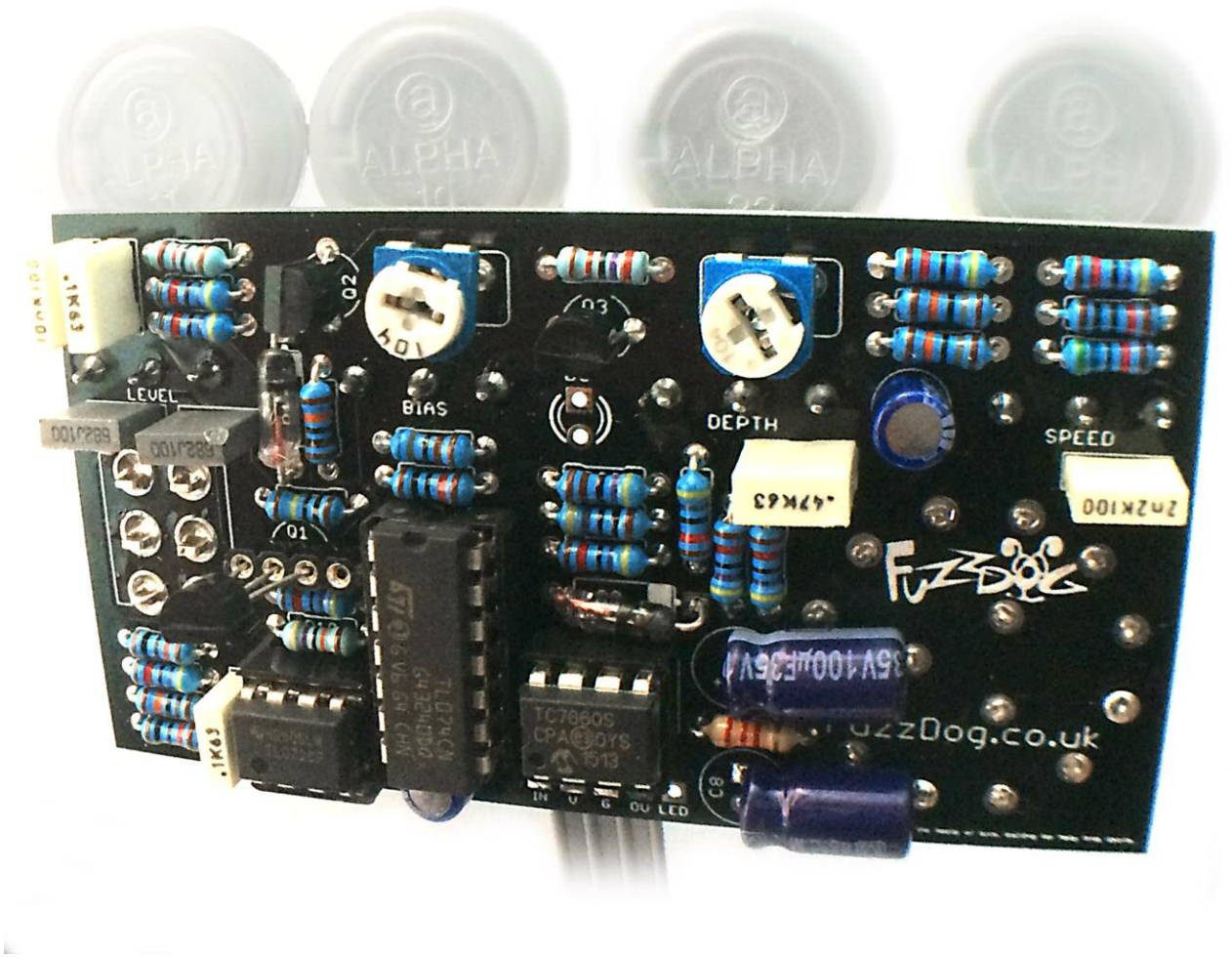
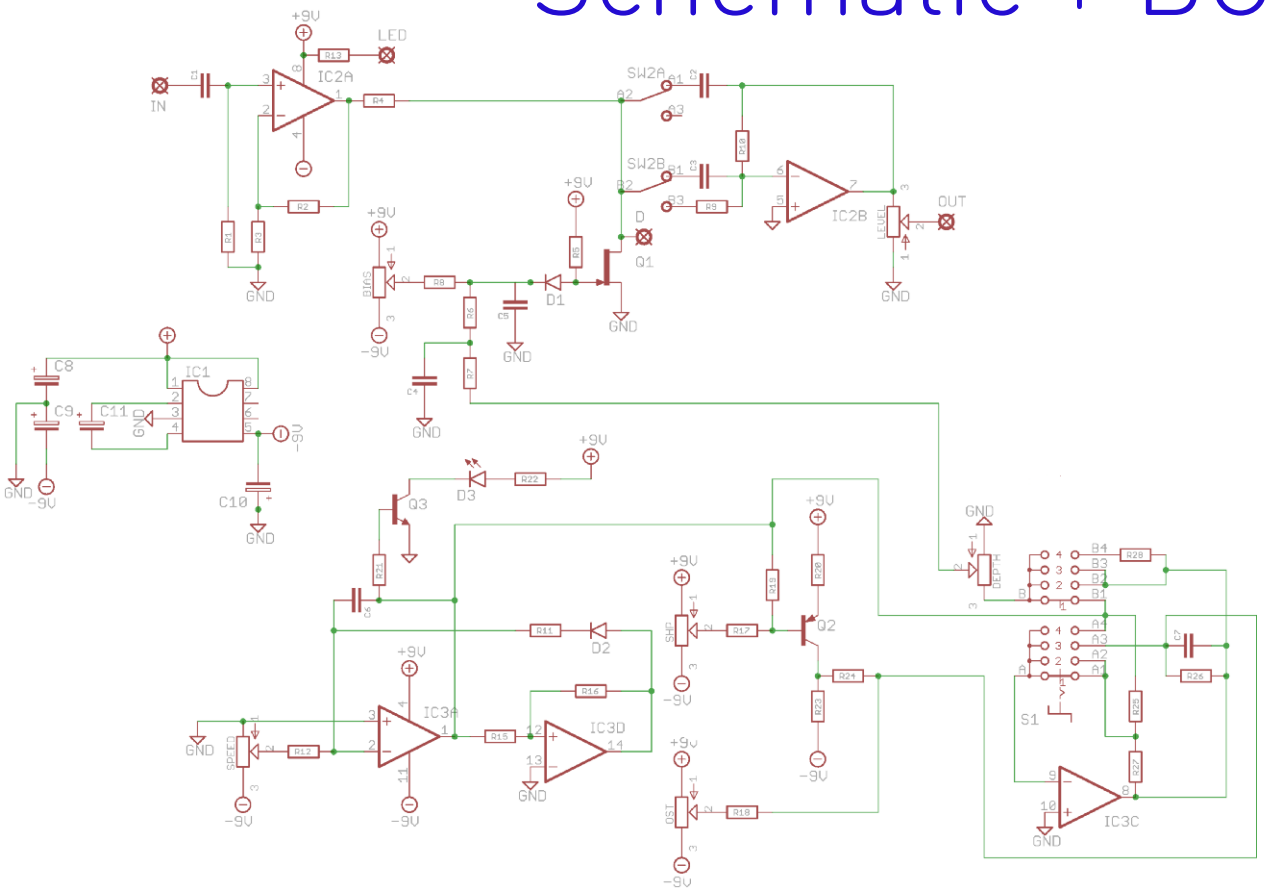


Gristleiser

Filthy, dirty modulation fun

Schematic + BOM



R1	47K
R2	100K
R3	10K
R4	10K
R5	1M
R6	47K
R7	47K
R8	100K
R9	47K
R10	470K
R11	470R
R12	56K
R13	CLR (2K2)
R15	10K
R16	47K
R17	47K
R18	180K
R19	10K
R20	18K
R21	6K8
R22	4K7
R23	27K
R24	47K
R25	47K
R26	180K
R27	47K
R28	47K

C1	100n
C2	6n8
C3	6n8
C4	10n
C5	100n
C6	470n
C7	2n2
C8	100u elec
C9	100u elec
C10	10u elec
C11	10u elec

Q1	2N3819*
Q2	2N3906
Q3	2N3904

IC1	7660S
IC2	4558
IC3	TL074

D1-2	1N34A
D3	Rate Indicator LED

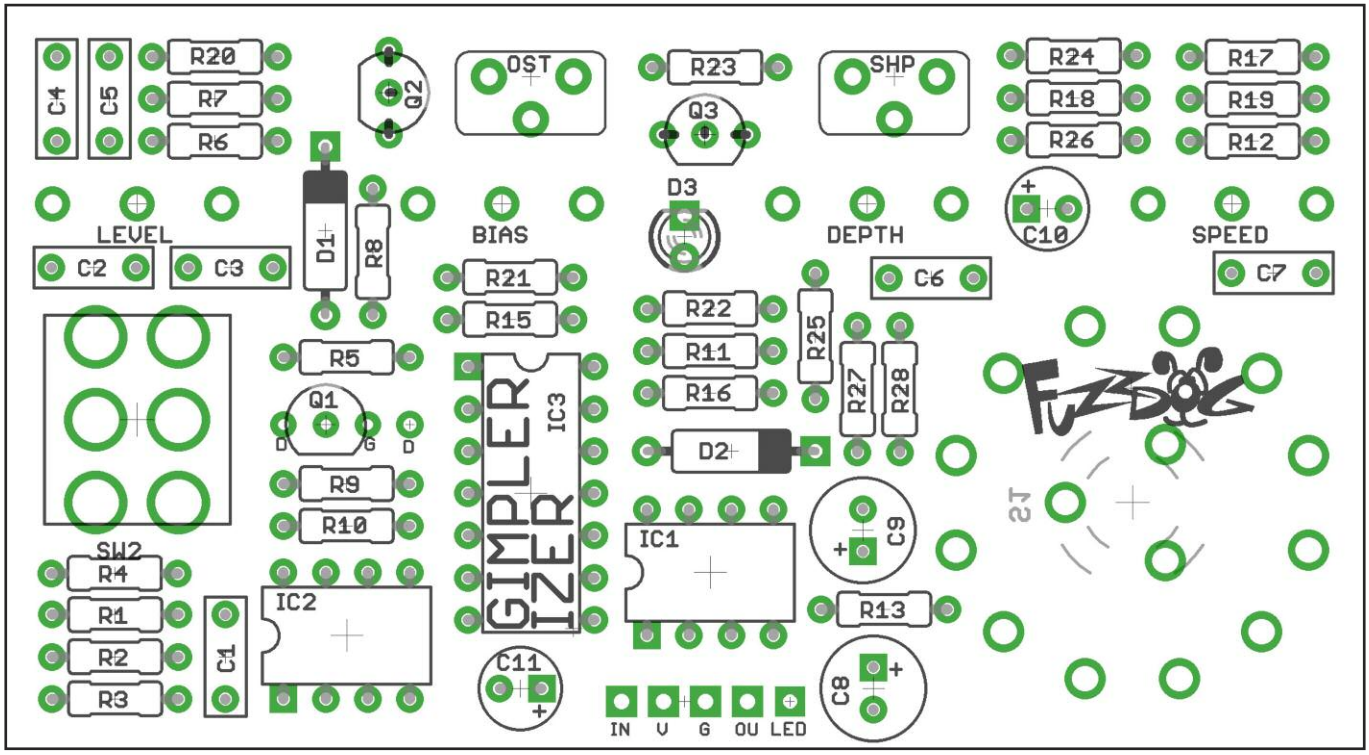
BIAS	100KB
DEPTH	10KB
LEVEL	100KB
SPEED	10KA

SHAPE	100K TRIM
OST	100K TRIM

SW1	3P4T ROTARY
SW2	DPDT ON-ON

*We've tried other FETs and they all worked absolutely fine - 2N5457, J201, J113.

Check your pinout - see later in the document.



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.

Be very careful when soldering the transistors 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).

Be very careful when bending the legs of the germanium diodes in D07 cases. The glass casing is very brittle where the leg enters it. You should grip the leg with some fine needle-nosed pliers pushed right against the glass body, then bend the leg with your fingers. The pliers will take the strain away from the body.

The cathode (striped end) of the diodes go into the square pads. The anode (long leg) of electrolytic capacitors go into the square pads.

You should get all the components in the top side of the board before soldering in the pots - once they're in place you'll have no access to some of the components without bending them out of the way - you can only do that so many times before the legs snap.

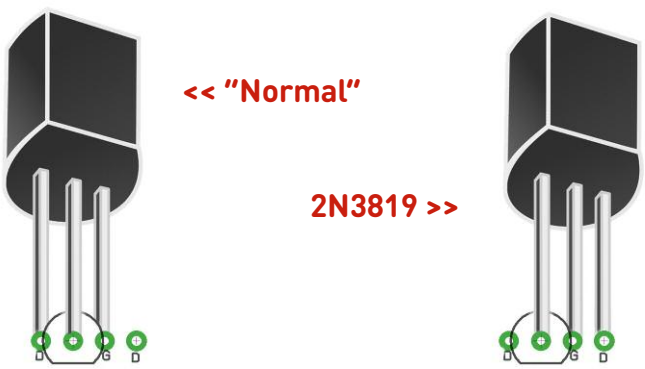
As the rotary is much deeper than the pots you should line everything up carefully before soldering. Vertical mount pot pins will only just reach the PCB when flush with the switch. Use the enclosure as a guide.

The rotary switch has a small plastic locator tab on the top side - line this up with the symbol on the pcb. It should be right next to the edge of the PCB.

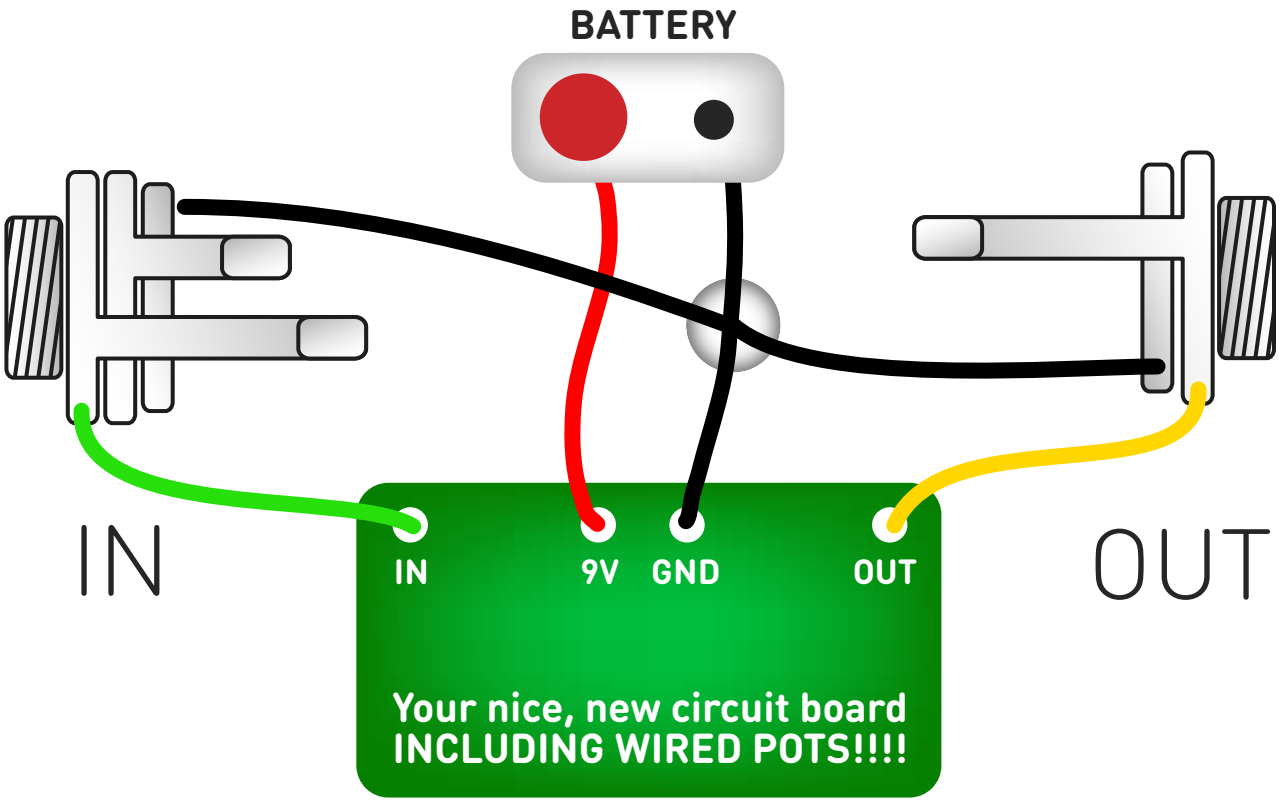
If your rotary switch has more than four positions (three clicks) when you turn it, you'll have to adjust it. Take off the nut and anti-vibration washer and you'll see another washer with a locator tab which is inserted into a hole in the switch body. Move that locator tab into the third hole from the left. You should now only have four positions on your turn.

FETS

The PCB has an extra pad next to Q1 to allow FETs with different pinouts to be used. If you're going for something with standard DSG pinout, such as J201 or 2N5457, they should be inserted exactly as indicated on the screen print. 2N3819 have a SGD pinout, so imagine you're inserting it into the normal pads, then move it across one pad so the right hand pin goes into the extra pad marked D.



Test the board!



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 is 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 it works, crack 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.

SETTING UP

You have two trimmers to set:

SHAPE

This adjusts the shape of the triangle wave. If you have an oscilloscope now's the time to fire it up. Set the mode switch to triangle and adjust the trimmer until you get a nice triangular waveform. If you don't have a scope you're going to have to trust your ears. There are two methods. 1) Turn depth and rate up full and adjust until you have the smoothest tone. 2) Turn depth up full and rate right down - adjust until you have even up and down slopes.

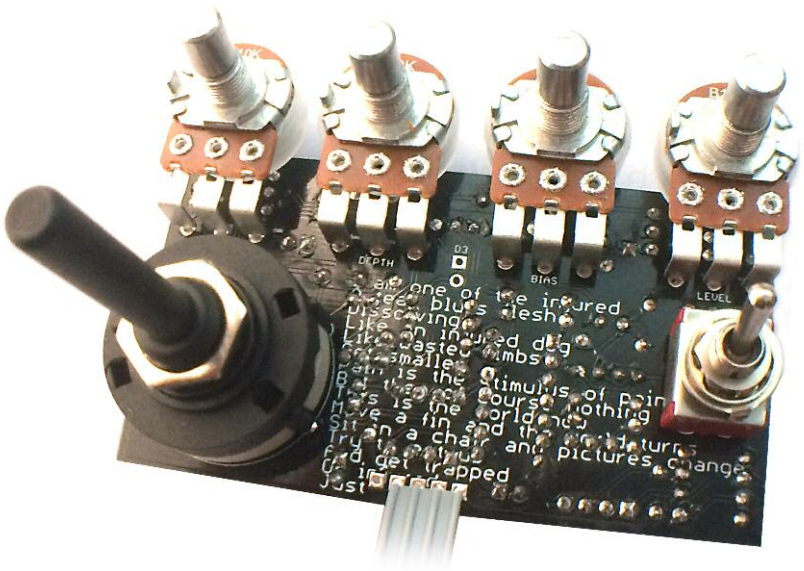
OFFSET (OST)

This sets the centre of the LFO sweep. Again, a scope is your friend here - adjust this so the centre of the waveform is at 0V. No scope, adjust by ear for the fullest sweep you can hear.

MAKING SENSE OF IT ALL...

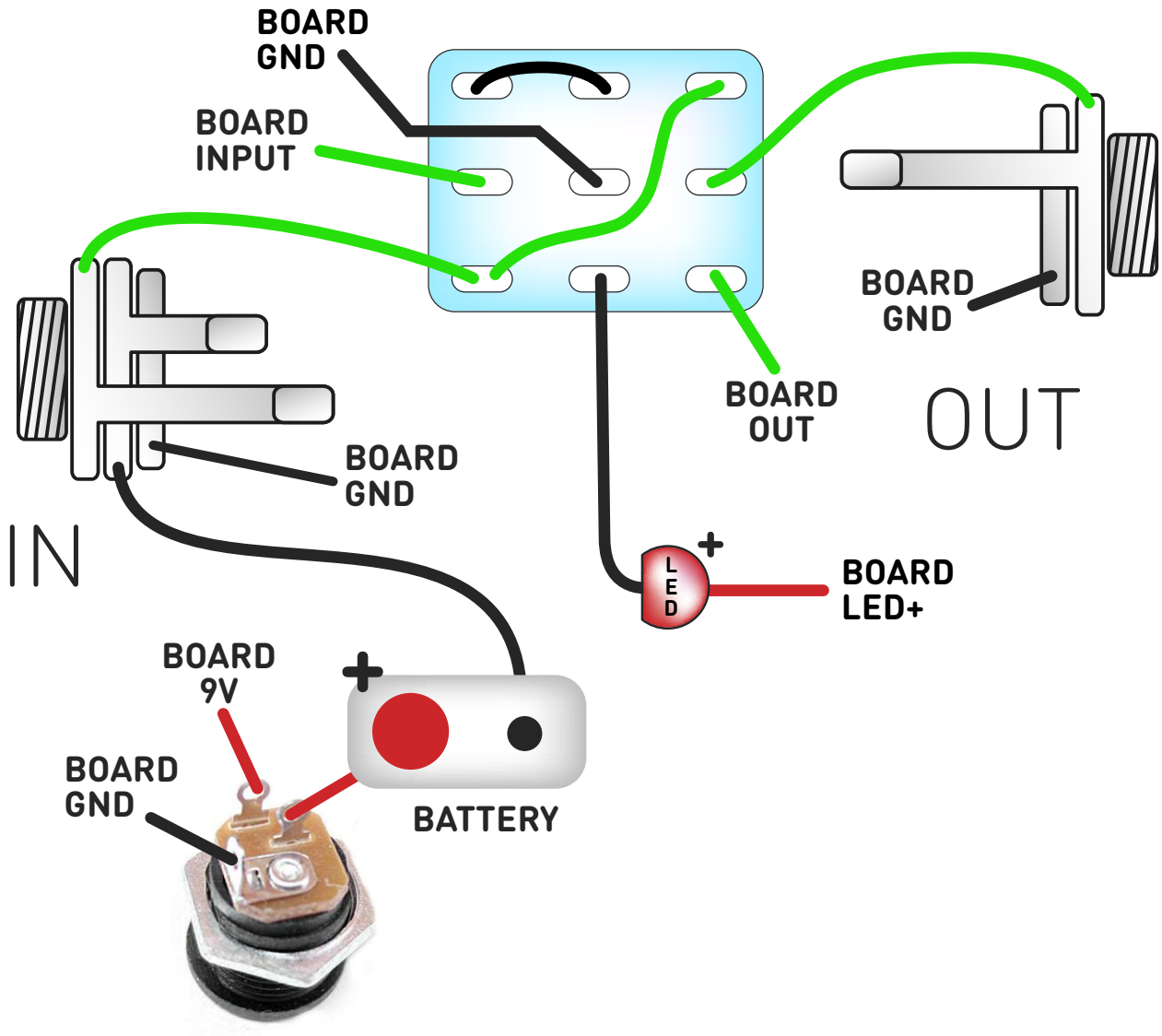
This isn't an exact-science effect. Everything is highly interactive so experimentation is the watchword. You'll find a sweet setting in one mode will do nothing in the next. Once you turn the rotary switch you'll find the Bias control will need tweaking to get the next mode working as you want.

The toggle switch is to select VCA/VCF modes. If you're not sure what that is, just flip the switch.



Wire it up - with battery

(if using a daughterboard please refer to the relevant document)



This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

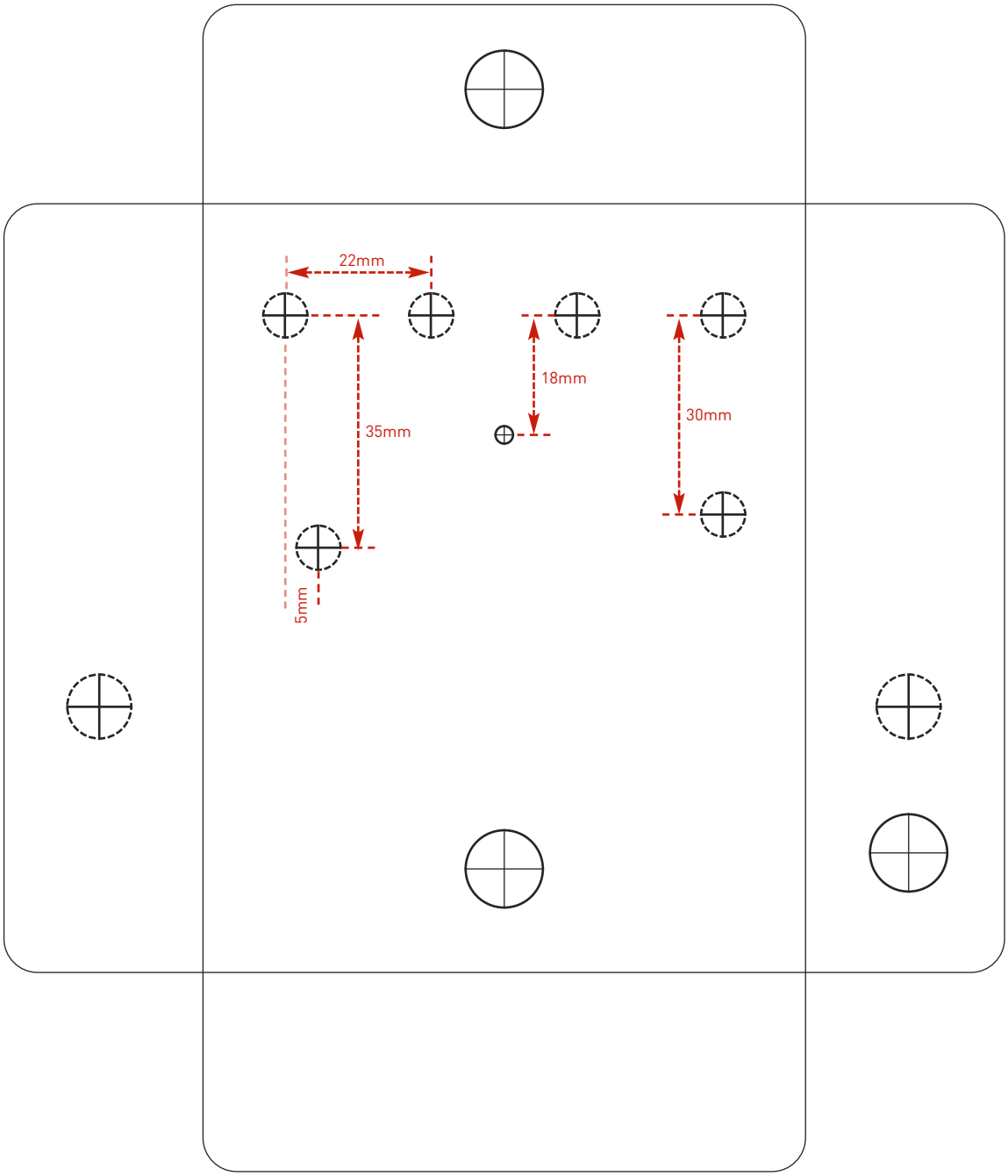
The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

Drilling template

Hammond 1590BB

Recommended drill sizes:

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

PedalParts.co.uk