

Volt Thump

Mega-chug machine based
on the Integrated Pre



Important notes - DO NOT SKIP!

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 the build.
- 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. This applies to older PCBs with a pad marked LED next to the IN V G OU pads.

POWER SUPPLY

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC Tip-Negative supply.

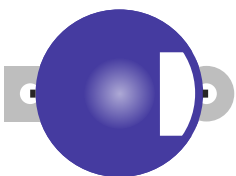
COMPONENT SPECS

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. For kits that use 3mm resistors instead of standard 6mm, these will usually be either 0.125W or 0.4W.
- **Electrolytics caps should be rated at least 50V for this build.**

LAYOUT CONVENTIONS

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



Electrolytic capacitors:

Long leg (anode) to square pad. Stripe indicates cathode.



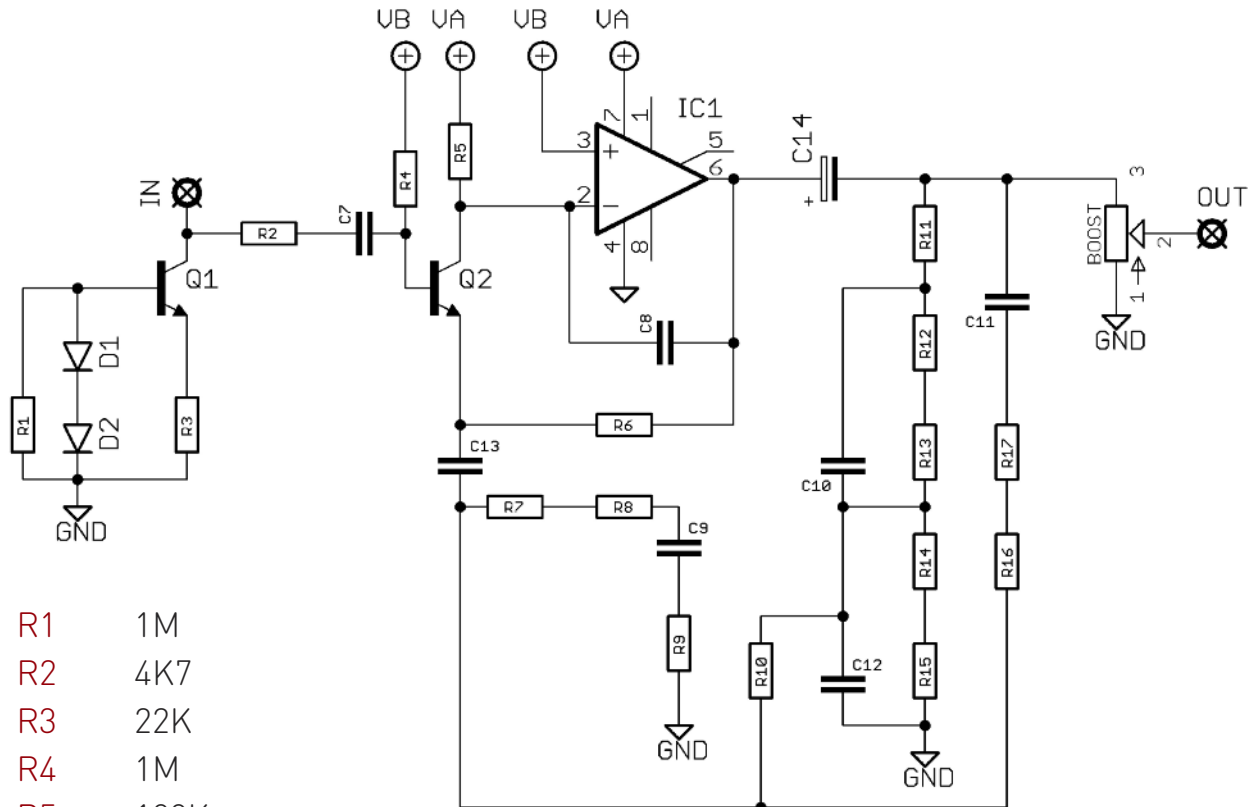
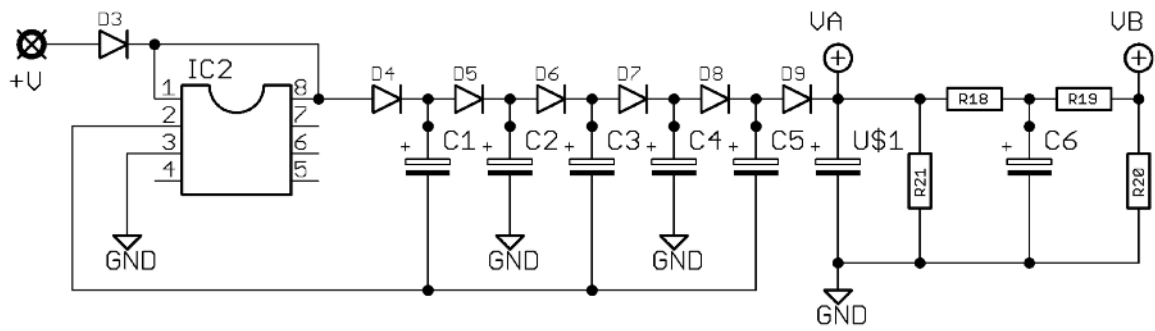
Diodes/LEDs:

Striped leg (cathode) to square pad. Short leg to square pad for LEDs. The exception to this is with Russian germanium diodes - stripe = anode.

- **ICs:**

Square pad indicates pin 1.

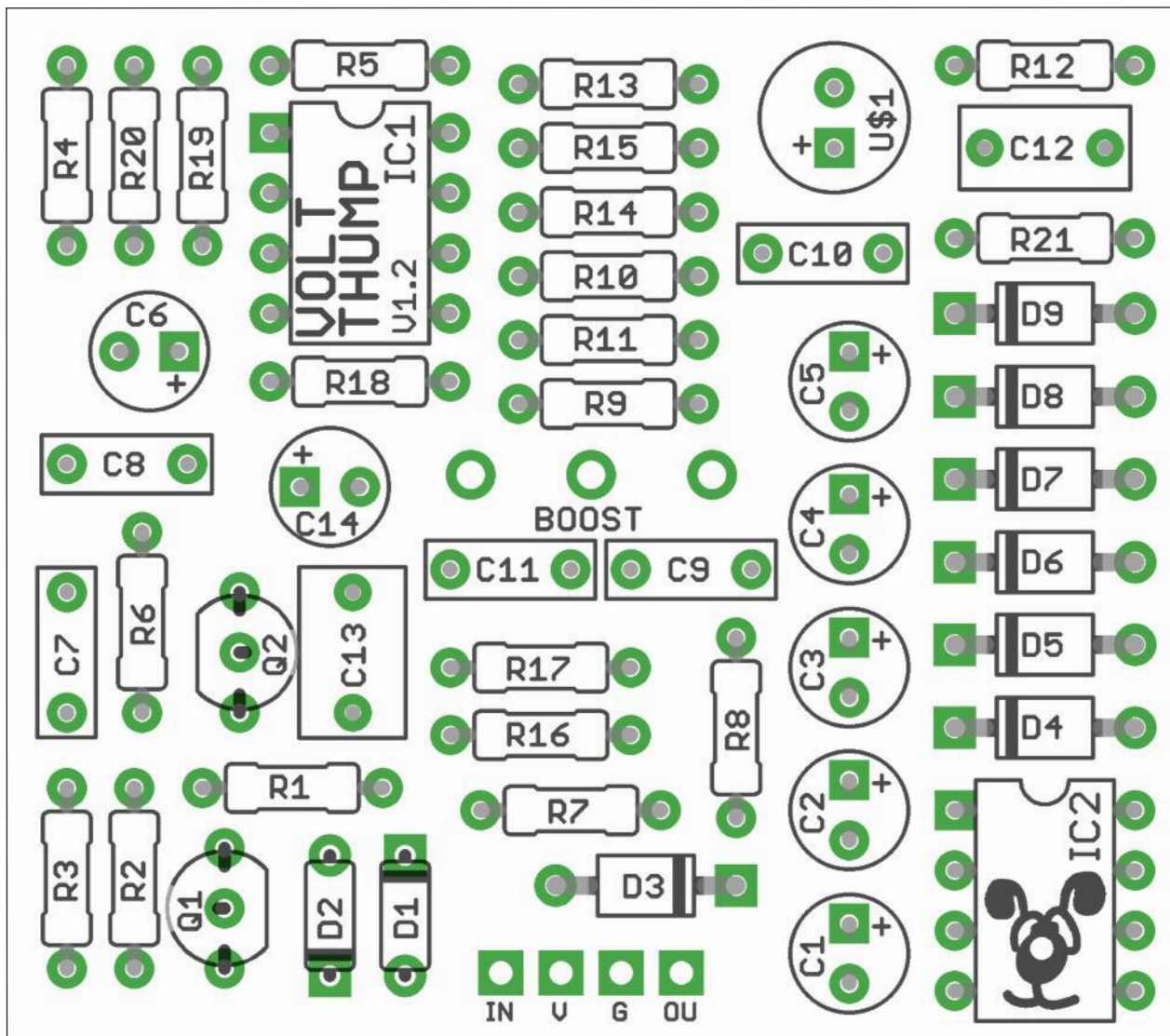
Schematic + BOM



R1	1M	C1	10u elec	D1-2	1N4148
R2	4K7	C2	10u elec	D3	1N5817
R3	22K	C3	10u elec	D4-9	1N4001
R4	1M	C4	10u elec	IC1	LM741
R5	100K	C5	10u elec	IC2	7660SEPA*
R6	220K	C6	4u7 elec	Q1-2	BC550C
R7	820R	C7	47n	BOOST	5KA
R8	1K8	C8	100p		
R9	220R	C9	100n		
R10	3K9	C10	47n		
R11	2K2	C11	10n		
R12	47R	C12	470n		
R13	120R	C13	1u		
R14	20K	C14	4u7 elec		
R15	1K	U\$1	100u elec		
R16	4K7				
R17	12K				
R18	10K				
R19	100K				
R20	820K				
R21	100K				

*MAX1044 will also work.

Electrolytic caps must be rated at least 50V.



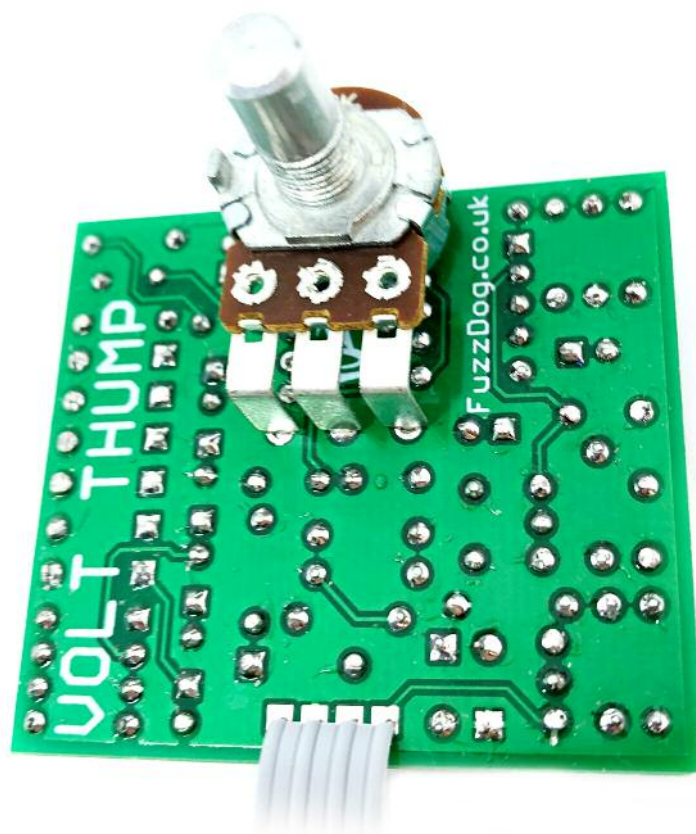
PCB layout ©2023 Pedal Parts Ltd.

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 diodes and transistors. 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 ICs if you aren't using sockets.

Snap the small metal tag off the pot so it can be mounted flush in the box.

You should solder all other board-mounted components before you solder the pot. Once in place you'll have no access to much of the board.



Test the board!

Check the relevant daughterboard document for more info before you undertake this stage.

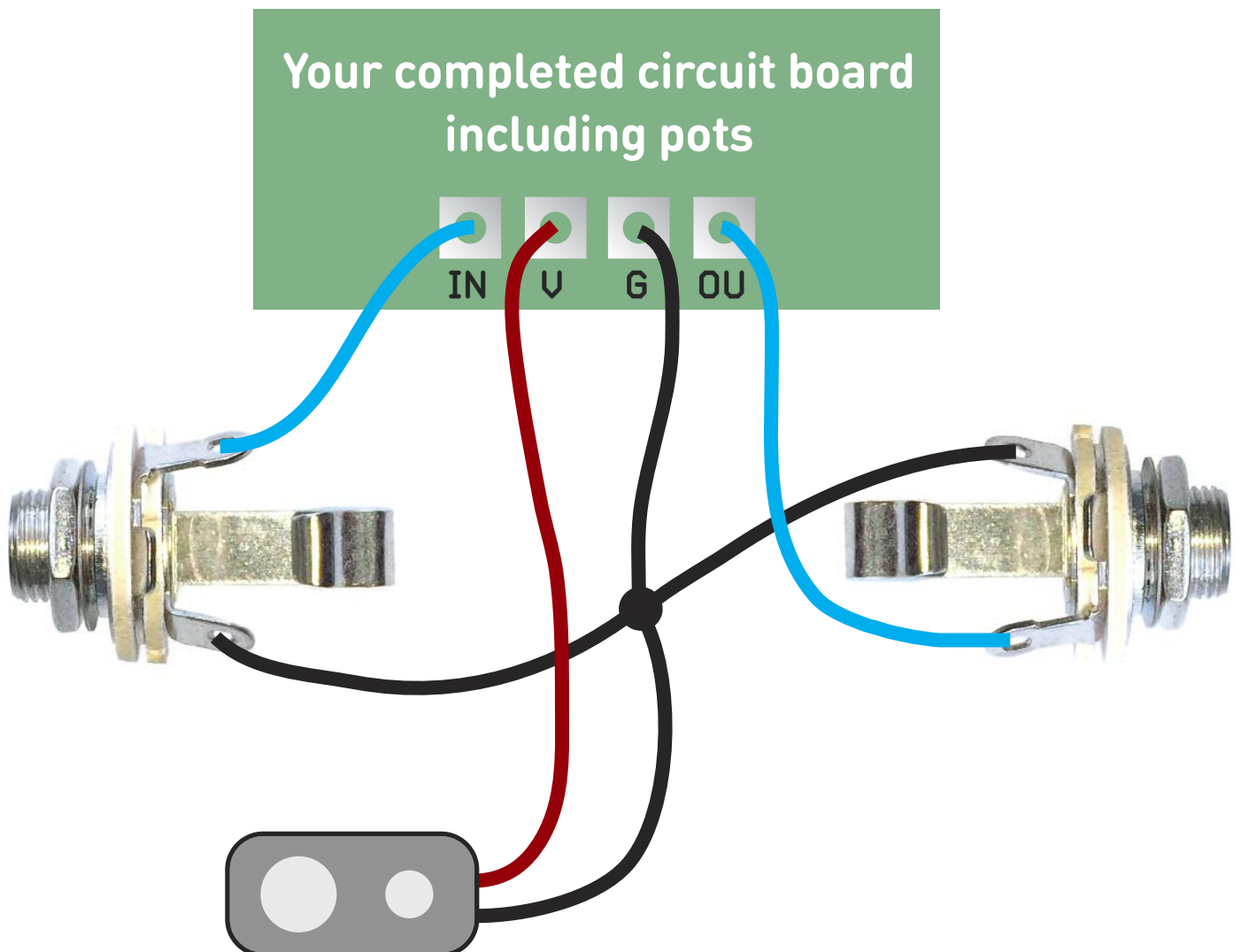
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

Once you've finished the circuit it makes sense to test it 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 you're using a ribbon cable you can tack the wires to the ends of that. It's a lot easier to take them off there than it is to desolder wires from the PCB pads.

If it works, carry 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.



Now's the time
to refer to the
daughterboard
document for
your chosen
bypass method.

Enjoy your pedal!

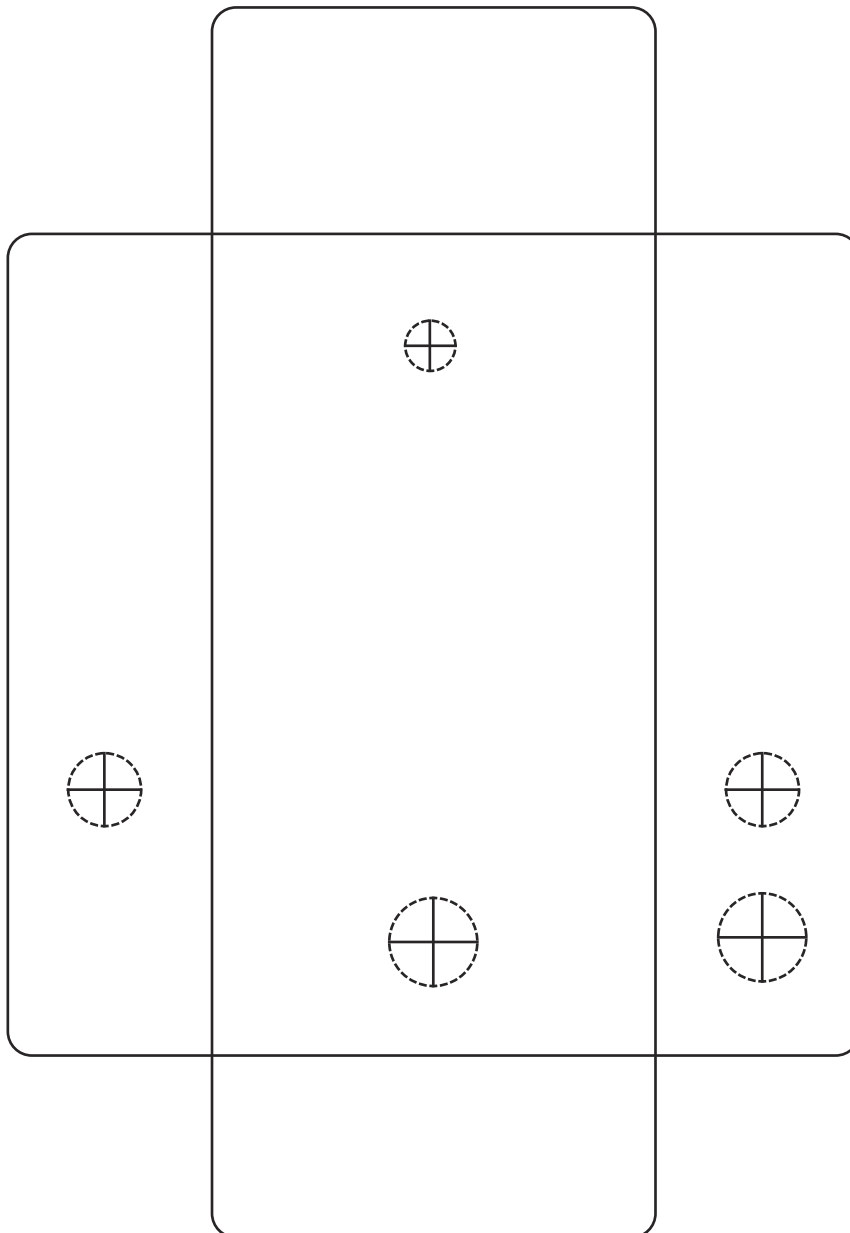
Drilling template without battery - side DC

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:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
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.

FuzzDog.co.uk