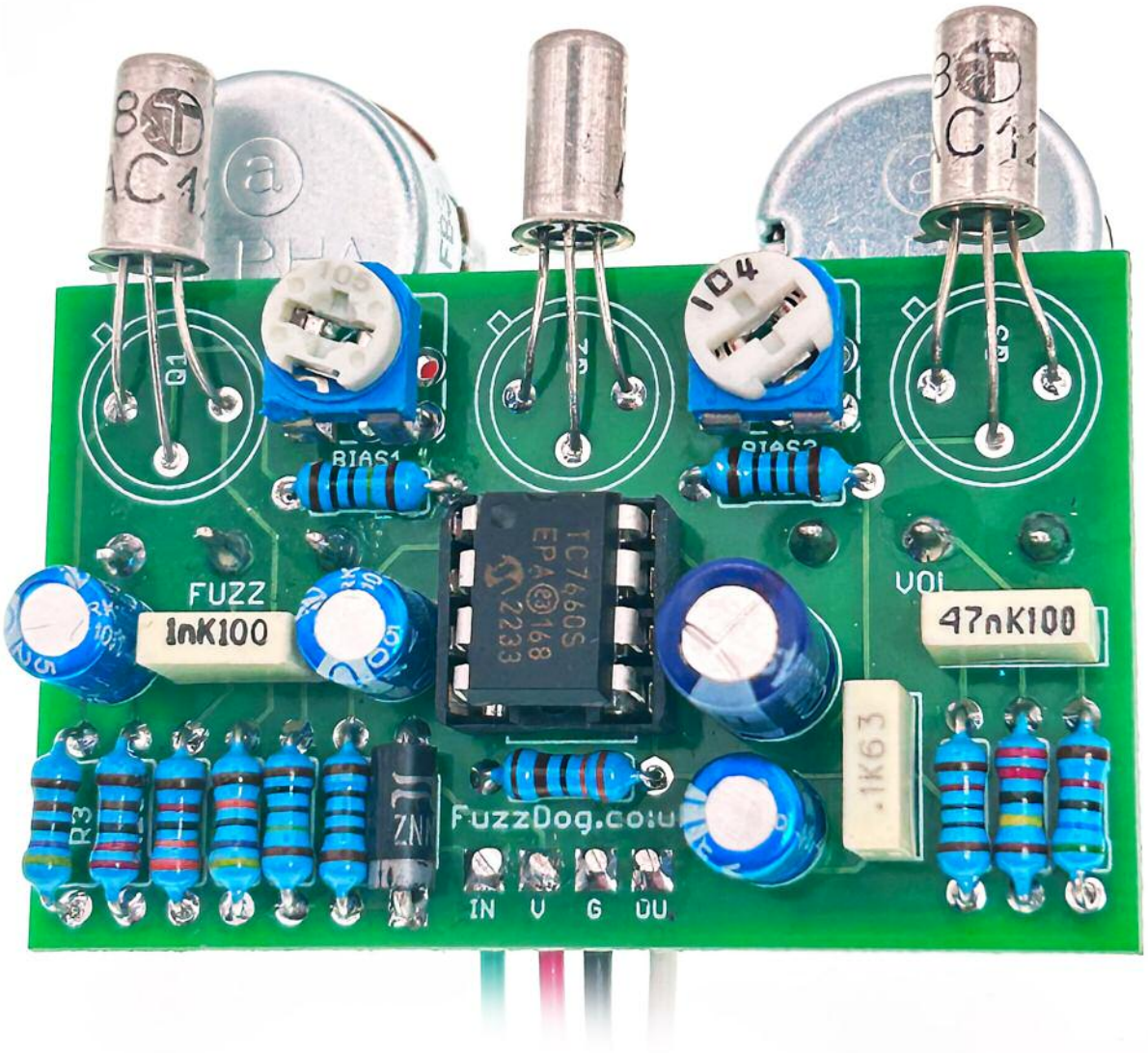
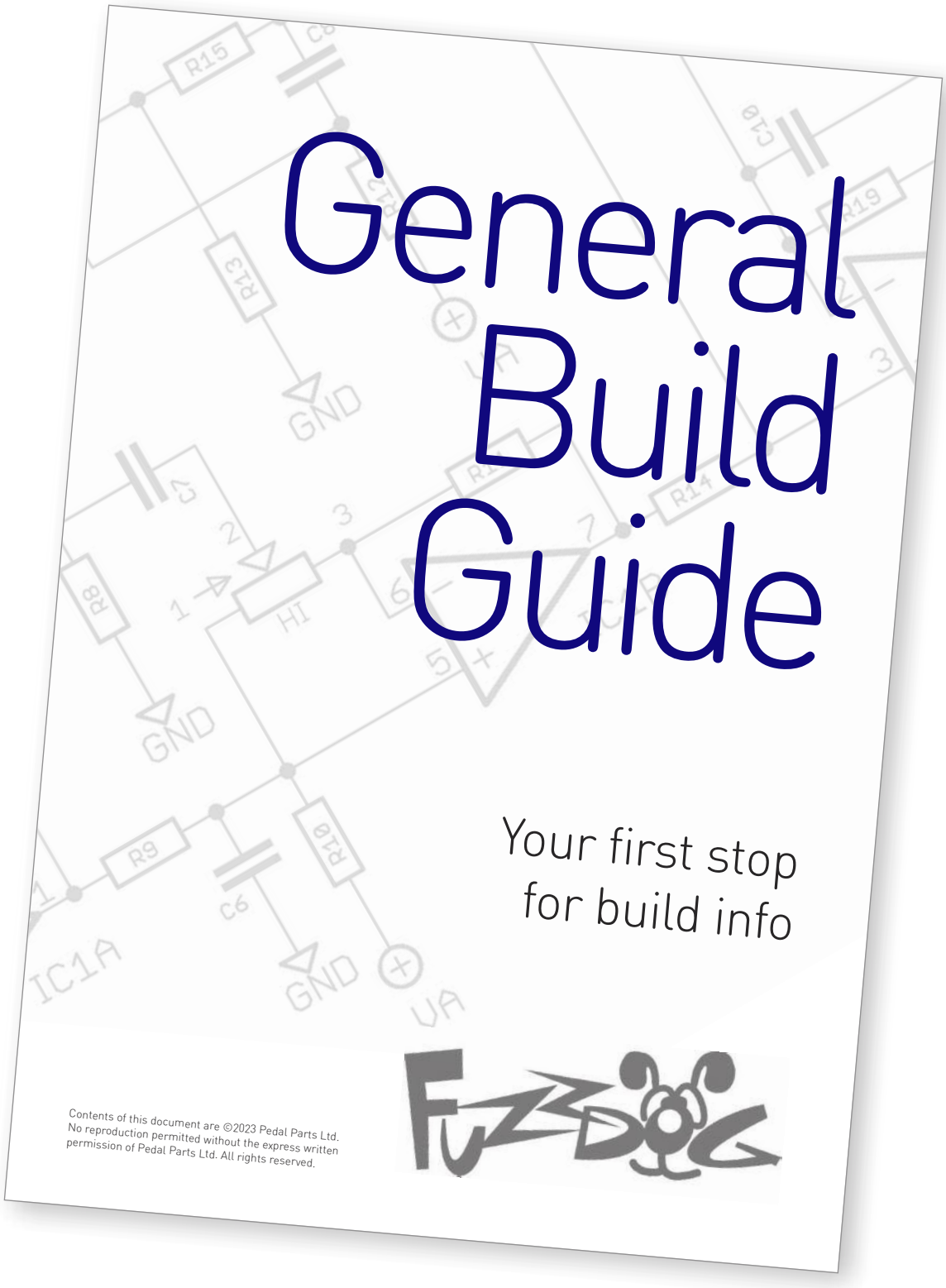


Zonk Machine

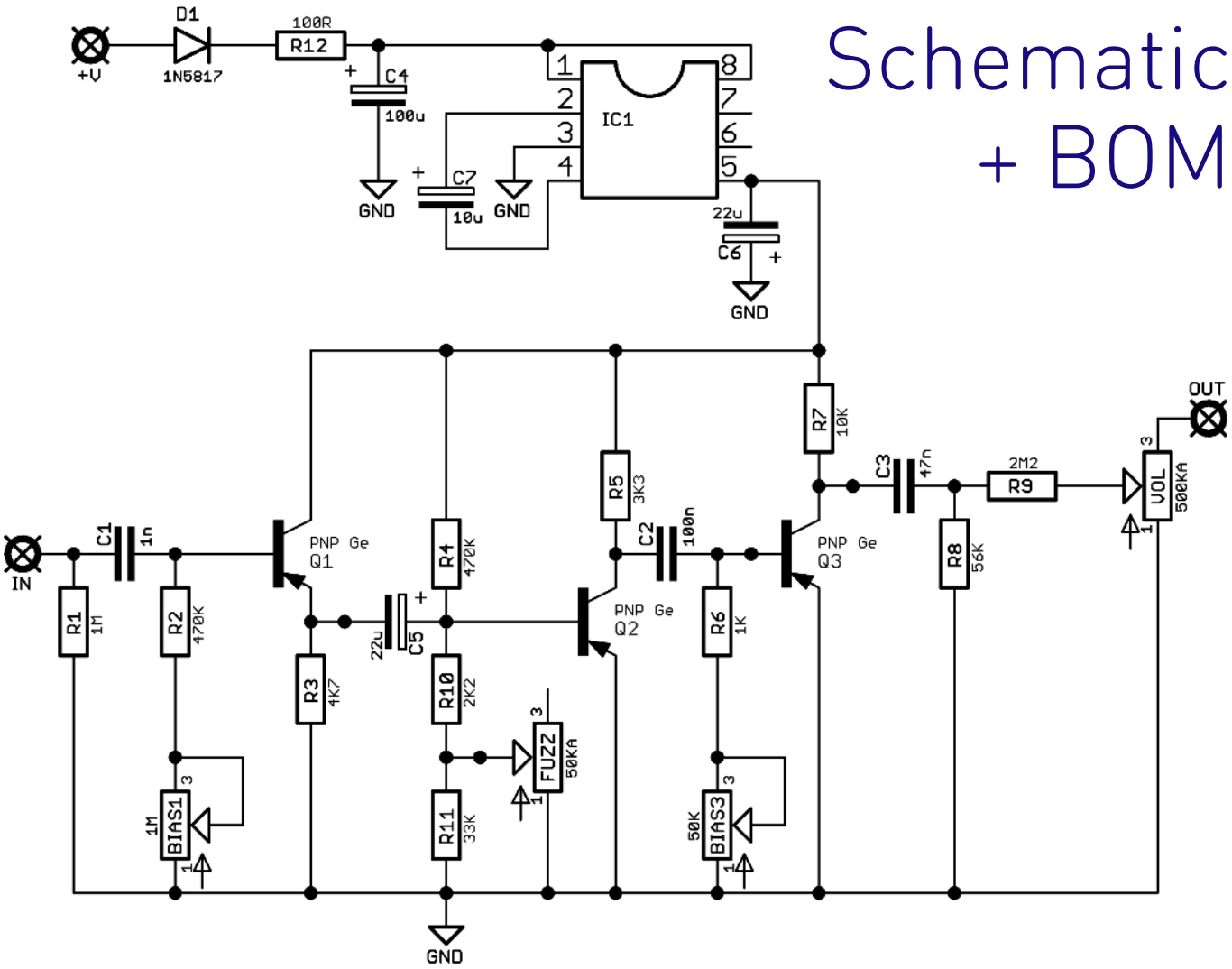
Vintage Tone Bender style finicky fuzz

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



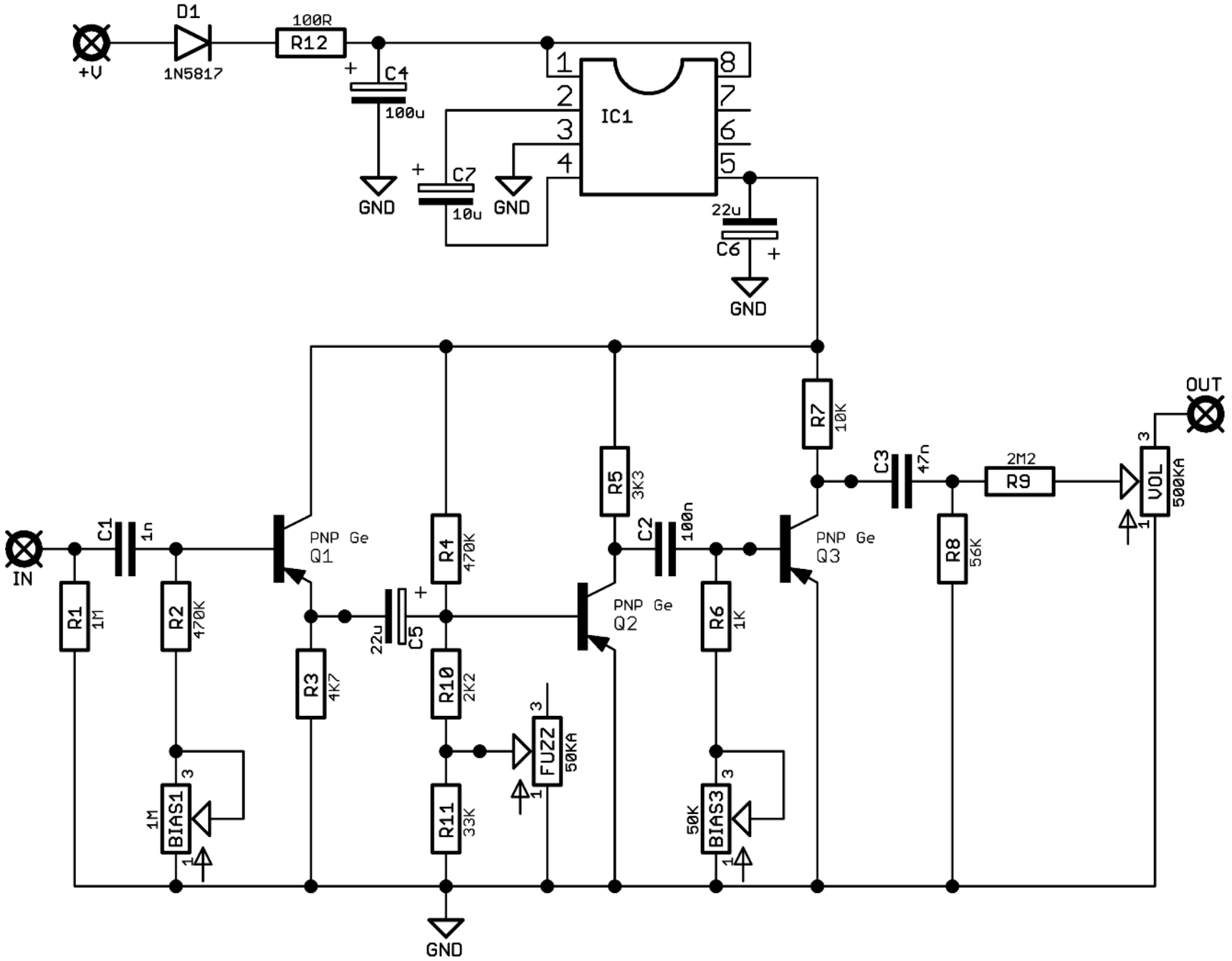
R1	1M
R2	470K
R3	4K7
R4	470K
R5	3K3
R6	1K
R7	10K
R8	56K
R9	2M2
R10	2K2
R11	33K
R12	100R
FUZZ	50KA
VOL	500KA

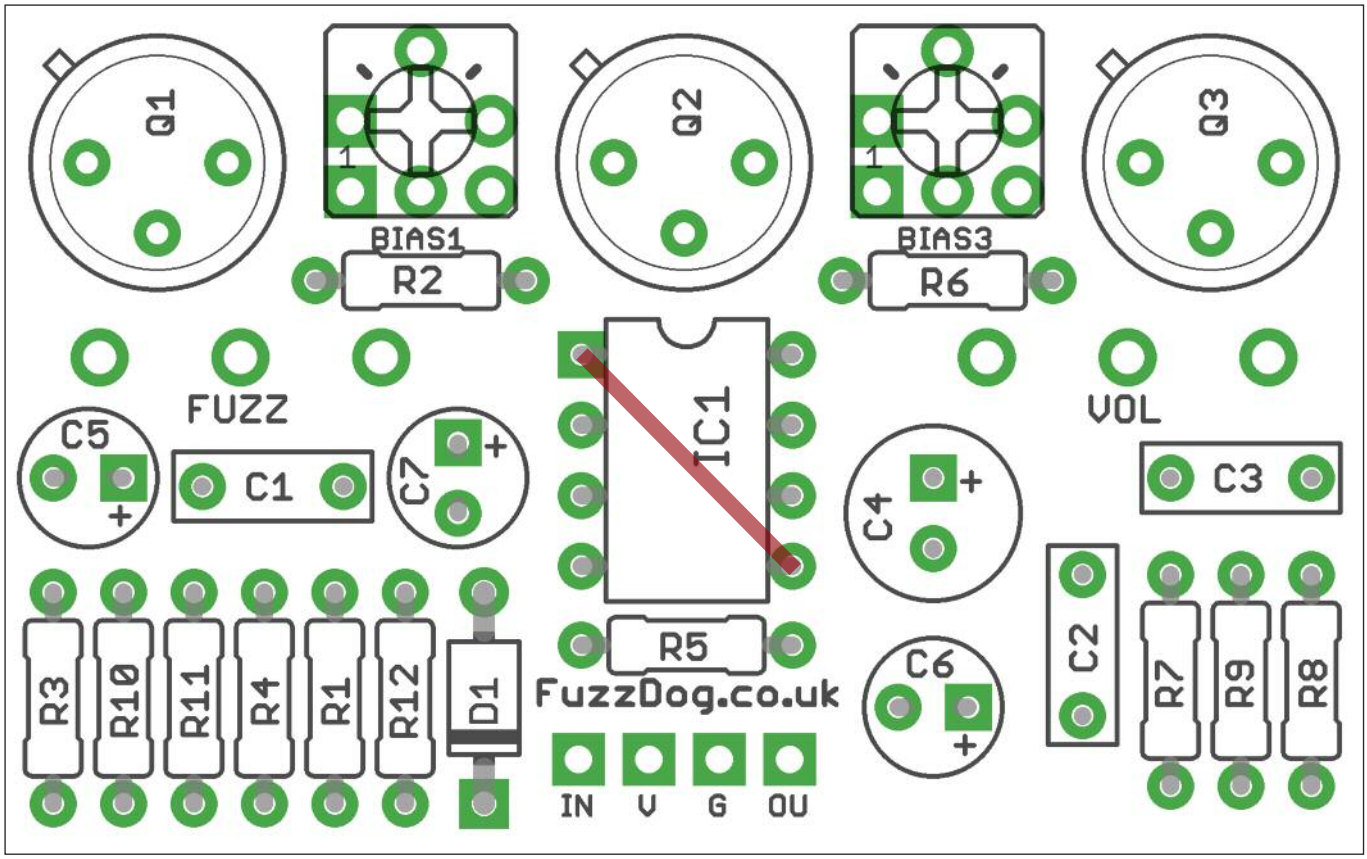
C1	1n
C2	100n
C3	47n
C4	100u elec
C5	22u elec
C6	22u elec
C7	10u elec
D1	1N5817
IC1	7660SEPA*
Q1-3	PNP Ge
BIAS1	1M Trimmer
BIAS3	50K Trimmer

This is a fiddly circuit to get right. There's no absolute hFE for the transistors. Some will sound good, some won't. Lots of leakage for Q1 is a good start. Aim for roughly 70 for Q1, 100 for Q2-3.

*You could also use an LT1054.

Some schematics show R11 as 3K3. They're wrong.


+V
D1
1N5817
100R
R12
C4
100u
GND
C7
10u
GND
IC1
1
2
3
4
8
7
6
5
22u
C6
GND
R7
10K
OUT
C3
47n
2M2
R9
VOL
500KA
R5
3K3
C2
100n
R8
56K
IN
C1
1n
R1
1M
R2
470K
PNP Ge
Q1
R4
470K
R3
4K7
22u
C5
PNP Ge
Q2
R10
2K2
R6
1K
PNP Ge
Q3
FUZZ
50KA
R11
33K
1M
BIAS1
50K
BIAS3
GND



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.

NPN Transistors?

If you're fortunate enough to have a set of suitable NPN transistors you can dispense with the voltage inverter, as they'll run on a standard negative ground supply happily.

Leave out IC1, C6-7 and add a jumper wire as shown above in red.

You'll also need to reverse the orientation of C5.

GETTING IT WORKING

R.G. Keen has a good article on the Zonk:

geofex.com/Article_Folders/zonkmach/zonkbst.pdf

However, don't worry too much about the voltage readings quoted. We've built three at the time of writing, and all fired up fine with around -500mV on the emitter of Q1. Getting -7V on the collector of Q3 should be achievable with pretty much any can in that spot.

Our recommendation - get Q3 biased to -7V, then adjust BIAS1 to get the sweet spot:

Max fuzz, min gating.

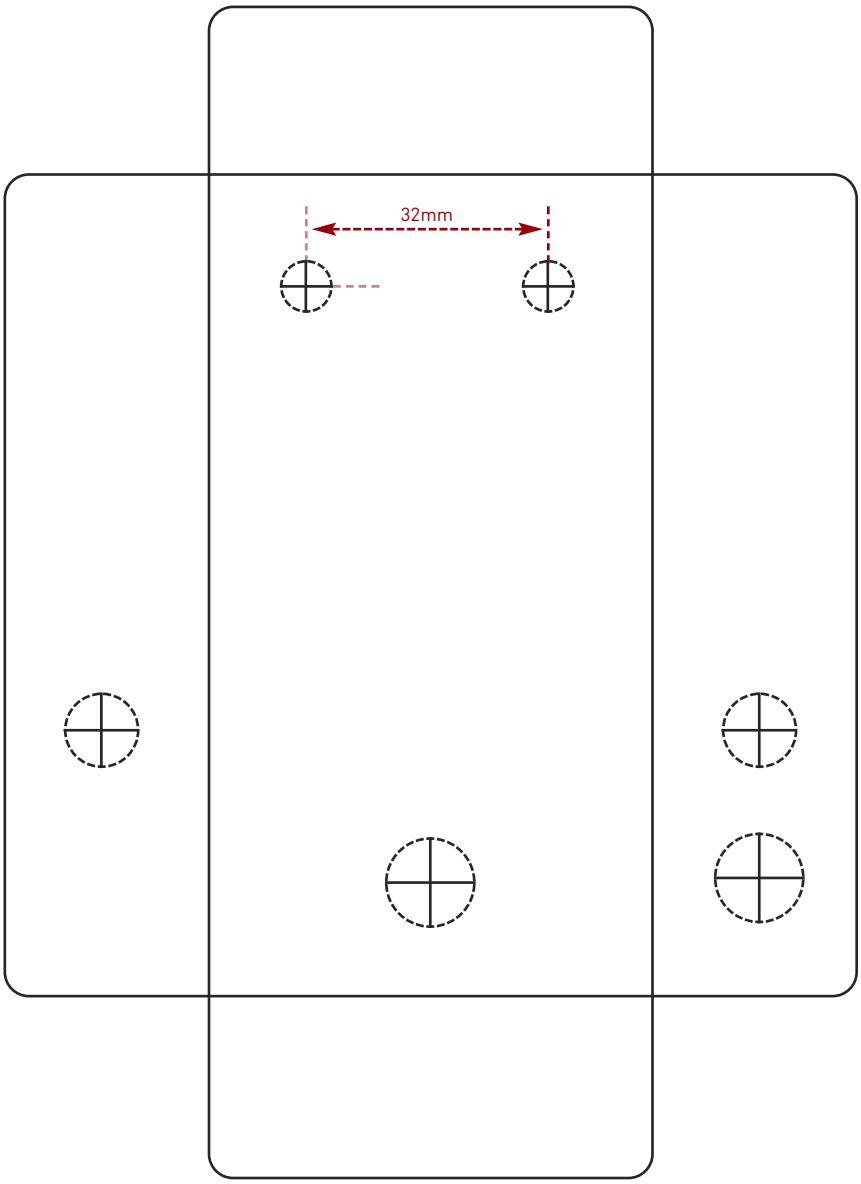
Drilling template

Hammond 1590B - 60 x 111 x 31mm

Drill sizes listed are minimum.
It's a good idea to add 1mm to anything mounted on the PCB that'll poke through the front of the enclosure.

Drill sizes:

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



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