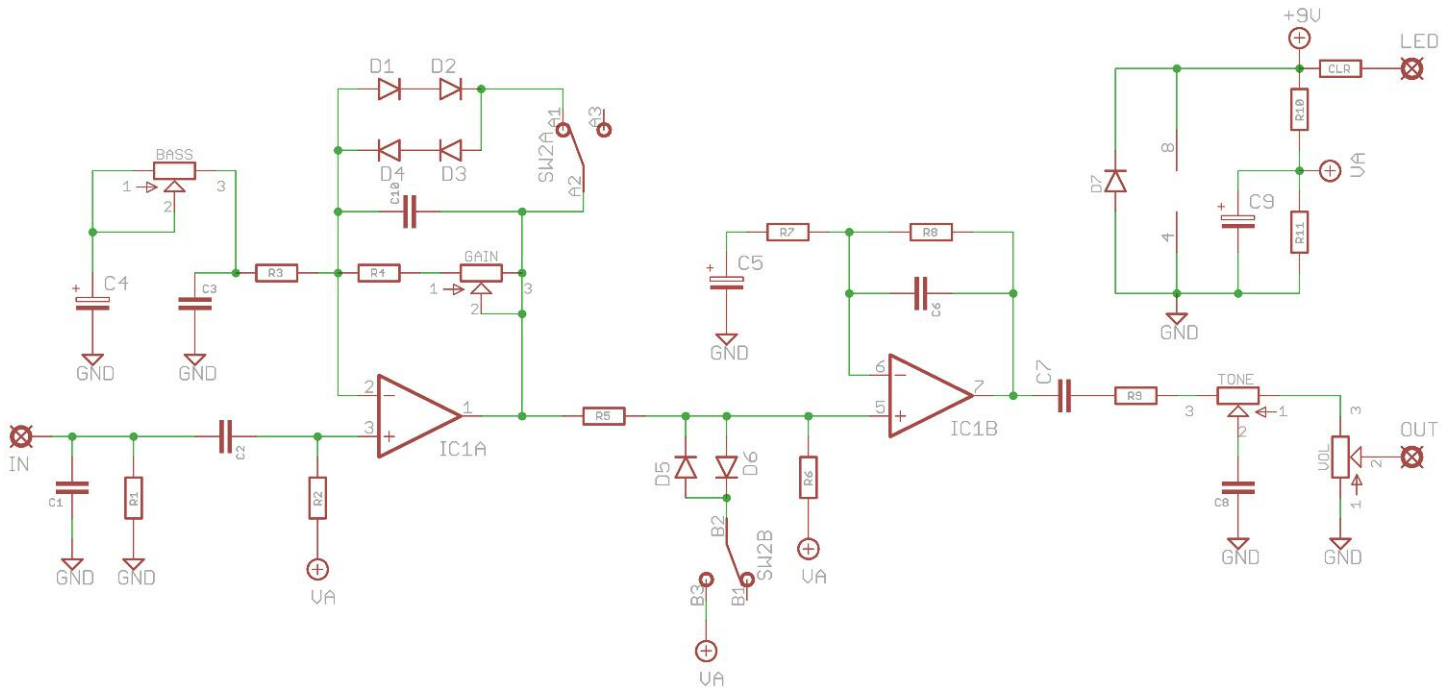


# Joy Drive

Versatile D\*mbler-in-a-Box  
with plenty of oomph on tap



# Schematic



# BOM

|     |           |     |           |      |                |
|-----|-----------|-----|-----------|------|----------------|
| R1  | 1M        | C1  | 100p      | IC1  | 4580           |
| R2  | 470K      | C2  | 22n       | D1-6 | 1N4148         |
| R3  | 1K        | C3  | 47n       | D7   | 1N4001*        |
| R4  | 10K       | C4  | 2u2 elec  | GAIN | 1MA            |
| R5  | 47K       | C5  | 2u2 elec  | BASS | 10KC           |
| R6  | 470K      | C6  | 100p      | TONE | 20KB           |
| R7  | 33K       | C7  | 1u        | VOL  | 100KA          |
| R8  | 47K       | C8  | 22n       | SW1  | DPDT on-off-on |
| R9  | 1K        | C9  | 100u elec |      |                |
| R10 | 100K      | C10 | 100p      |      |                |
| R11 | 100K      |     |           |      |                |
| R12 | 2K2 (CLR) |     |           |      |                |

As you can see on the schematic, SW1 takes clipping diodes in and out of the circuit. There are three different modes - Crunch, Open and Smooth.

\*Optional polarity protection diode not in original circuit.

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 diodes and transistors. 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).

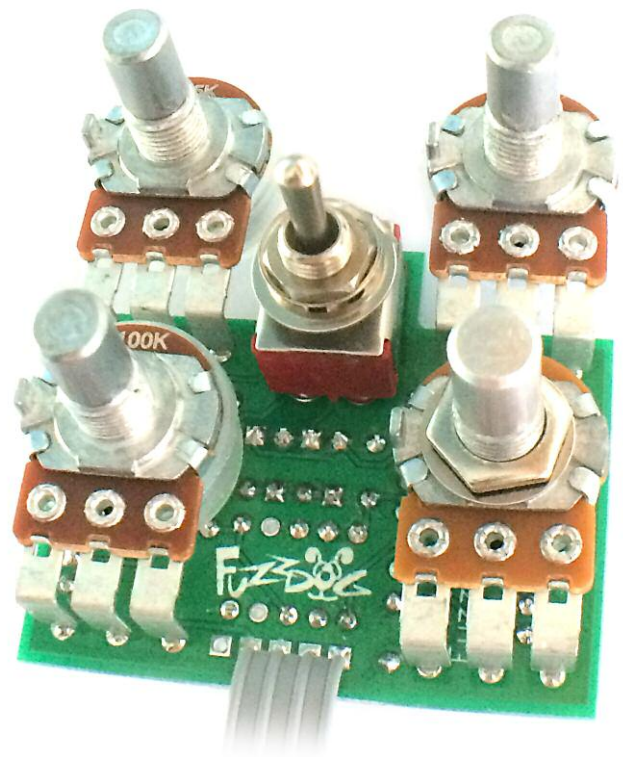
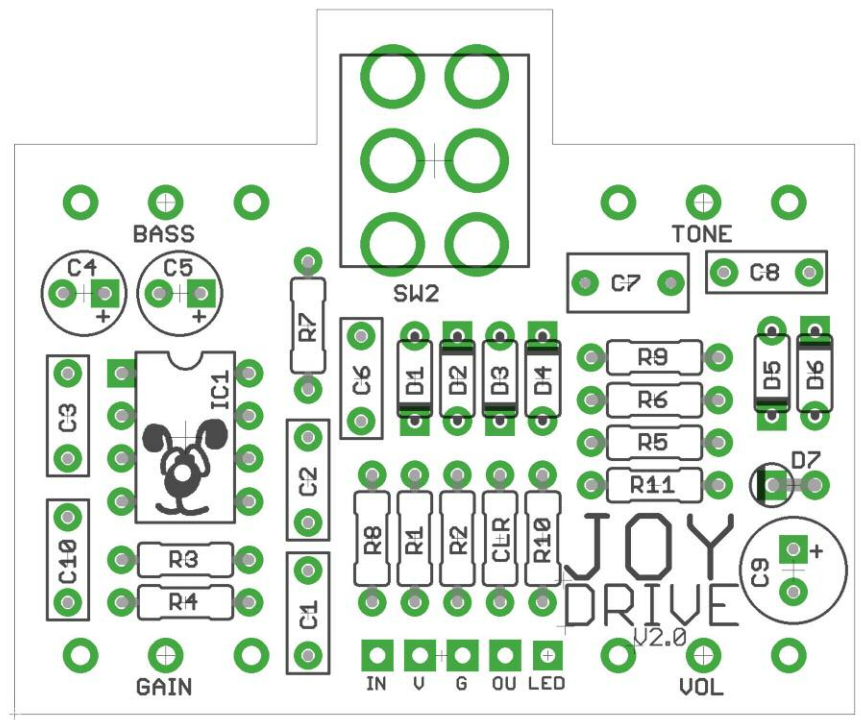
Snap the small metal tag off the pots so they can be mounted flush in the box.

Positive (anode) legs of the electrolytic caps go to the square pads.

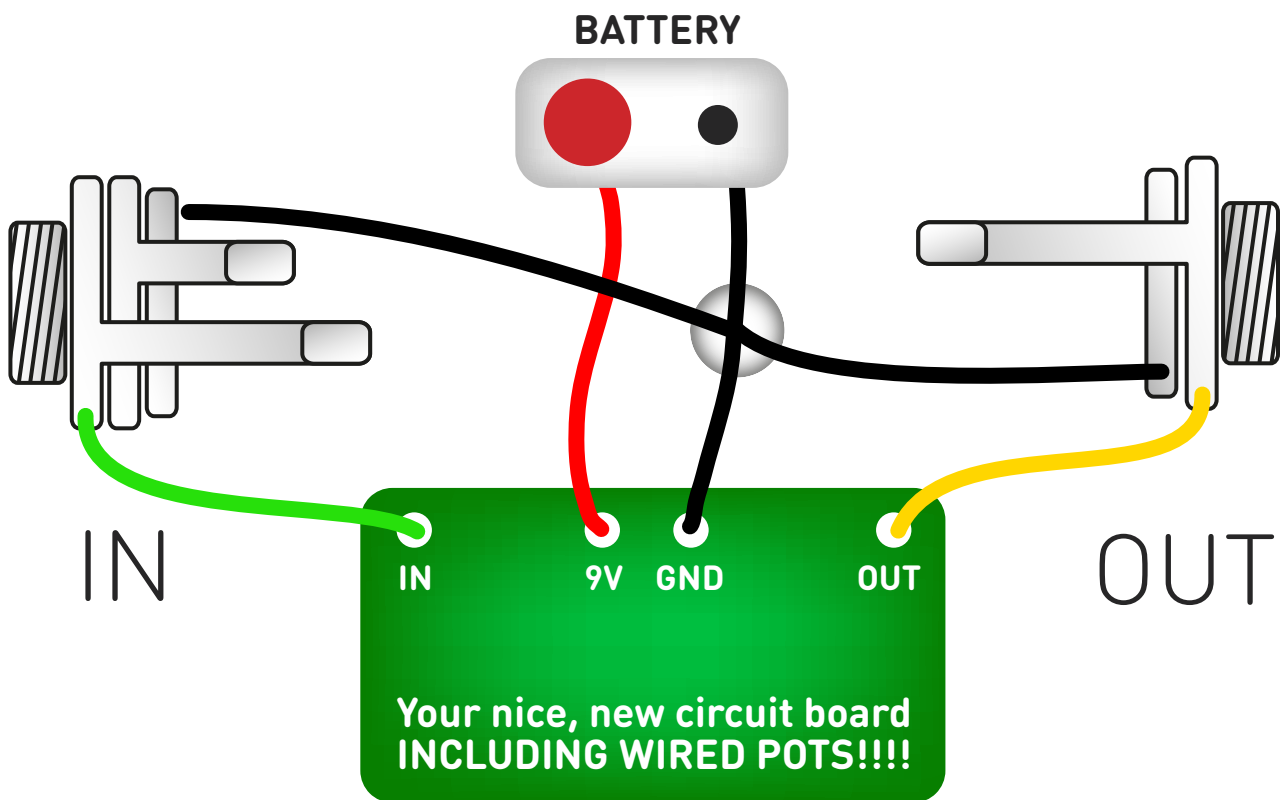
Negative (cathode) legs of the diodes go to the square pads.

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.

You should use a similar technique for the toggle switch. Solder one tag in place. Now you have a hand free (because you don't need to hold the solder) you can melt that joint and adjust the position of the switch so its nice and straight. Now fill in the rest.



# Test the board!



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

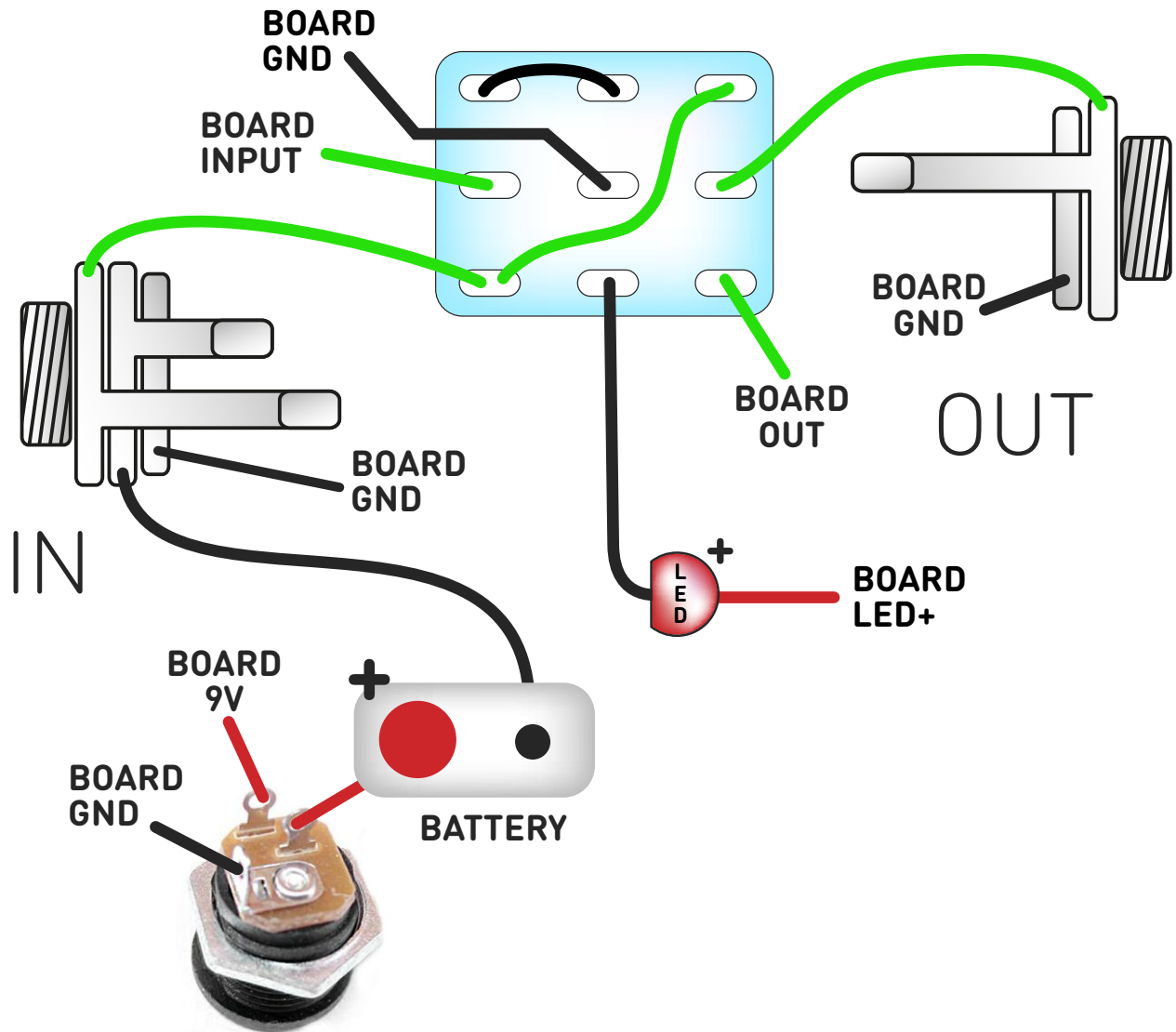
Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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 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.



# 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.

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# Drilling template

Hammond 1590B

60 x 111 x 31mm

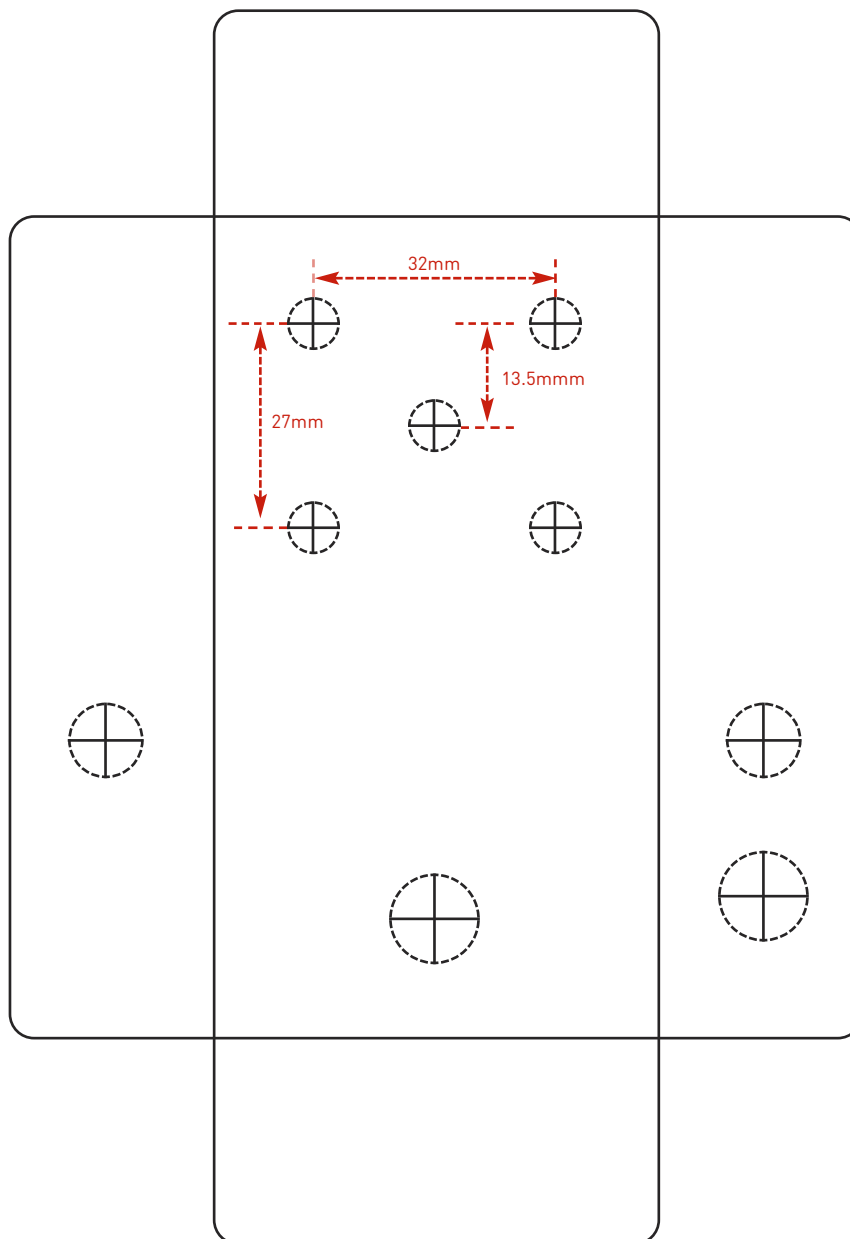
Recommended drill sizes:

|               |      |
|---------------|------|
| Pots          | 7mm  |
| Jacks         | 10mm |
| Footswitch    | 12mm |
| DC Socket     | 12mm |
| Toggle switch | 6mm  |

It's a good idea to drill the pot and toggle 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.

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