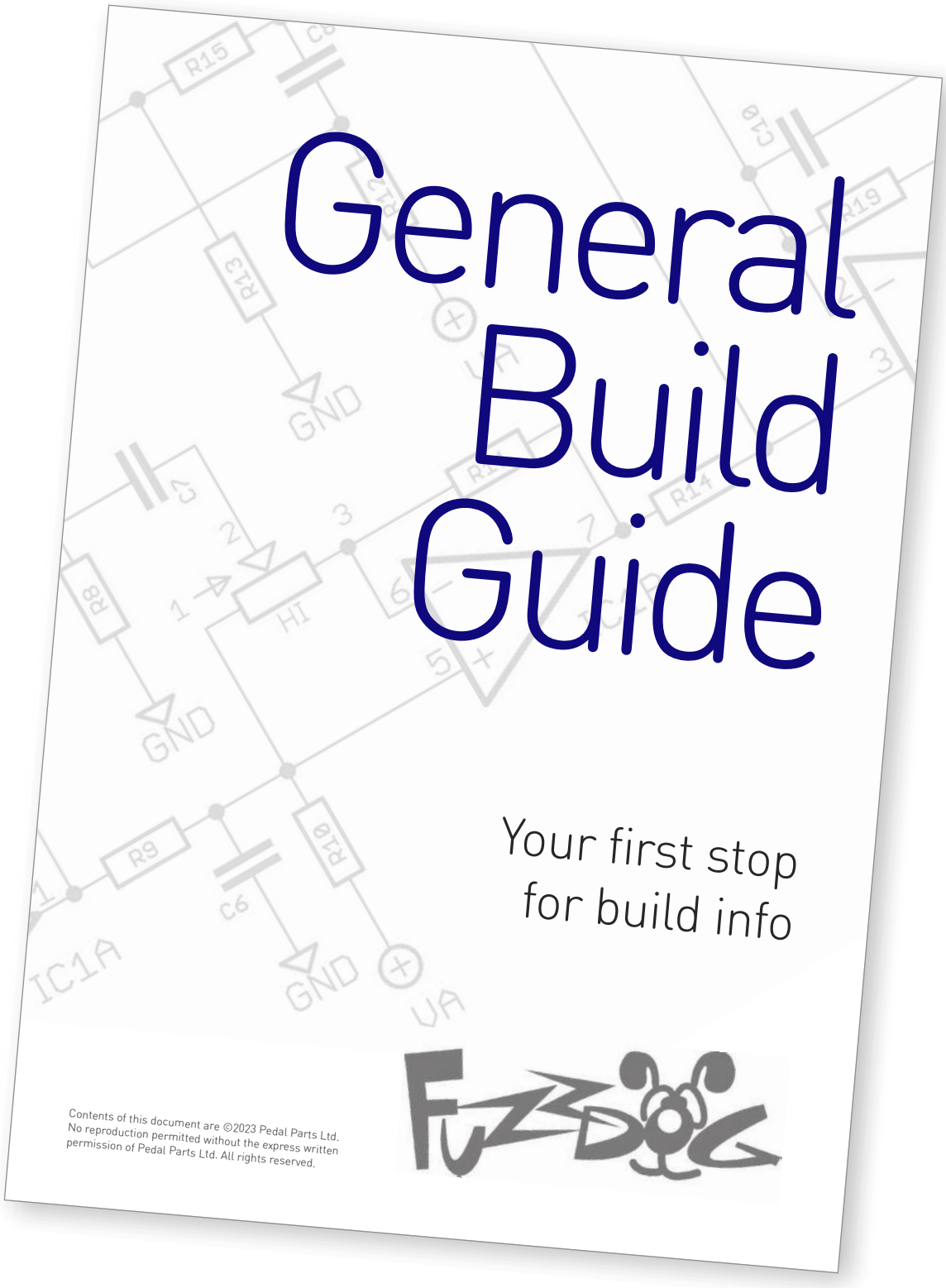


Samurai Boost

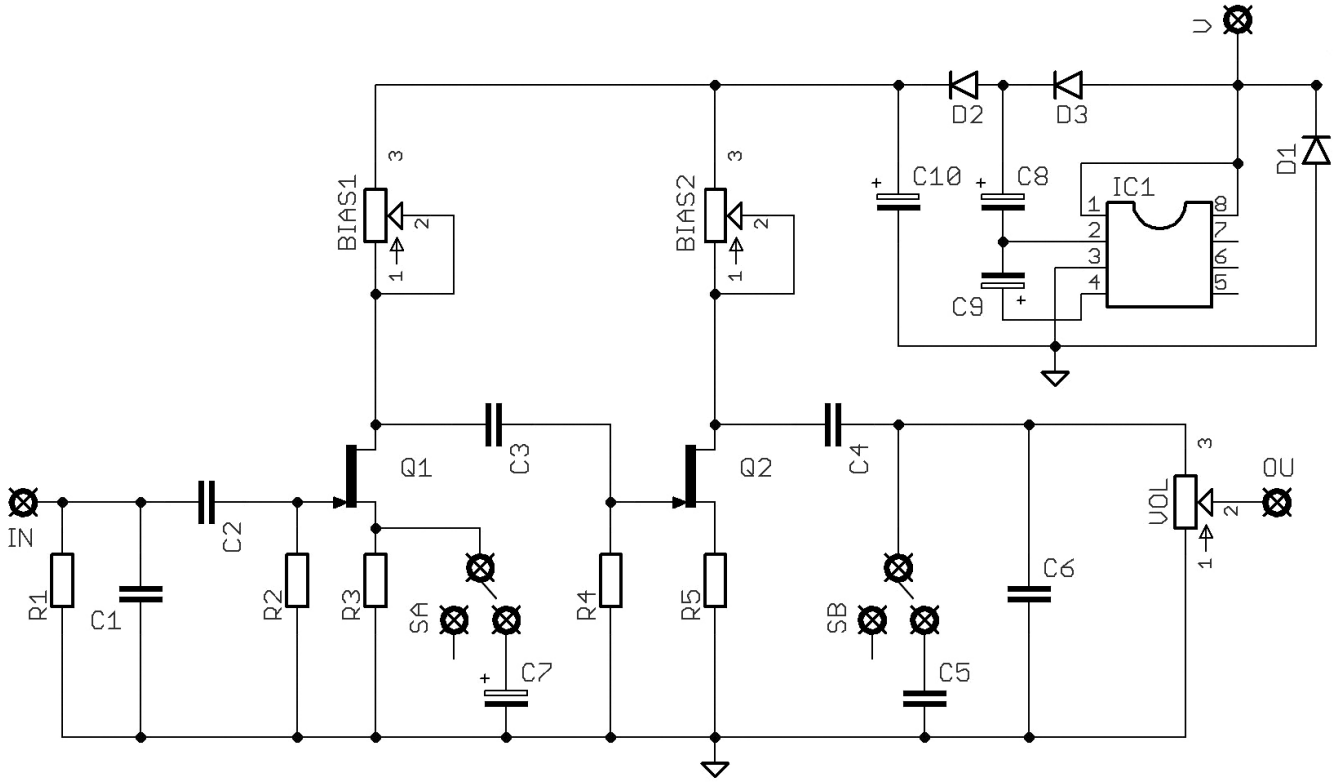
Huge boost with massive clean headroom on tap

Before you dig in, ensure you download and read the **General Build Guide**.

It contains all the information you need for a successful outcome.



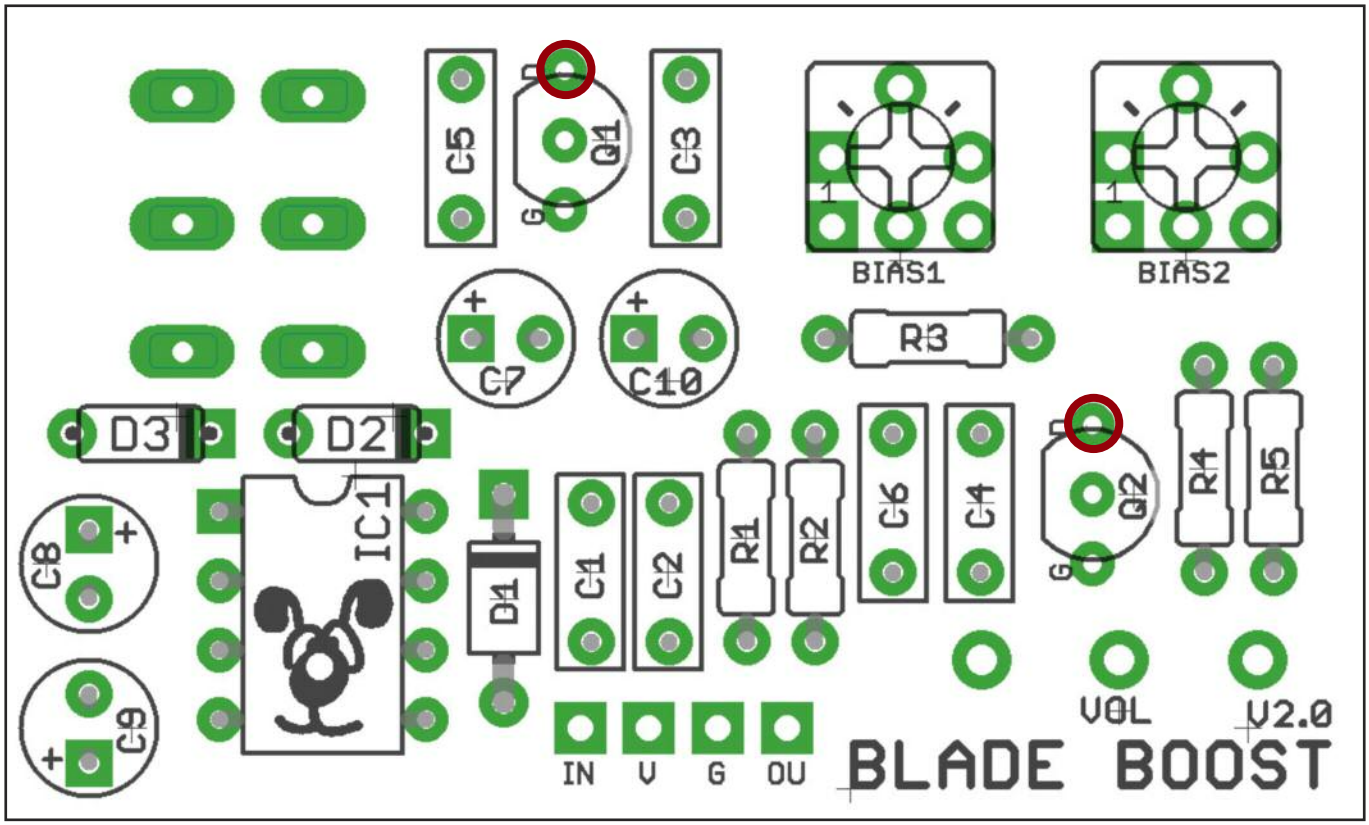
Schematic + BOM



R1	1M	**C1**	100p	**IC**	7660SEPA*
R2	1M	**C2**	220n		
R3	680R	**C3**	220n	**D1**	1N4001
R4	1M	**C4**	220n	**D2-3**	1N4148
R5	680R	**C5**	15n		
R6	Empty	**C6**	1n	**Q1-2**	2N5457/8**
		C7	10u elec		
BIAS1	10K Trim	**C8**	10u elec	**VOL**	250KB
BIAS2	10K Trim	**C9**	10u elec		
		C10	10u elec	**SW**	DPDT ON-ON

*It's important to get a 7660 charge pump with an 'S' suffix to ensure it operates outside the audible frequency range, otherwise you will hear a whining noise from the output. A MAX1044 will also work. We exclusively use 7660SEPA from Microchip.

**Other FETs may work, but none have been tested at FuzzDog HQ.



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 FETs 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).

Same goes for the IC if you aren't using a socket (you really should y'know).

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

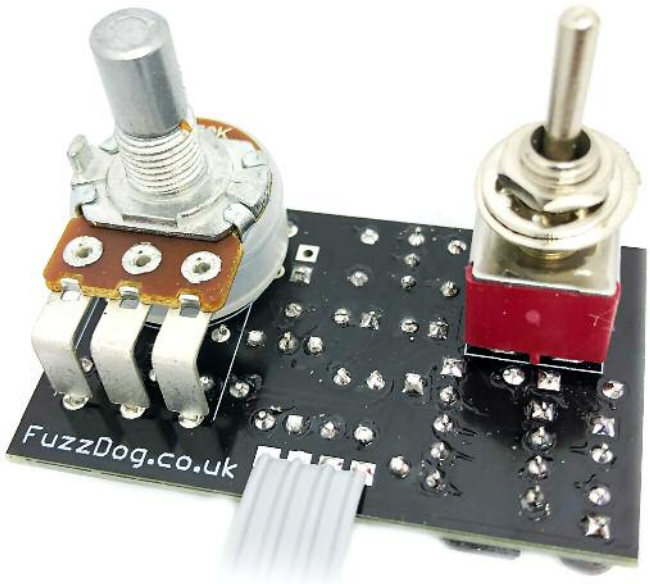
You should solder all other board-mounted components before you solder the pots. Once they're in place you'll have no access to much of the board. Make sure your pots all line up nicely. The best way to do that is to solder a single pin of each pot in place then melt and adjust if necessary before soldering in the other two pins. If your pots don't have protective plastic jackets ensure you leave a decent gap between the pot body and the PCB otherwise you risk shorting out the circuit.

To get the pot and switch level it's best to use the enclosure as a guide. The nuts and washers on the switch give you plenty of scope for adjustment.

BIASING

Once built, wire it up as per the test wiring on the next page, then adjust the trimmers to bias the FETs. BIAS1 adjusts Q1, 2 adjusts Q2.

Set your multimeter (you do have one, right?) to DC Voltage, small range around 20V. Black lead attaches to any GND point, red lead on the Drain of your FET (circled in red above). You're looking to get a reading of around 9V on each.



Drilling template

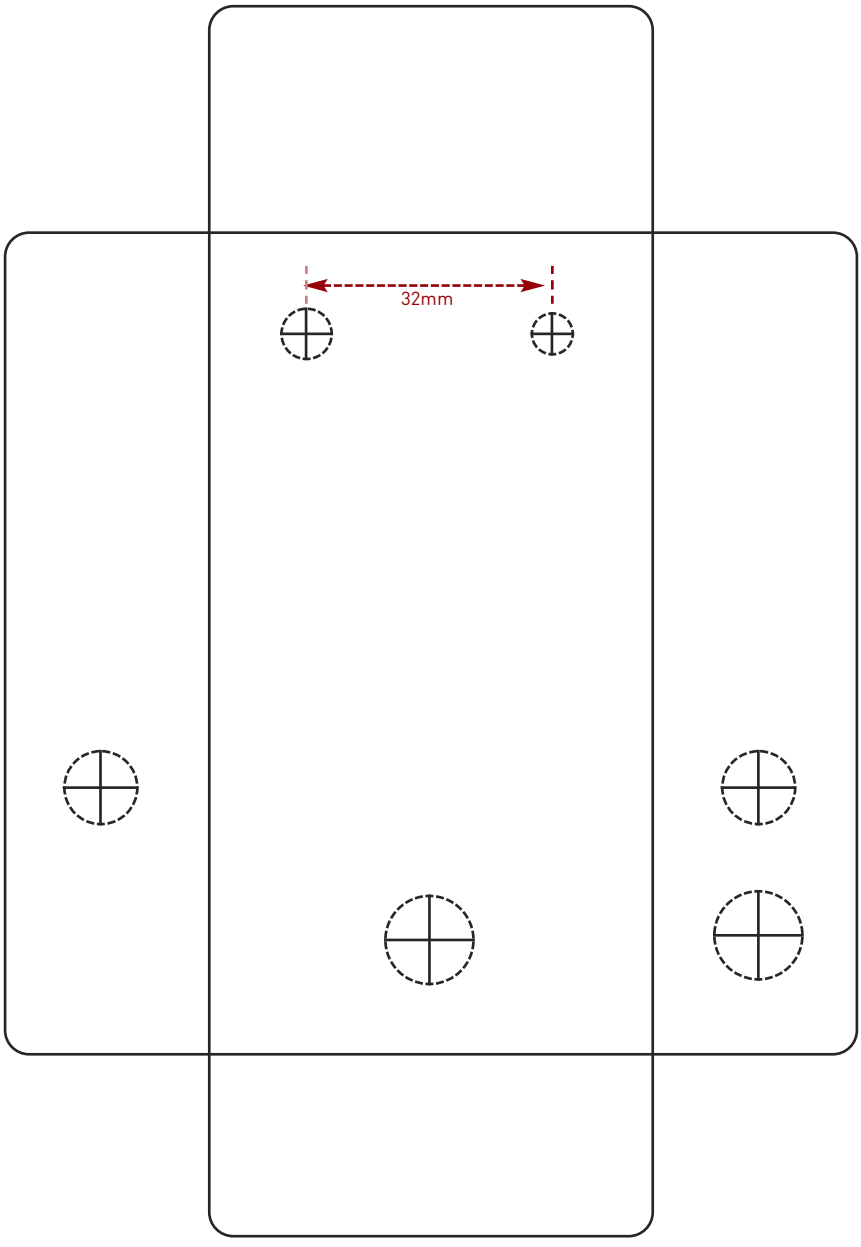
Hammond 1590B

60 x 111 x 31mm

It's a good idea to drill the pot and toggle switch holes 1mm bigger if you're board-mounting them.
Wiggle room = good!

Recommended drill sizes:

Pot	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Toggle switch	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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