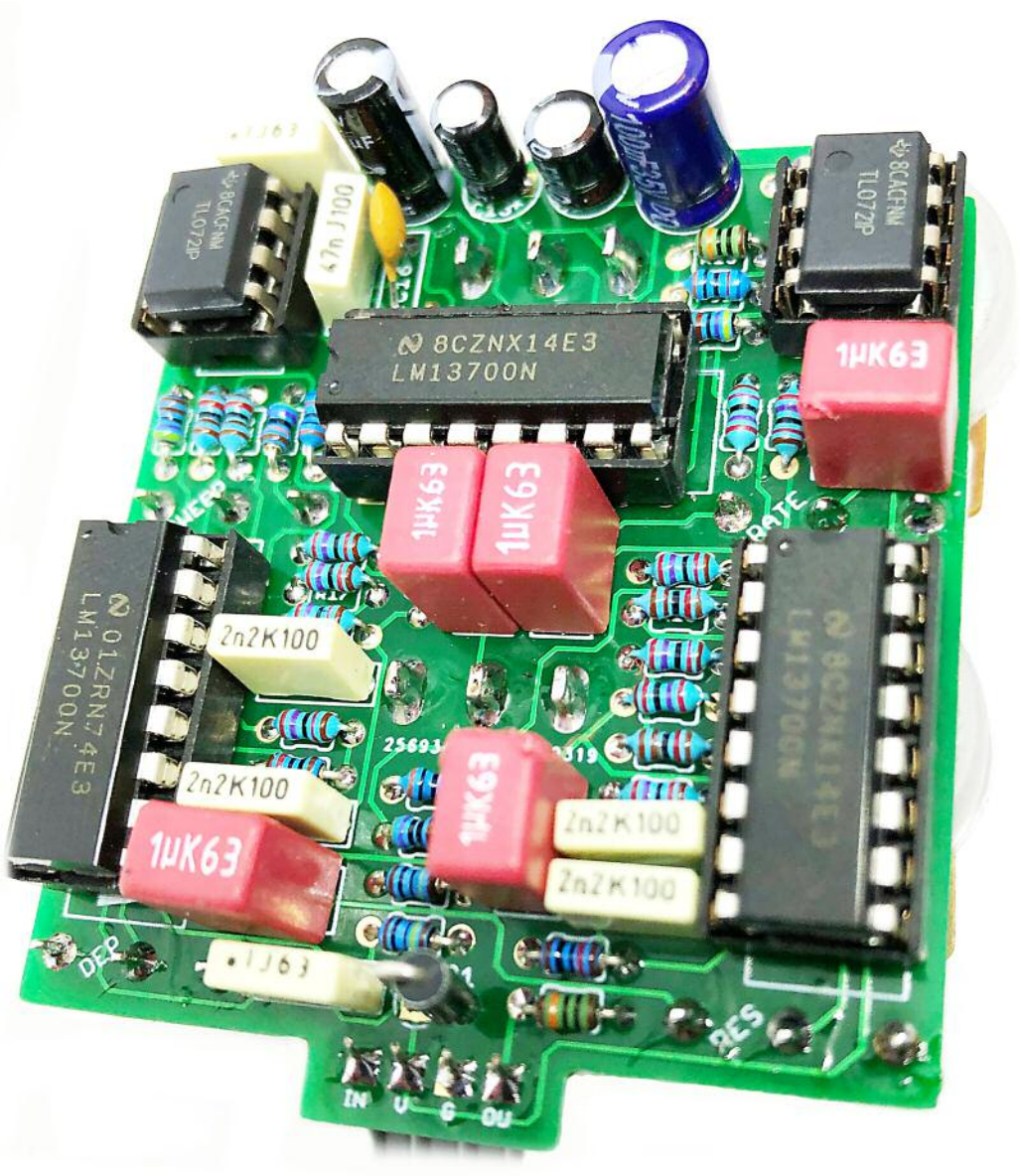
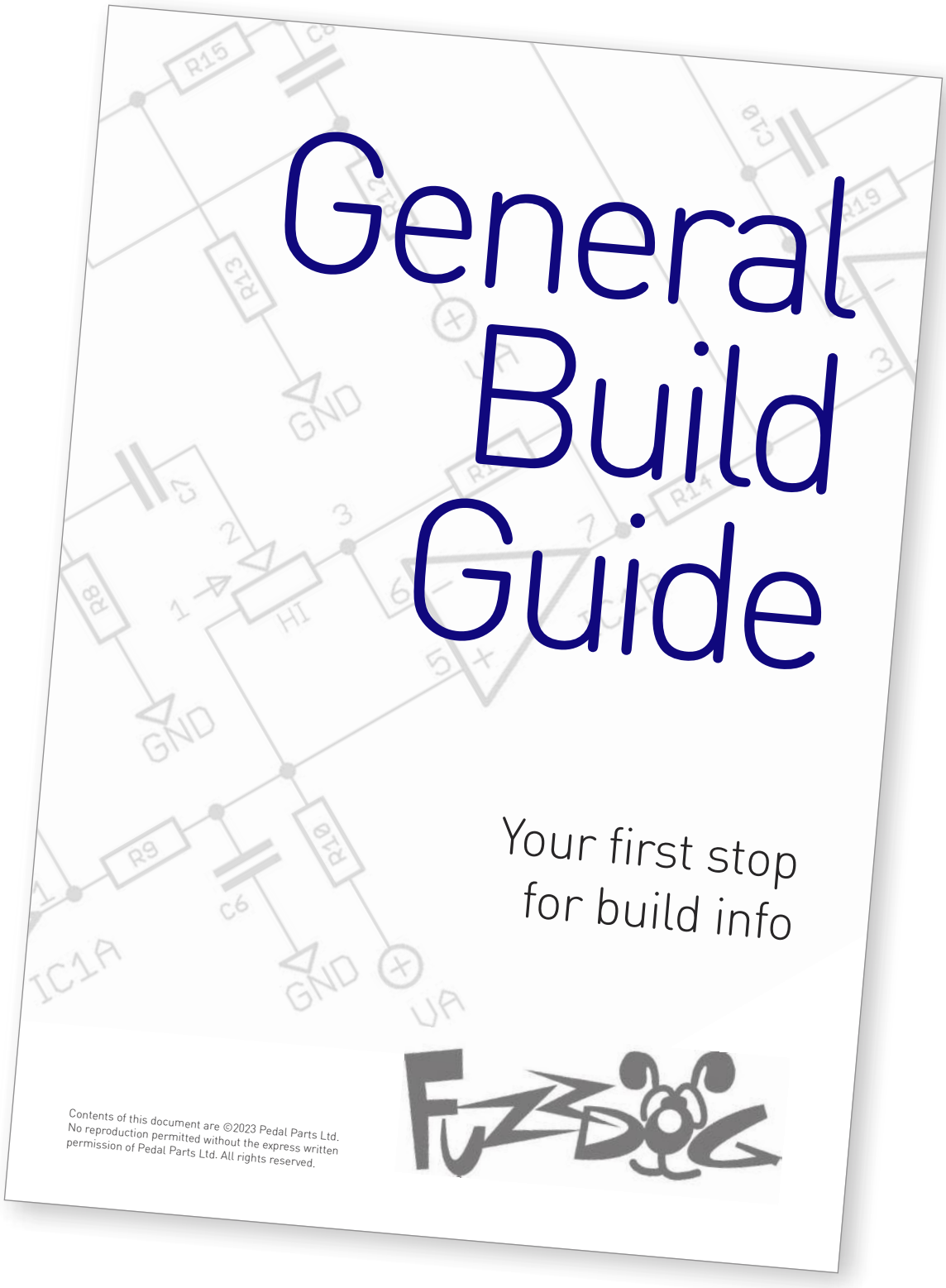


Moon Phaser

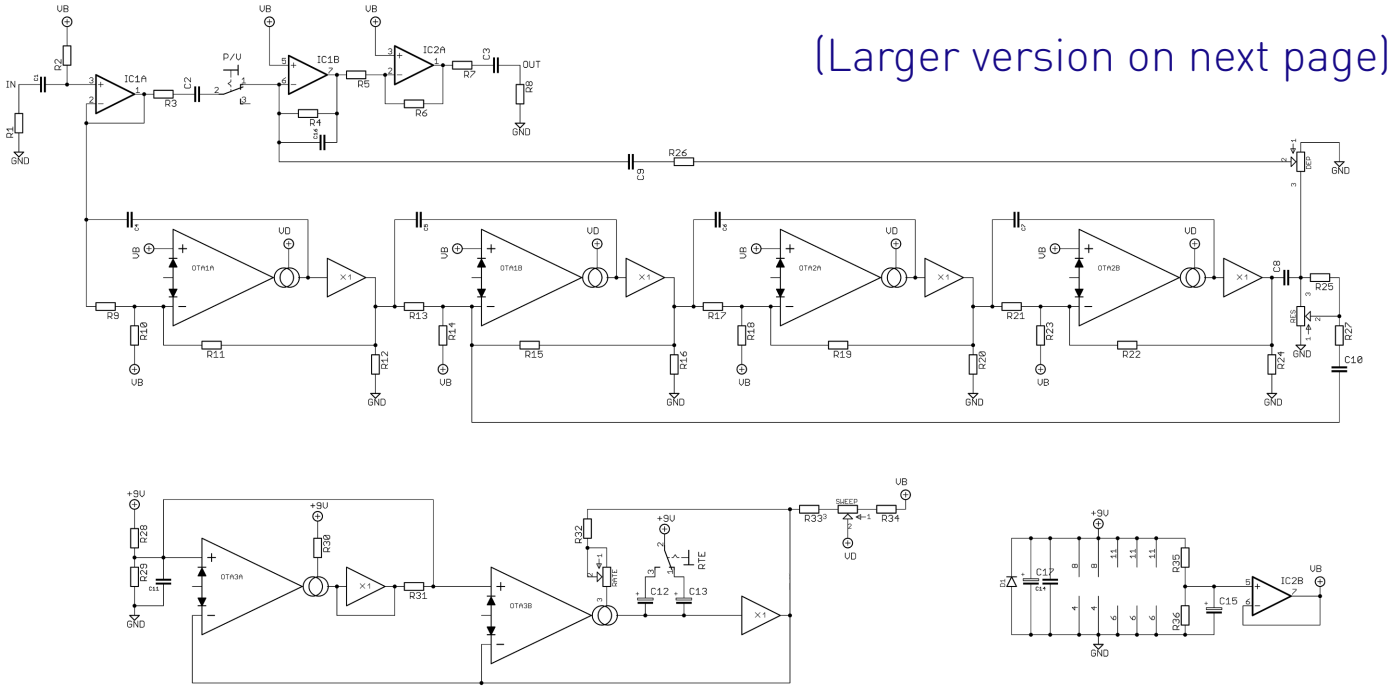
FET-free phasing fun

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



(Larger version on next page)

R1	1M
R2	1M
R3	10K*
R4	10K
R5	10K
R6	10K
R7	470R
R8	100K
R9	27K
R10	1K2
R11	27K
R12	10K
R13	27K
R14	1K2
R15	27K
R16	10K
R17	27K
R18	1K2
R19	27K
R20	10K
R21	27K
R22	27K
R23	1K2
R24	10K
R25	27K
R26	8K2*
R27	27K
R28	220K
R29	100K
R30	150K*
R31	10K
R32	4K7
R33	4K7
R34	470K
R35	56K*
R36	56K

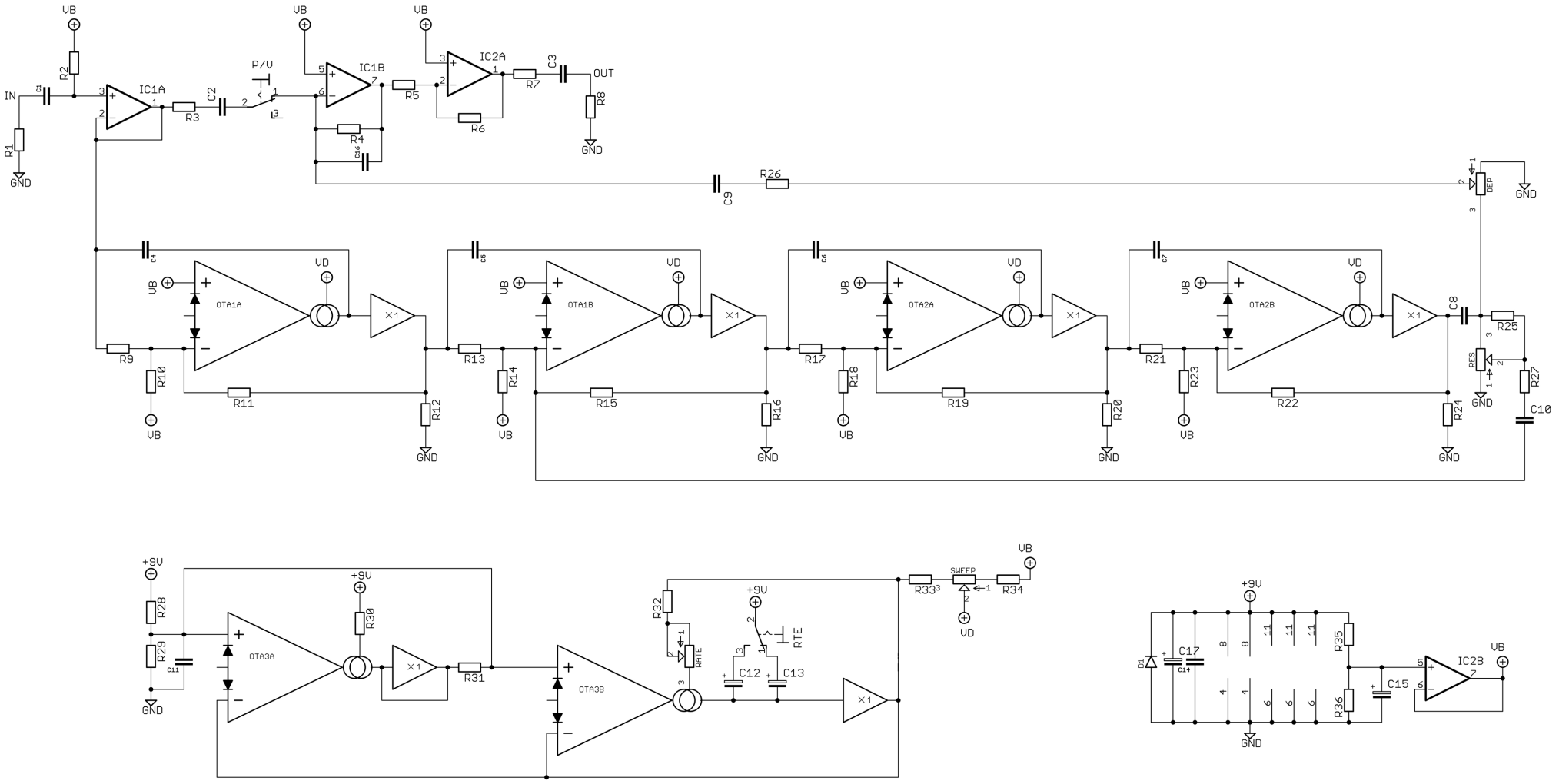
C1	100n
C2	1u
C3	1u
C4	2n2
C5	2n2
C6	2n2
C7	2n2
C8	1u
C9	1u
C10	1u
C11	47n
C12	1u
C13	4u7 elec
C14	100n
C15	10u elec
C16	100p
C17	100u elec

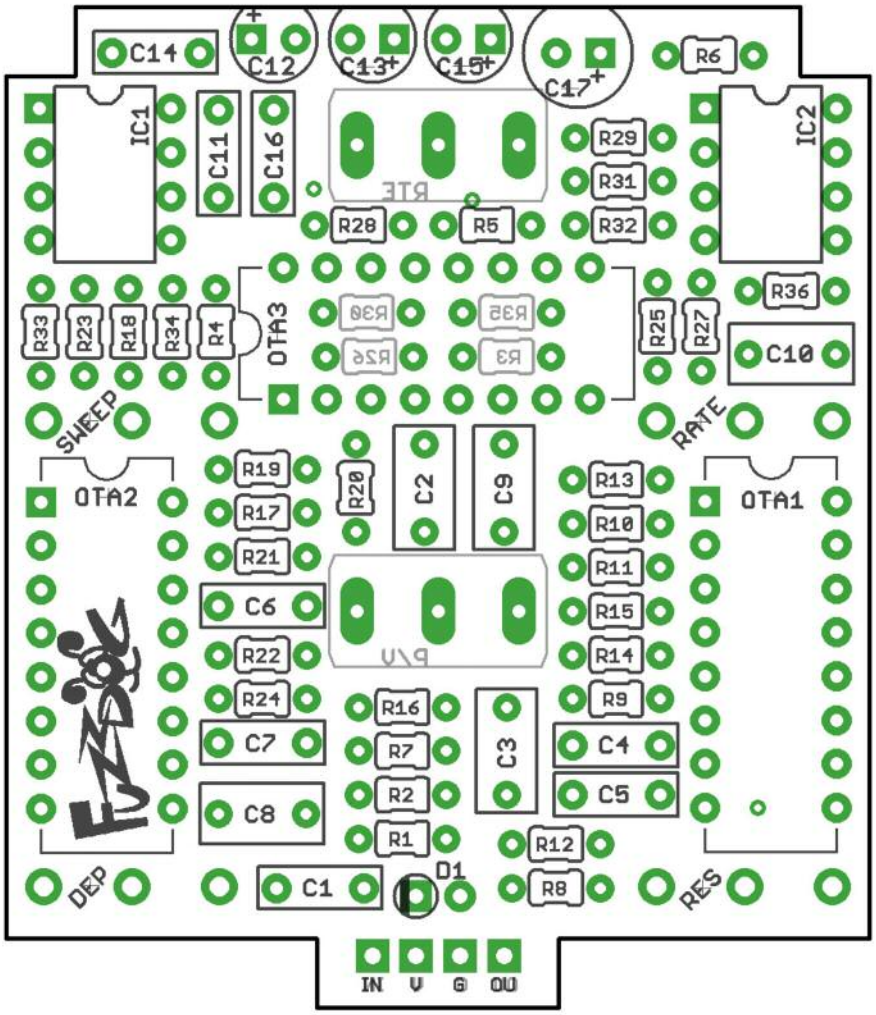
D1	1N4001
IC1-2	TL072
OTA1-3	LM13700
DEP	25kb
RATE	1MC
RES	1MC
SWP	50KB

SPDT SWITCHES

P/V	ON-ON
RTE	ON-OFF-ON

*These resistors go on the underside of the PCB, and sit beneath OTA3. Ensure you solder them before you solder the IC socket for OTA3, and trim your leads nice and short so they don't interfere with the socket.


VB
IN
C1
R2
IC1A
R3
C2
P/V
IC1B
R4
C16
R5
IC2A
R6
R7
C3
OUT
R8
GND
R1
R26
C9
DEP
OTA1A
OTA1B
OTA2A
OTA2B
VD
×1
C4
C5
C6
C7
C8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R23
R22
R24
R25
RES
R27
C10
+9V
R28
R29
C11
OTA3A
R30
R31
OTA3B
R32
RATE
C12
C13
RTE
R33
SWEEP
R34
D1
C17
R35
R36
C15
IC2B



PCB layout ©2021 Pedal Parts Ltd.

SWITCH POSITIONS

RATE

Left	Fast
Centre	Fixed
Right	Slow

In the centre position the circuit operates as a fixed resonant filter.

P/V

Left	Vibe
Right	Phaser

In Vibe mode the Depth pot acts as a volume control.

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 ICs if you aren't using sockets (why not?). 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).

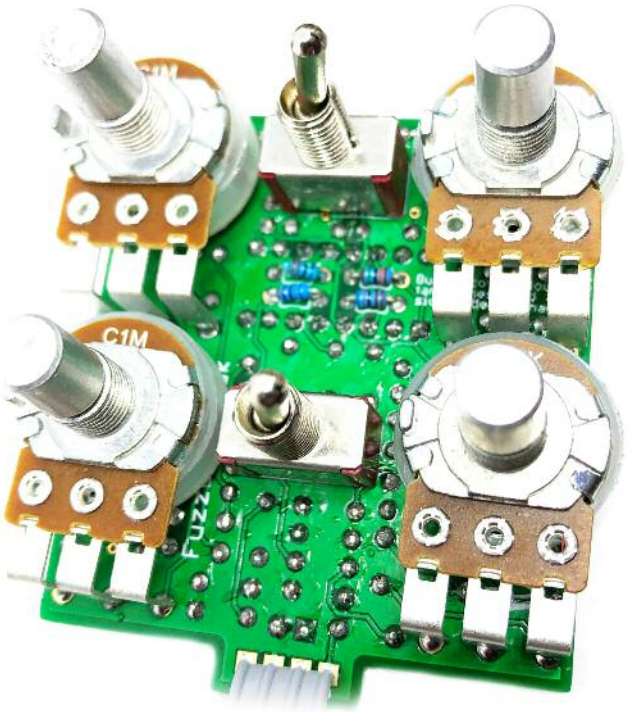
Snap the small metal tag off the pots so they can be mounted flush in the box.

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.

Do the same with the toggle switches - one pin first, then melt and adjust to get it lined up nicely before soldering the other two pins.

The board has been designed for 3mm resistors. These can be 0.125W or 0.4W. You can use 6mm if you prefer by simply mounting them vertically.



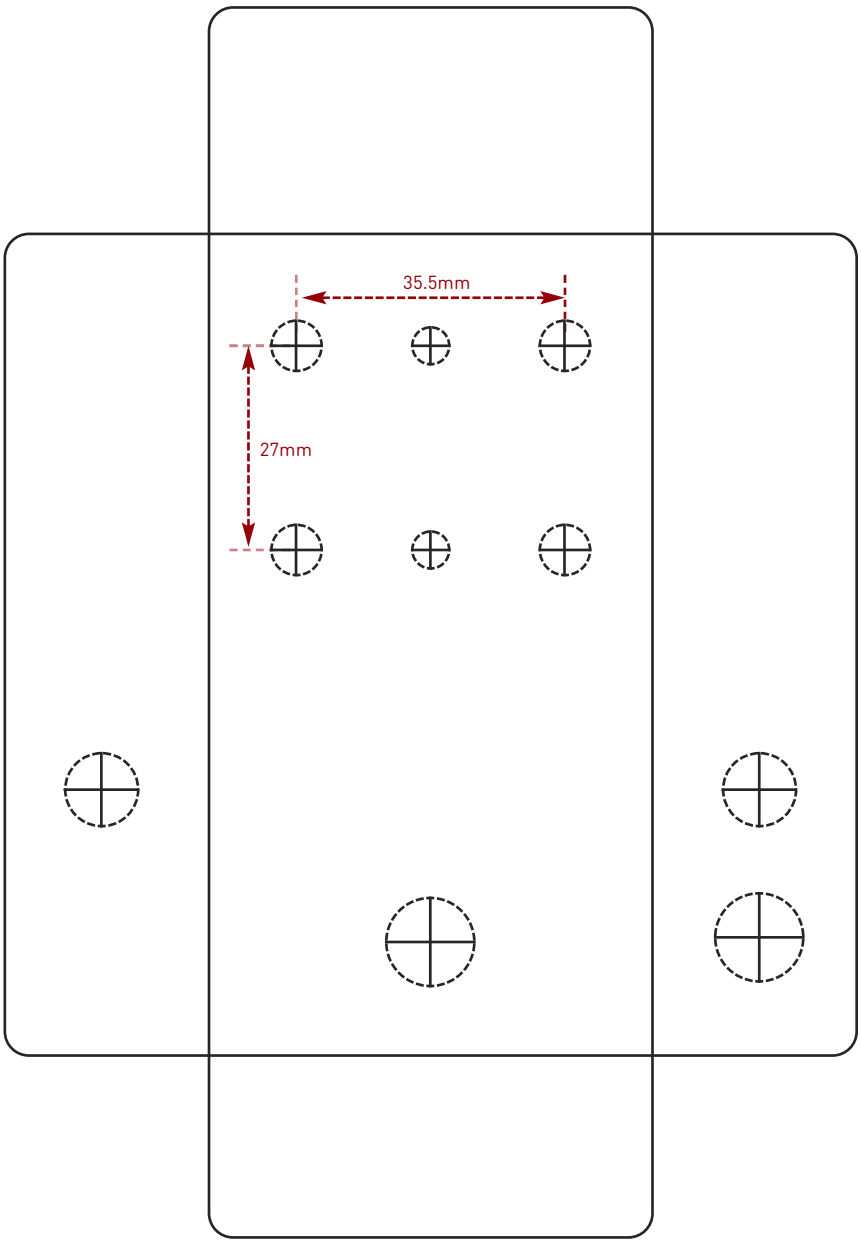
Drilling template

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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