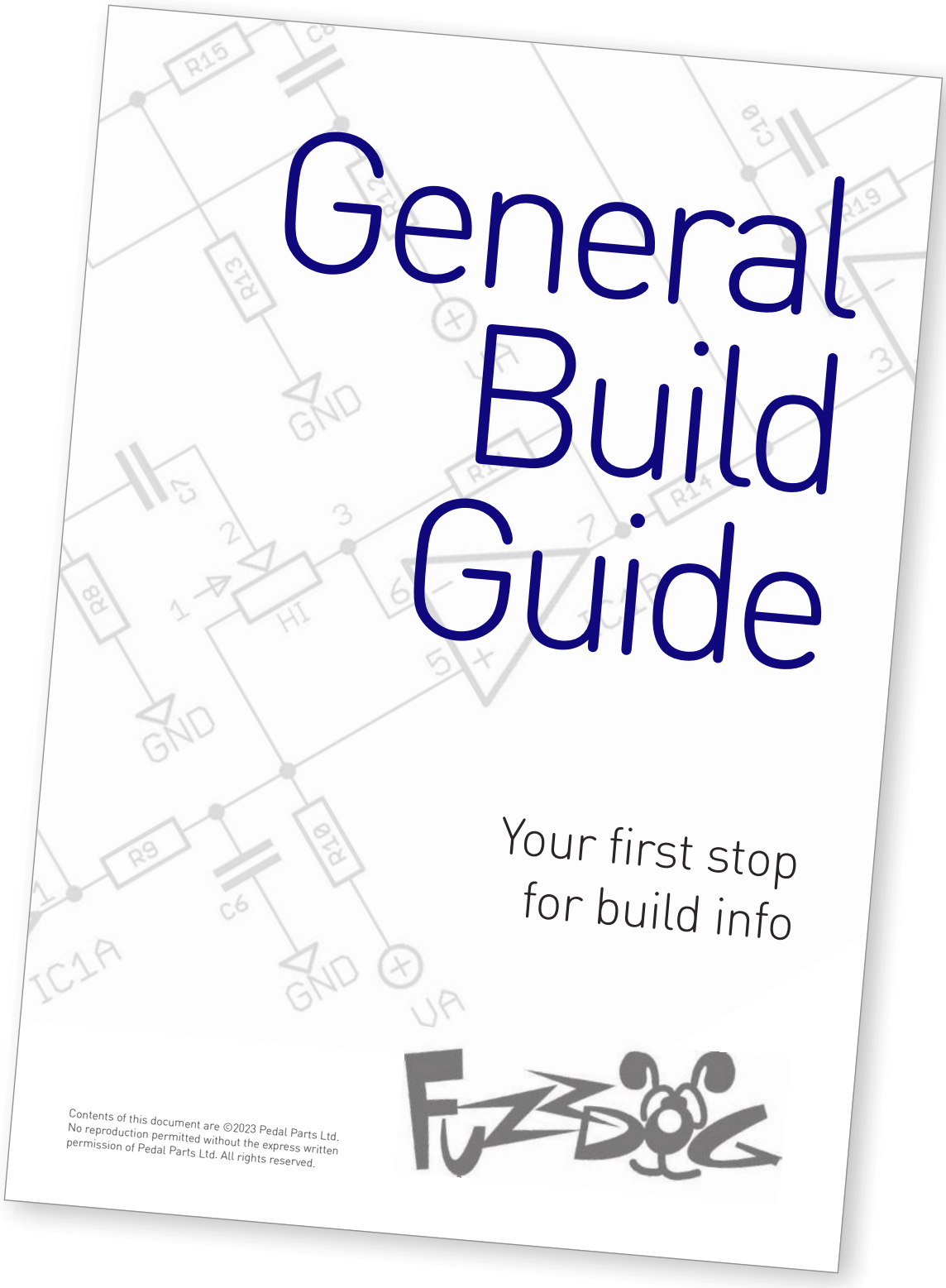
Engineer's Thumb

Great OTA-based compressor
by Valve Wizard

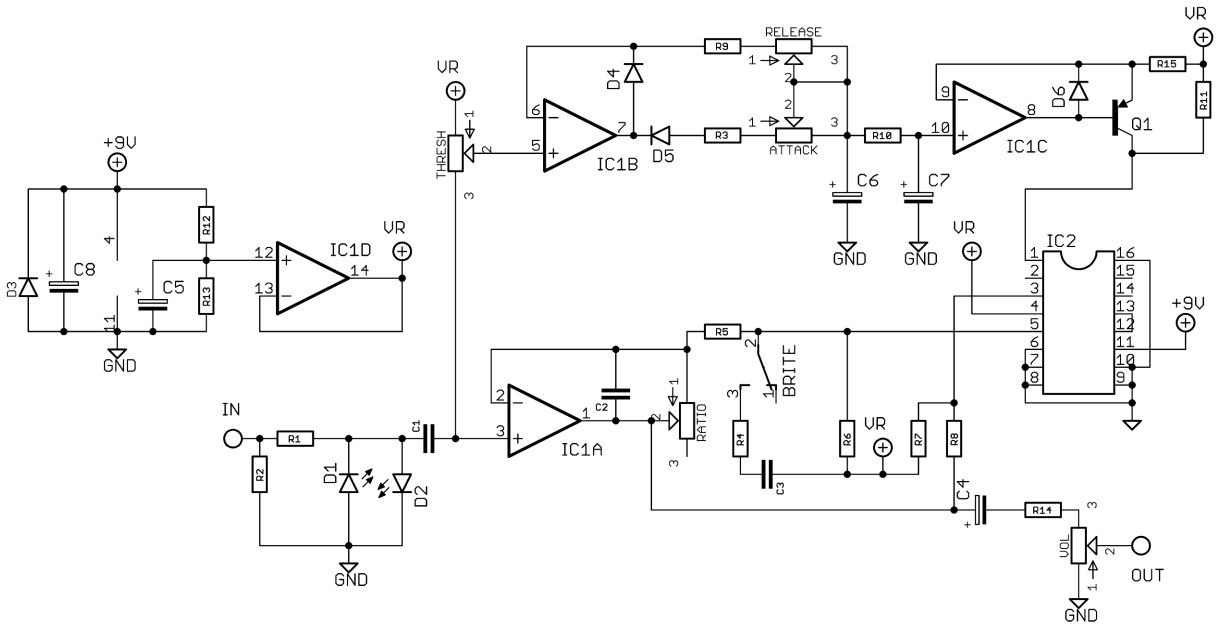
Before you dig in, ensure you download and read the **General Build Guide**.

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



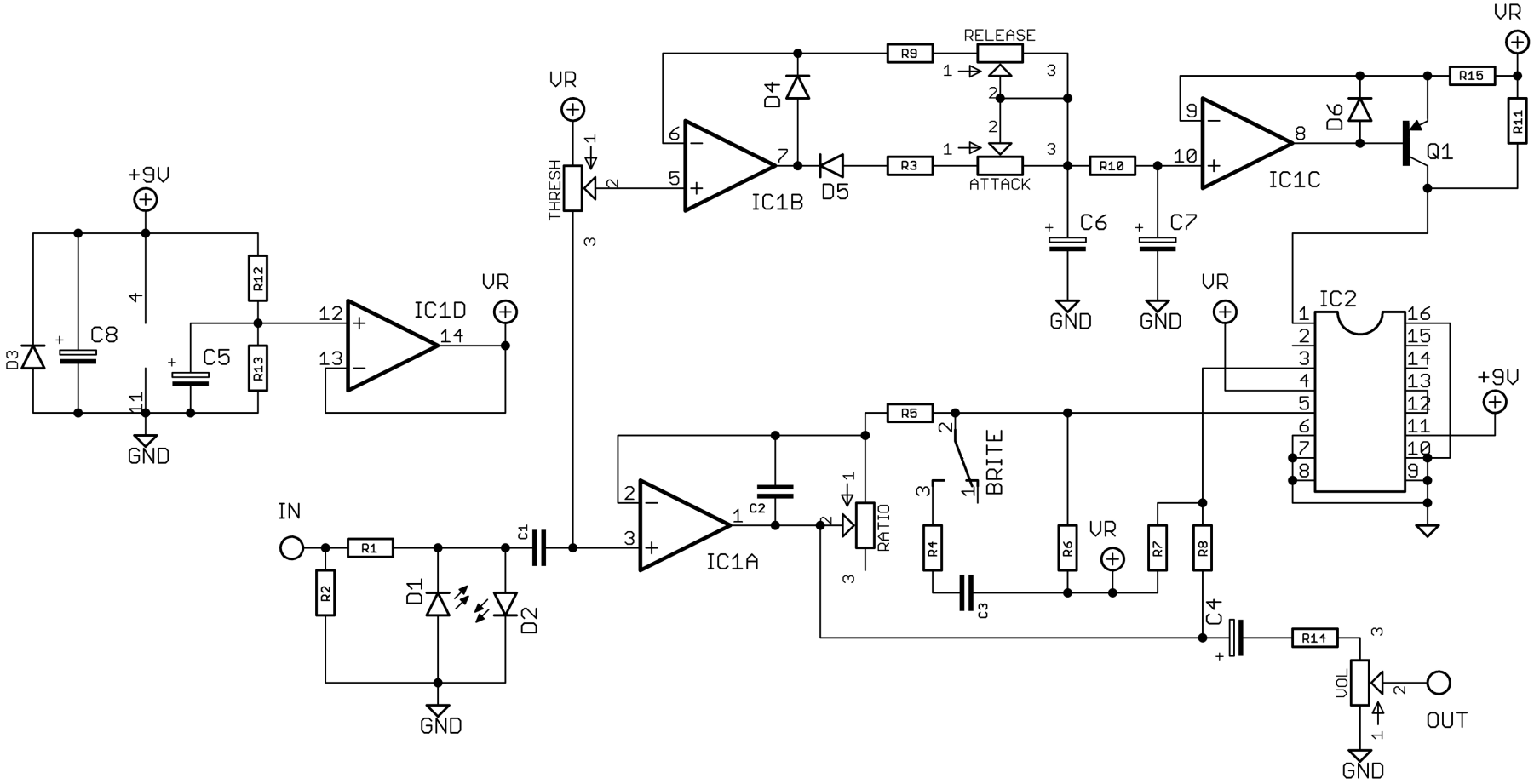
Schematic + BOM

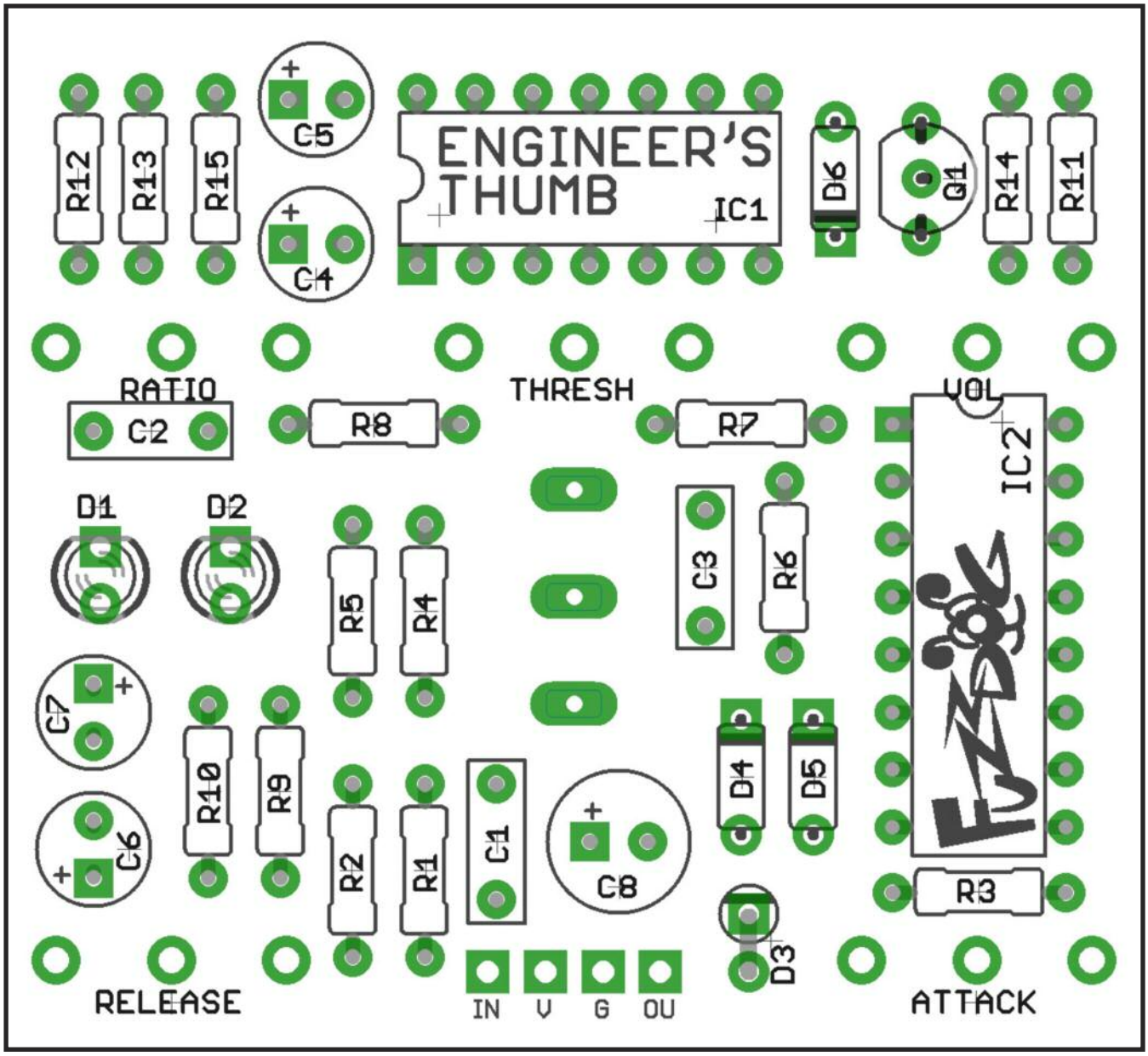
This is the full 5-knob + switch version.
See later notes about other versions.



R1	1K	C1	10n	D1,2	Red 3MM LED
R2	10M	C2	100P	D3	1N4001
R3	100R	C3	4n7	D4-6	1N4148
R4	10K	C4	10u elec		
R5	1K	C5	22u elec	IC1	TL074
R6	10K	C6	1u elec	IC1	LM13700
R7	220R	C7	1u elec	IC1	BC327*
R8	10K	C8	47u elec		
R9	100K			ATTACK	100KB
R10	1K			RELEASE	500KB
R11	1M			THRESH	1MB
R12	1M			RATION	1MA
R13	1M			VOL	10KA
R14	1K				
R15	1K			BRITE	SPDT ON-ON

*We've tried the circuit with a 2N3906 and it worked fine. The pinout is the opposite way around to the BC327 so it needs to be reversed.


+9V
GND
C8
C5
D3
R12
R13
IC1D
VR
IN
R1
R2
D1
D2
C1
IC1A
C2
THRESH
IC1B
D4
D5
R9
RELEASE
R3
ATTACK
R10
C6
C7
IC1C
D6
Q1
R15
R11
IC2
R5
BRITE
RATIO
R4
R6
R7
R8
C3
C4
R14
VOL
OUT



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.

Alternative versions

It's easy enough to remove the extra controls marked in red >>>>>

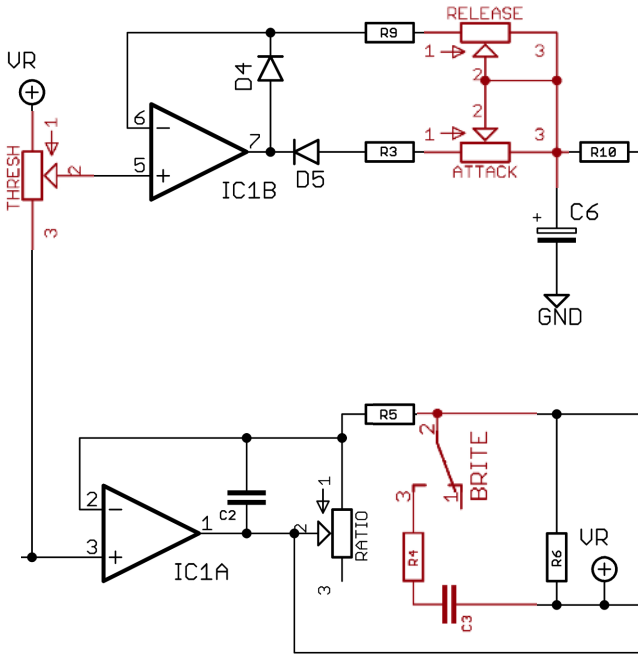
Simple do the following for each on the PCB, all shown below.

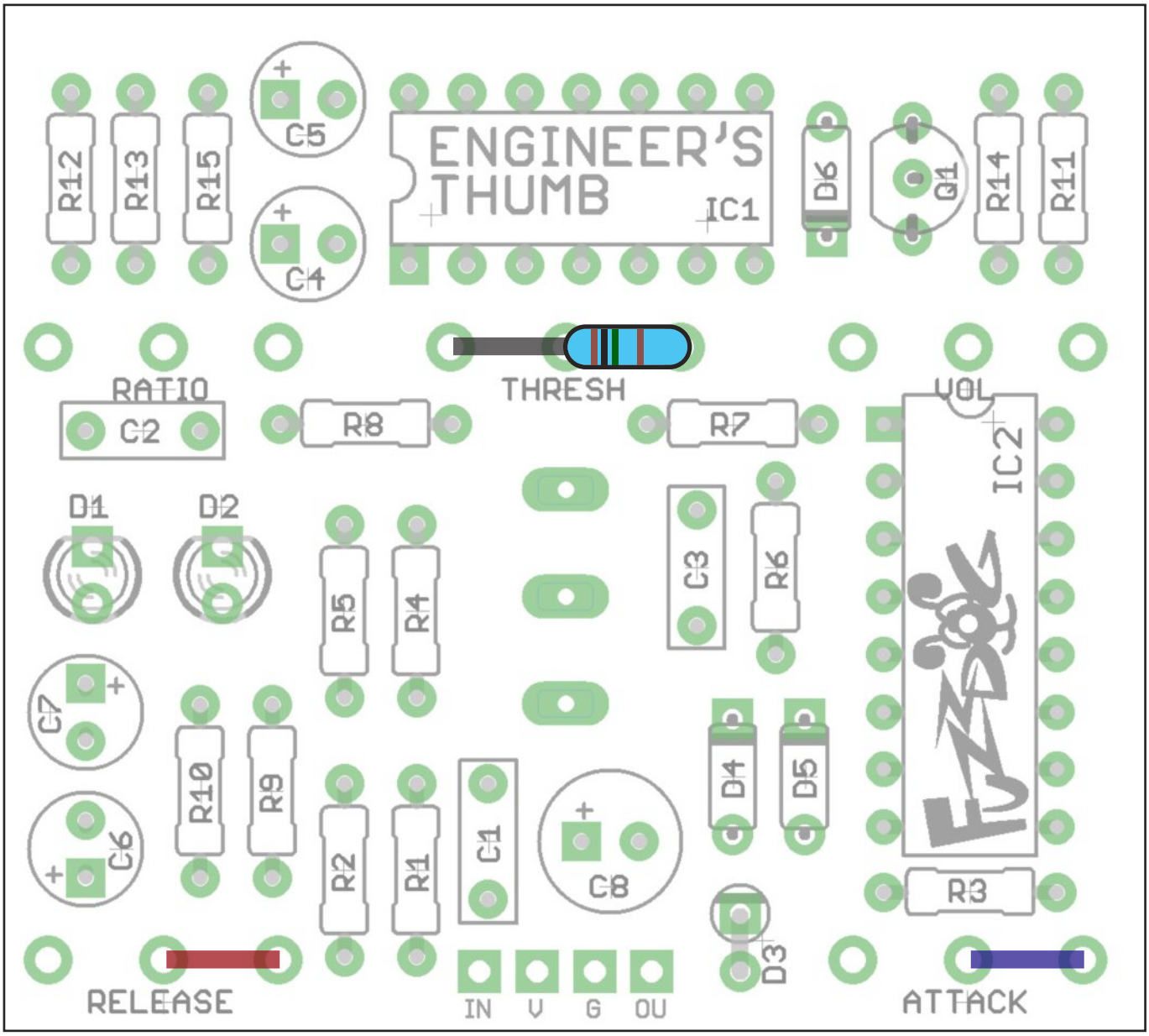
RELEASE - simply place a jumper as marked in red and use **1M** for **R9**. This can be decreased for shorter release.

ATTACK - place a jumper as marked in blue. **R3** can be increased for a longer attack.

BRITE - just leave out the switch, **R4** and **C3**.

THRESHOLD - place a **1M** resistor across pins 1-2 and a jumper across pins 2-3 as shown below. The centre pad needs to take two leads, but they're big holes so don't sweat it.





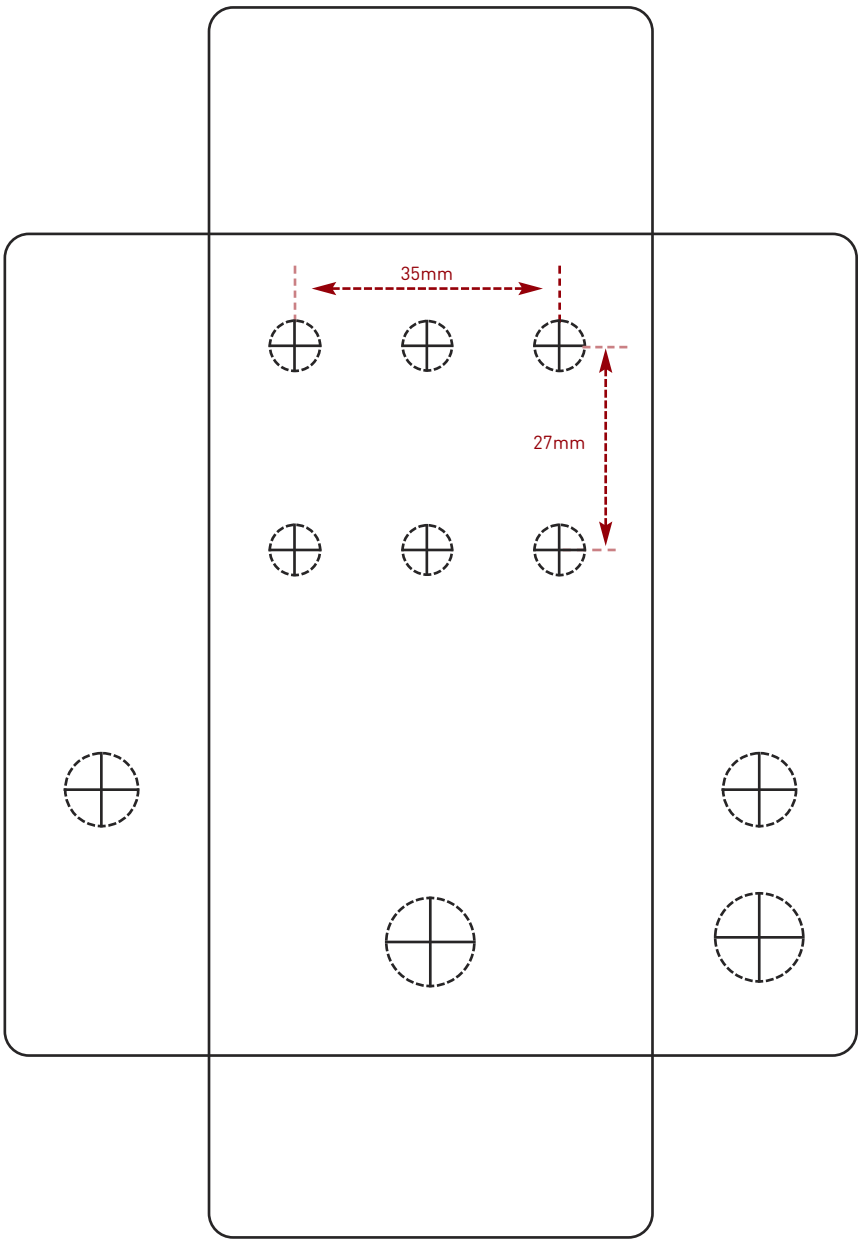
Drilling template

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.

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