

Rattling Bird

Rattle Crow / Dirty Bird
Filtered Fuzz



Important notes

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.
- 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.

POWER SUPPLY

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

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.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

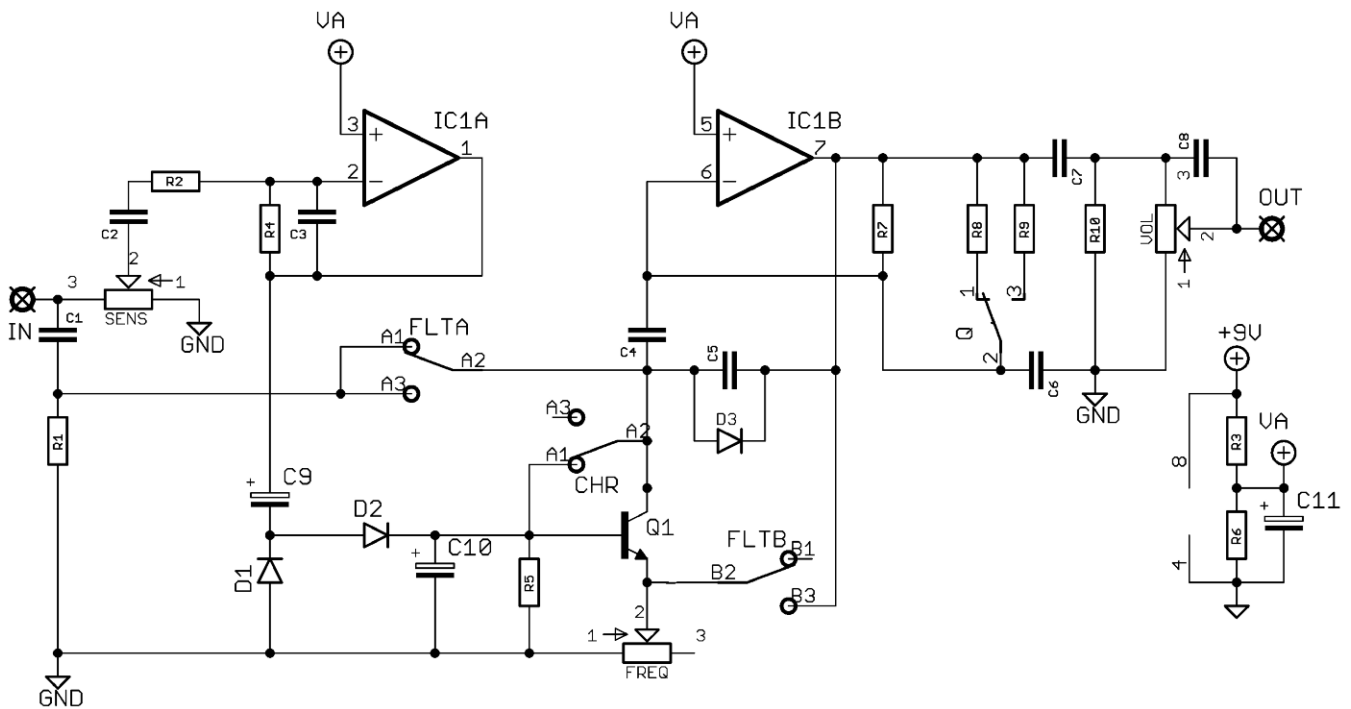
LAYOUT CONVENTIONS

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

- **Electrolytic capacitors:**
Long leg (anode) to square pad.
- **Diodes/LEDs:**
Striped leg (cathode) to square pad. Short leg to square pad for LEDs.
- **ICs:**
Square pad indicates pin 1.

Schematic+BOM

DIRTY BIRD

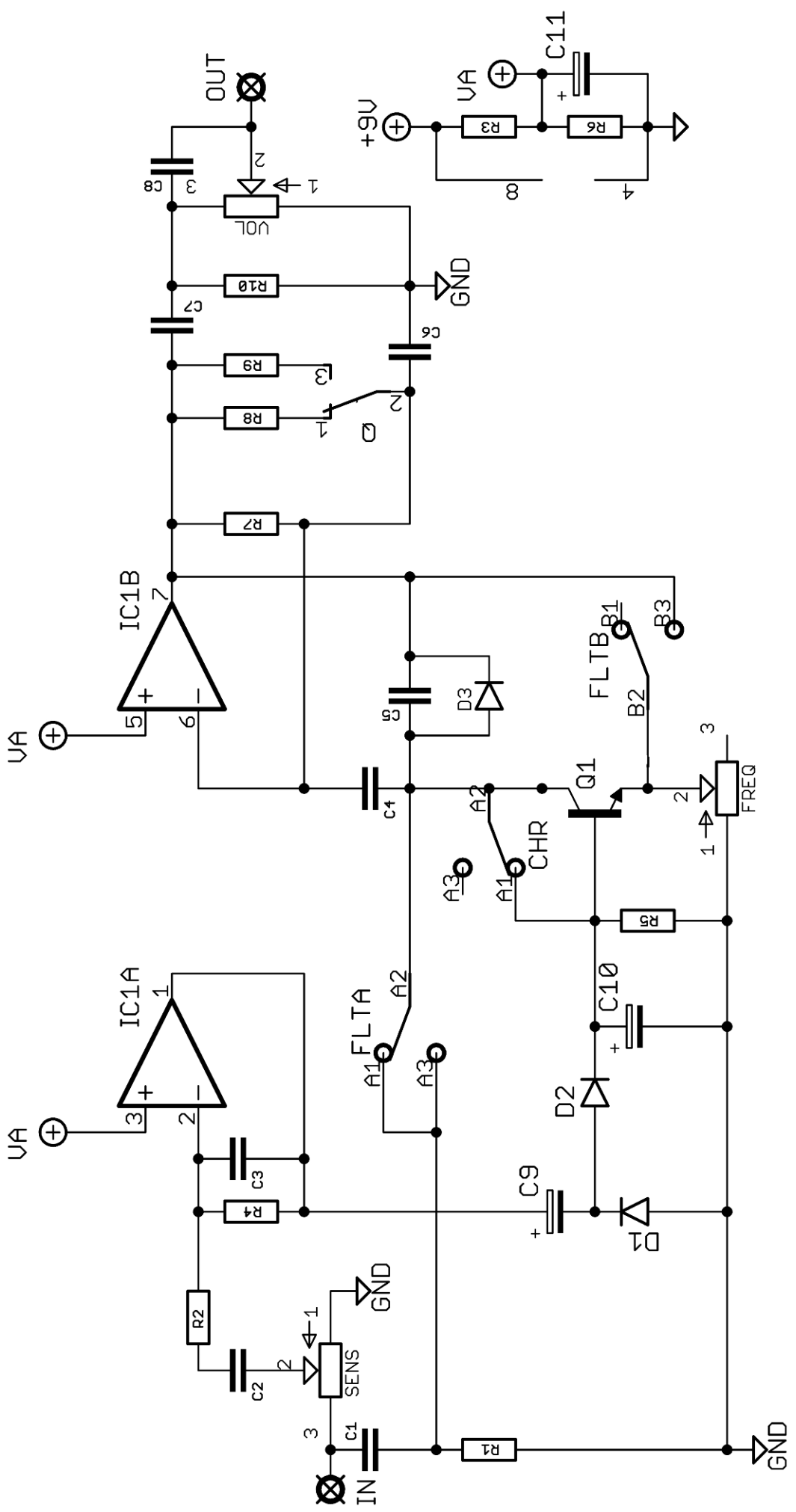


R1	220K	C1	47n	D1-2	1N4148
R2	47K	C2	47n	D3	1N4001
R3	47K	C3	100p	Q1	2SC1815**
R4	2M	C4	6n8	SENS	50KB
R5	100K	C5	6n8	FREQ	5KB
R6	47K	C6	47p	VOL	10KA
R7	2M7	C7	100n	FLUT	DPDT On-Off-On
R8	560K	C8	*	CHIRP	SPDT On-On
R9	1M5	C9	10u elec	Q	SPDT On-Off-On
R10	100K	C10	2u2 elec		
		C11	10u elec		

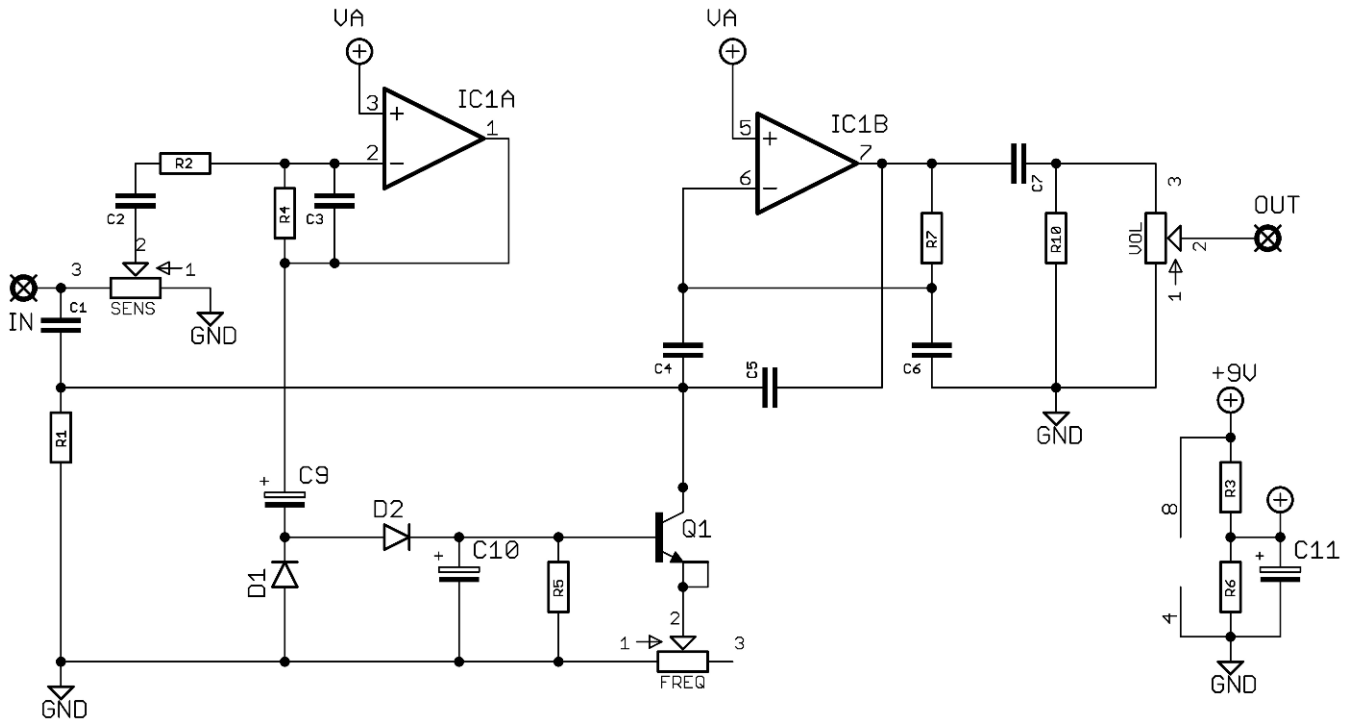
*The full version of Moosapotamus' Dirty Bird includes a Bright switch. To keep things neat in a 1590B we've omitted this, but left a spot so you can add it if you really want to with some offboard wiring.

**Other BJTs will work, and we've included pads to take standard CBE pinouts. See later in the doc for positioning for the 1815 which has a different pinout.

All the toggle switches are optional. A jumper is required if you're leaving out the FLUTTER switch. See later in the doc.



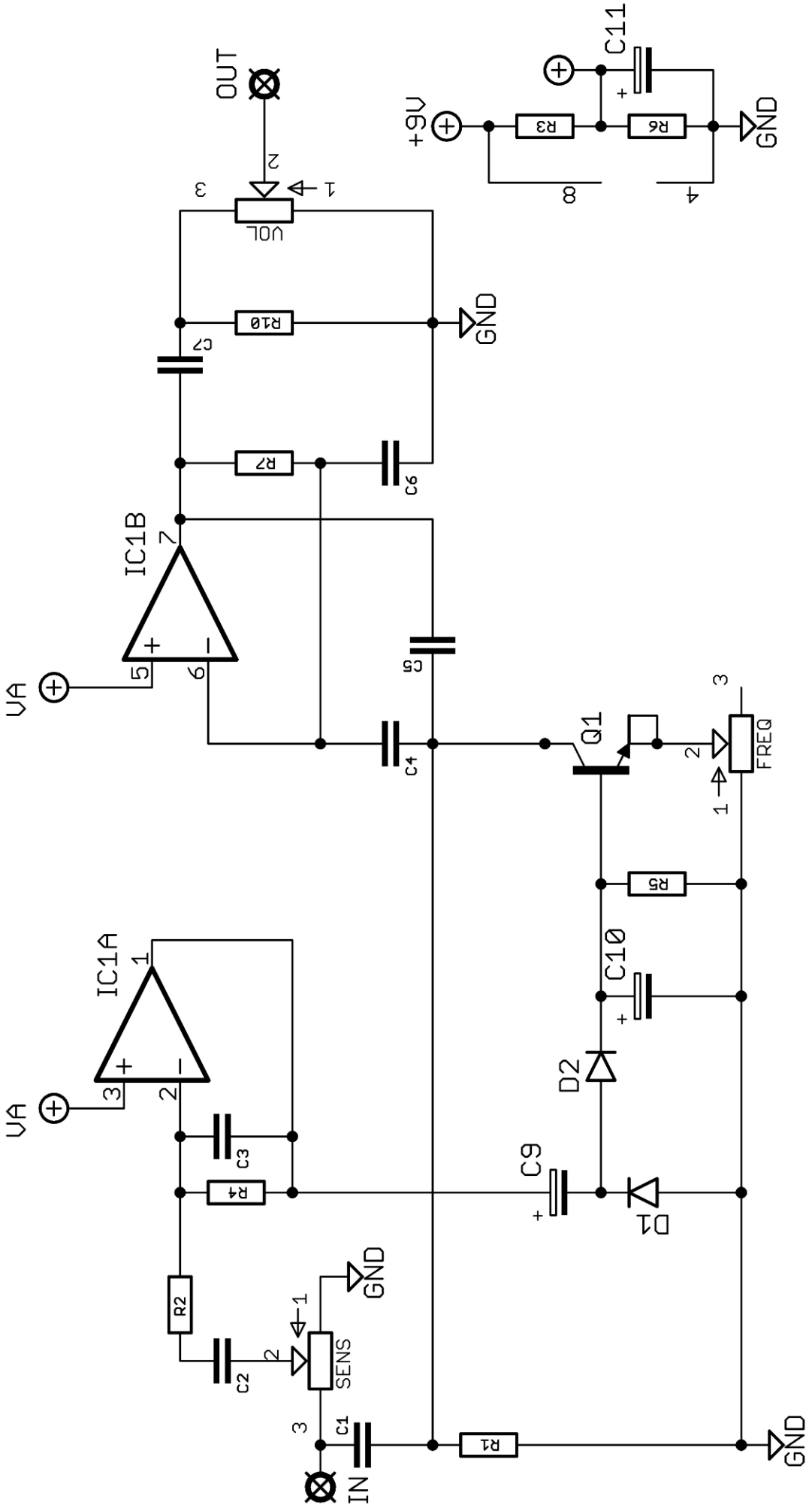
Schematic+BOM RATTLE CROW

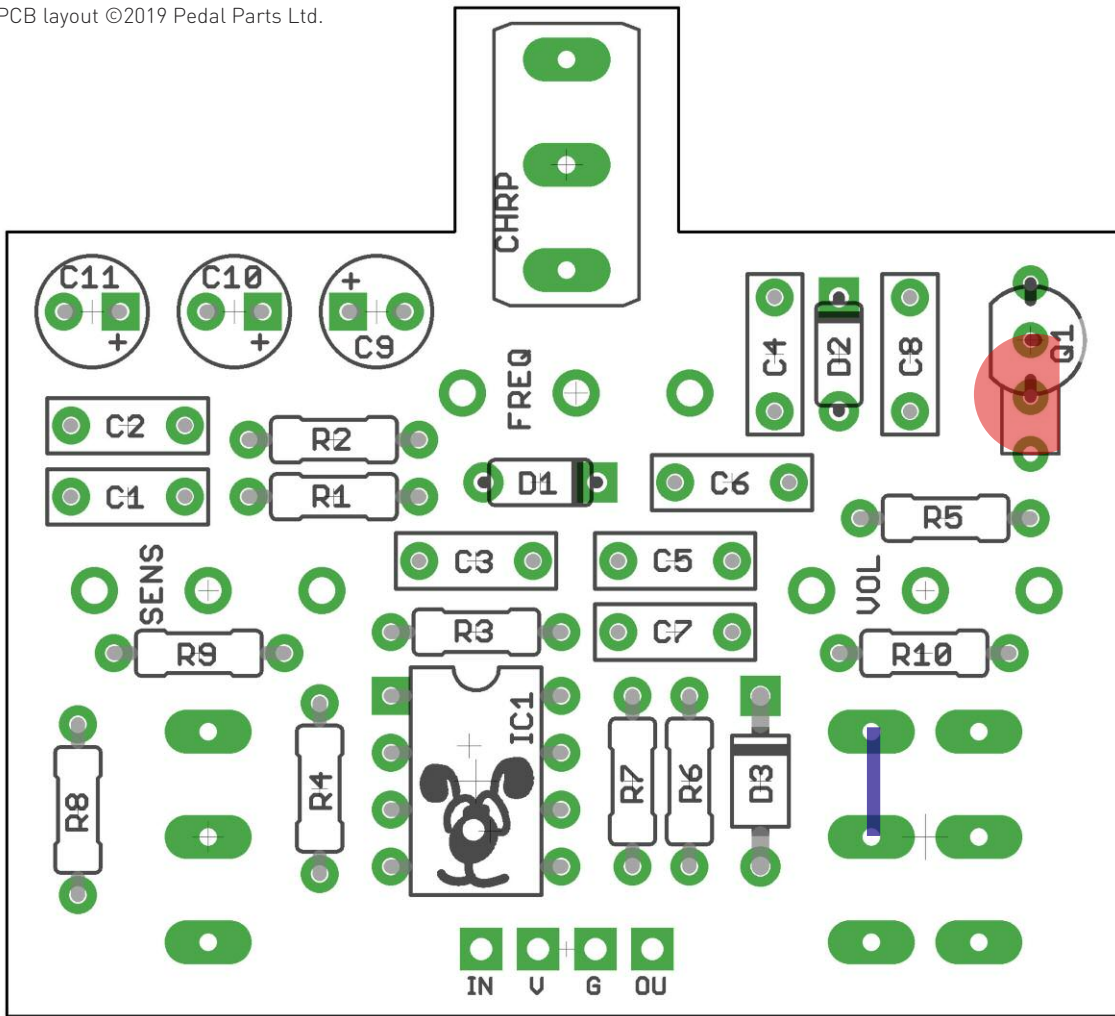


R1	220K	C1	47n	D1-2	1N4148
R2	47K	C2	47n	D3	empty
R3	47K	C3	100p	Q1	2NC1815**
R4	2M	C4	6n8	SENS	50KB
R5	100K	C5	6n8	FREQ	5KB
R6	47K	C6	56p	VOL	10KA
R7	470K	C7	100n	FLUT	jumper - see later
R8	empty	C8	empty	CHIRP	empty
R9	empty	C9	10u elec	Q	empty
R10	100K	C10	2u2 elec		
		C11	10u elec		

**Other BJTs will work, and we've included pads to take standard CBE pinouts. See later in the doc for positioning for the 1815 which has a different pinout.

A jumper is required on the FLUTTER switch. See later in the doc.





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 FETS. 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.

Q1 ORIENTATION

2N2369A has a BCE pinout. This should position as shown in red above. Standard EBC transistors should match the outline on the silkscreen.

FLUTTER SWITCH

If not using this place the jumper shown in blue.



Test the board!

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

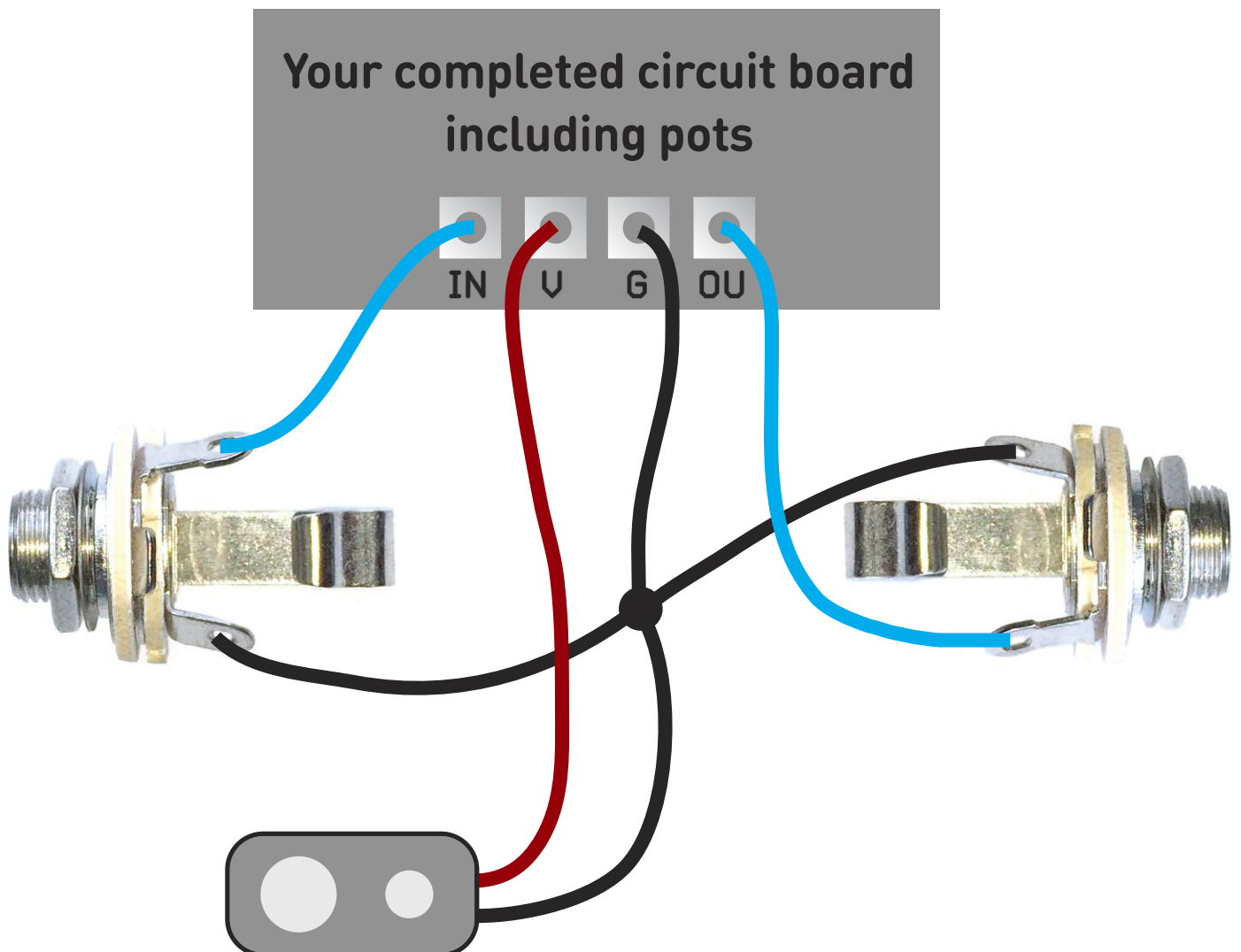
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

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.

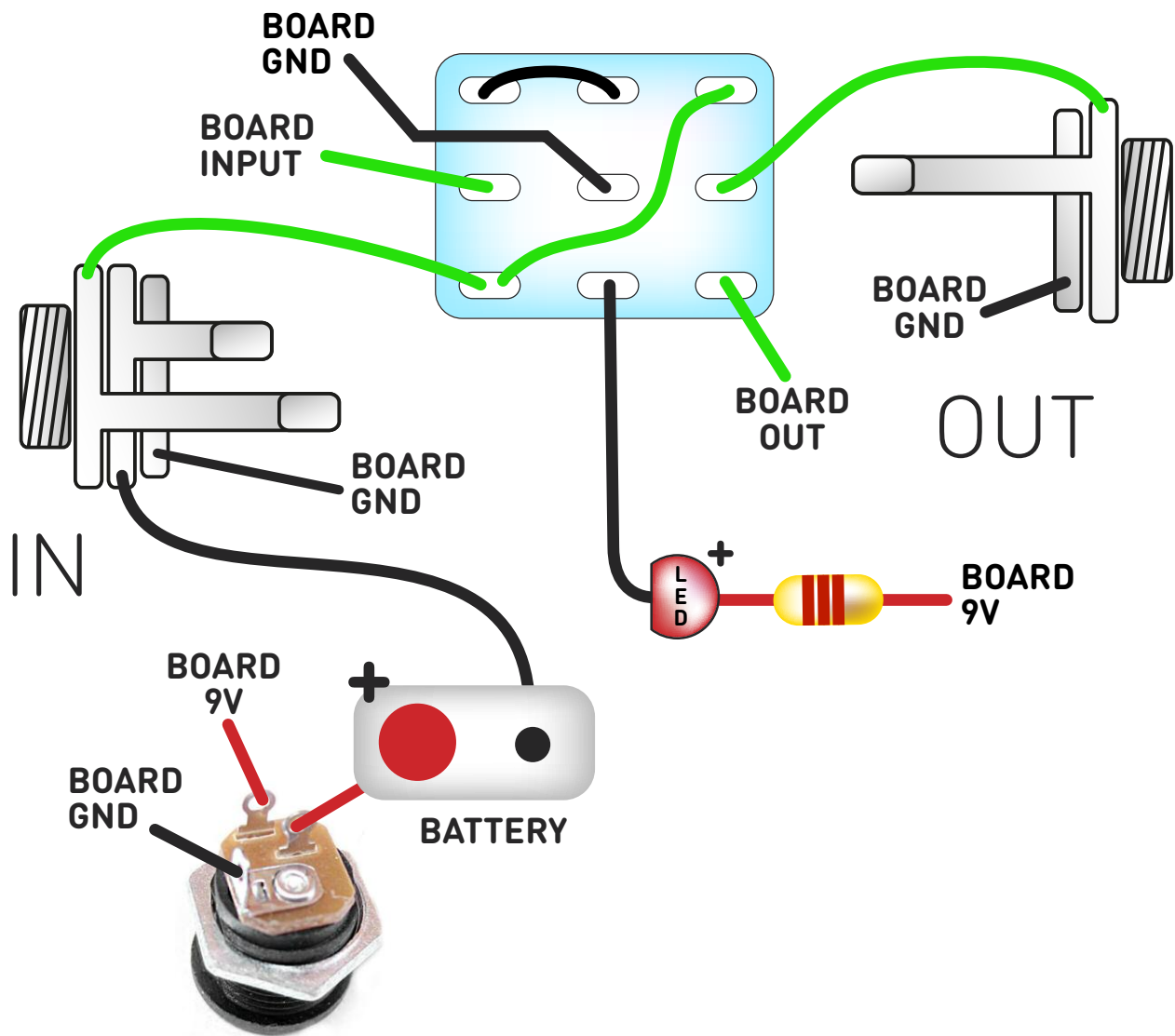
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

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.



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



Wiring shown above will disconnect the battery when you remove the jack plug from the input, and also when a DC plug is inserted.

The Board GND connections don't all have to directly attach to the board. You can run a couple of wires from the DC connector, one to the board, another to the IN jack, then daisy chain that over to the OUT jack.

It doesn't matter how they all connect, as long as they do.

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.

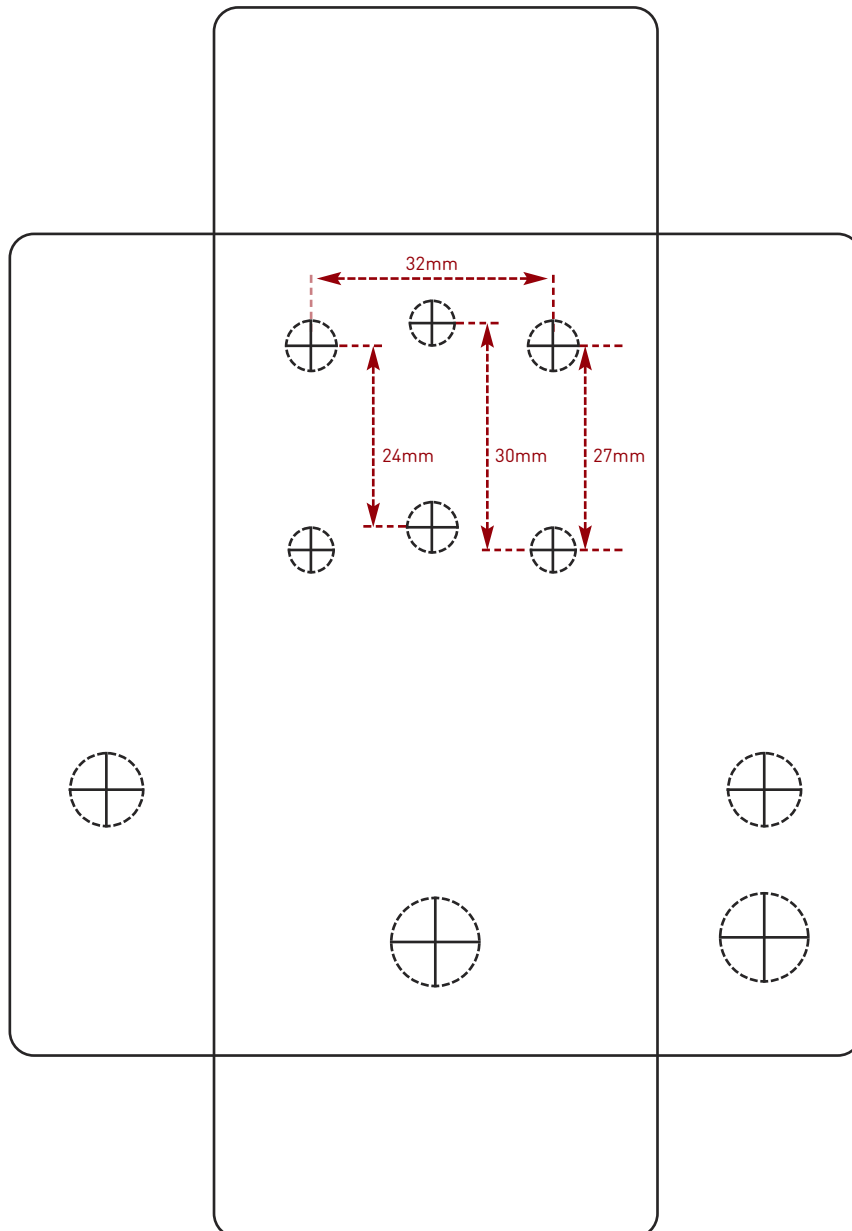
Drilling template

Hammond 1590B
60 x 111 x 31mm

Recommended drill sizes:

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

It's a good idea to drill the pot and toggle switch holes 1mm bigger if you're board-mounting them.
Wiggle room = good!



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