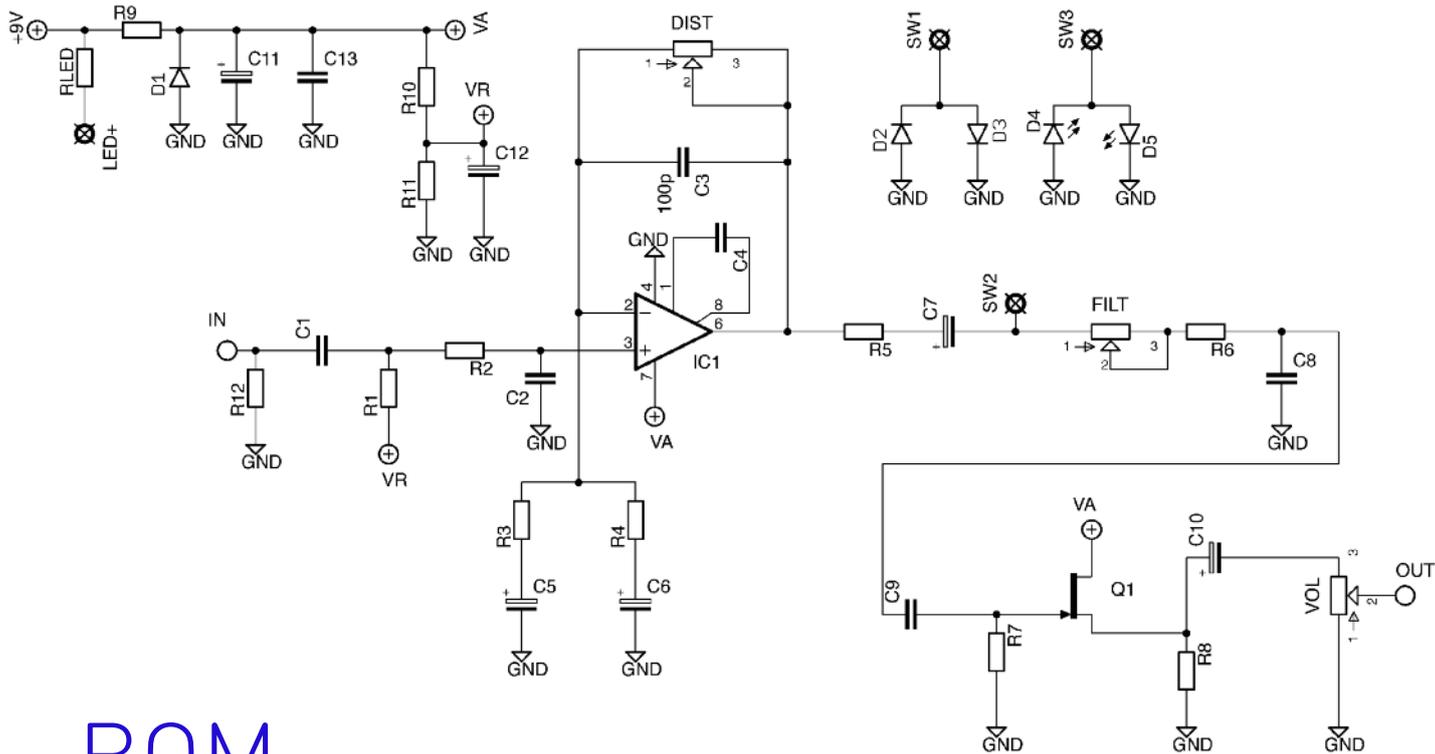


Rodent

Gnawingly-good distortion
with switchable clipping

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Schematic



BOM

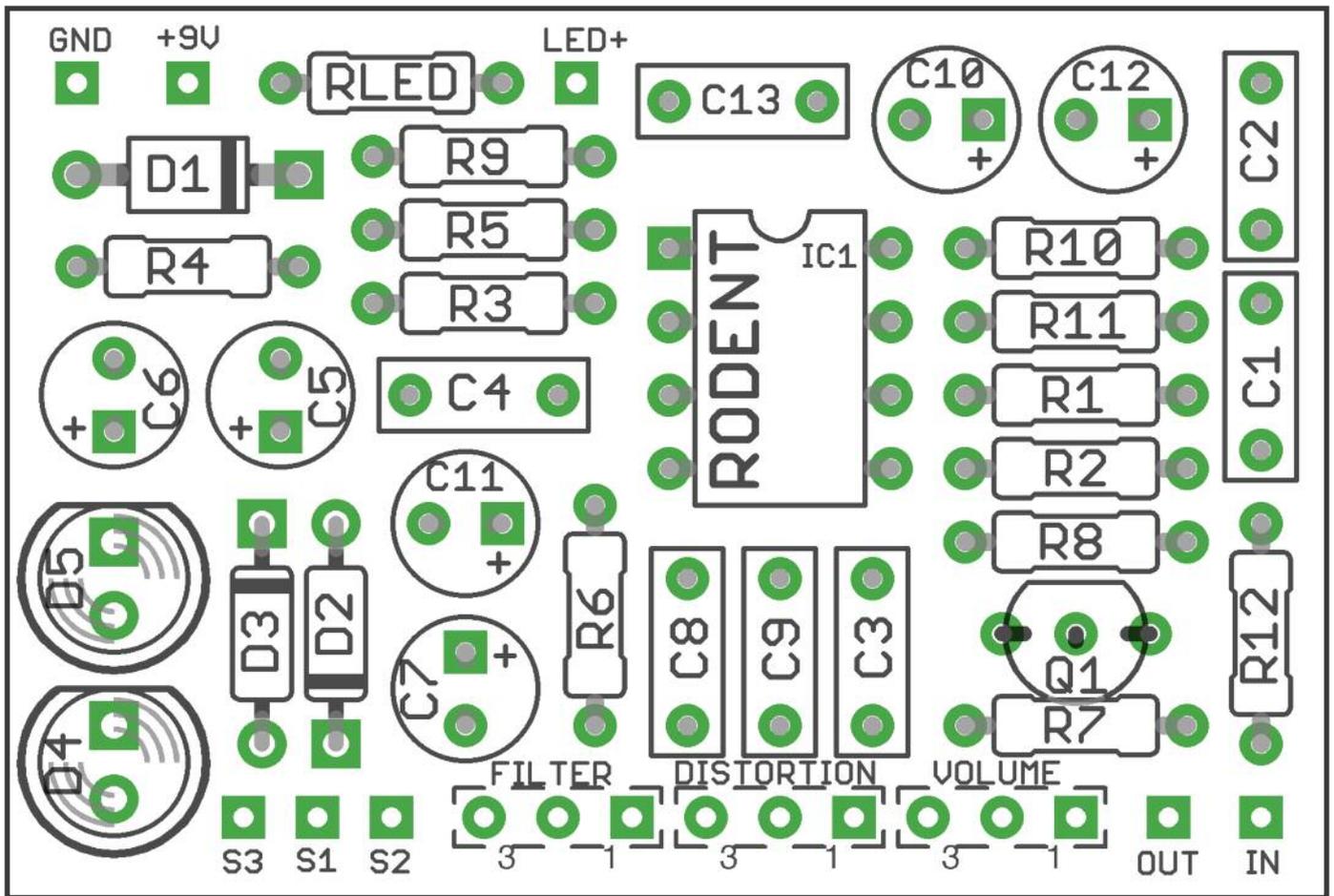
R1	1M	C1	22n	Q1	2N5458
R2	1K	C2	1n	IC	LM308N or OP07
R3	560R	C3	100p	D1	1N4001
R4	47R	C4	33p	FILT	100KA
R5	1K	C5	4u7	DIST	100KA
R6	1K5	C6	2u2	VOL	100KA
R7	1M	C7	4u7	D2,3	PAIR*
R8	10K	C8	3n3	D4,5	PAIR*
R9	47R	C9	22n		
R10	10K	C10	1u		
R11	10K	C11	100u		
R12	1M	C12	47u		
		C13	47n		

*CLIPPING DIODES

There are lots of variations for these, but stock sets are:

Standard	1N4148
Turbo	Red 3mm LEDs
Dirt	Germanium (1N34A)

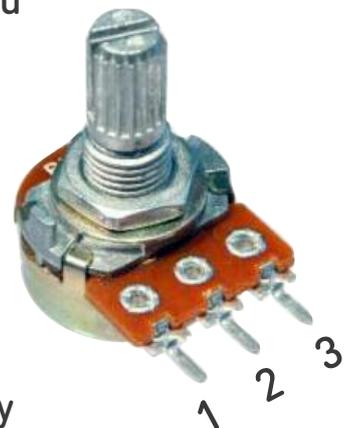
Switch selects between each pair, or you can hardwire a single pair by connecting SW2 to either SW1 (D2,3) or SW3 (D4,5) with a jumper. Not a woolly one mind you.



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

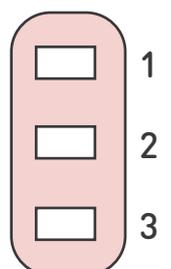
Snap the little metal tag off the pot to mount it flush in the box.

You MUST use some kind of heat sink on the legs of the LEDs, diode and the transistors when soldering. Also be very careful if you're soldering the IC directly to the board rather than using the socket. They aren't keen on heat. Any more than a couple of seconds of iron and they're toast.



Diode selection switch numbering
(viewed from bottom) >

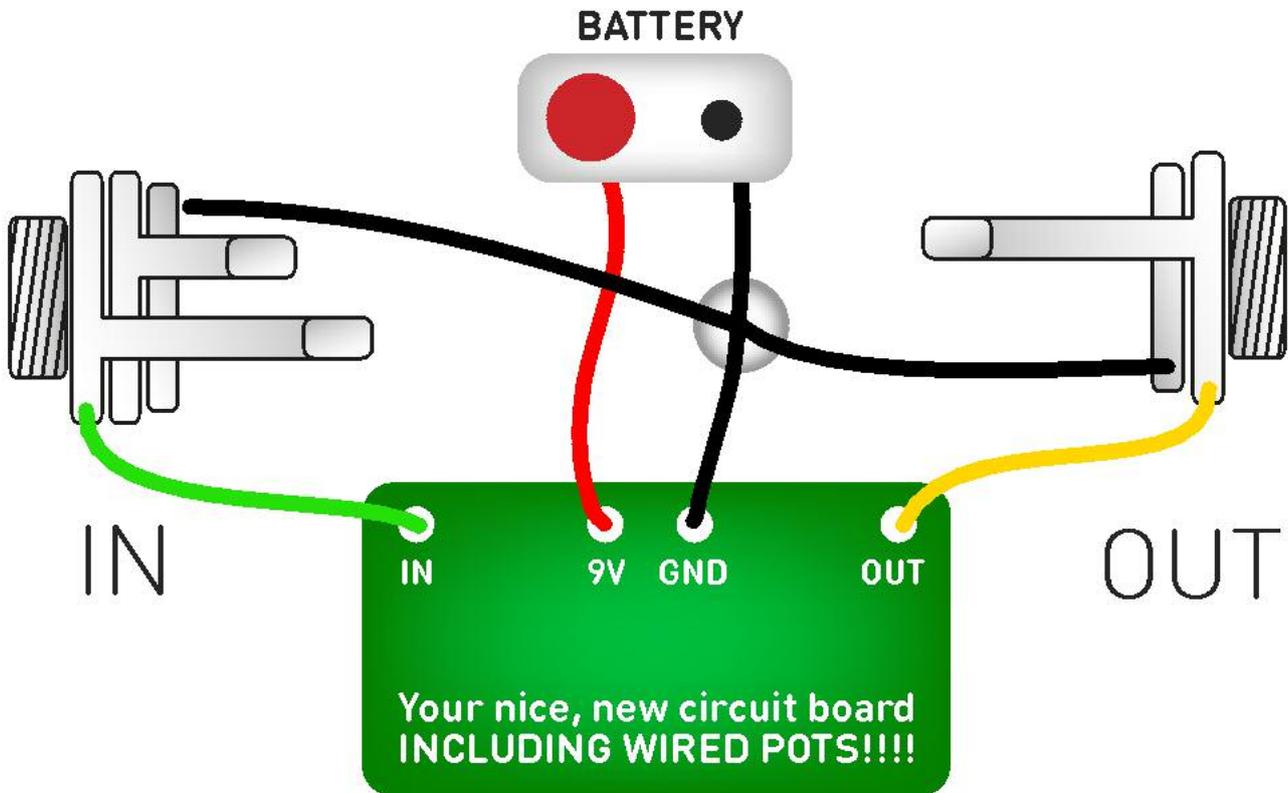
Requires a SPDT switch (ON-ON).



If you want to get really jiggy with it you can take a look at the Ruetz mods - <http://www.diyguitaramp.com/rat.html>

Easy enough to implement and easily switchable too.

Test the board!

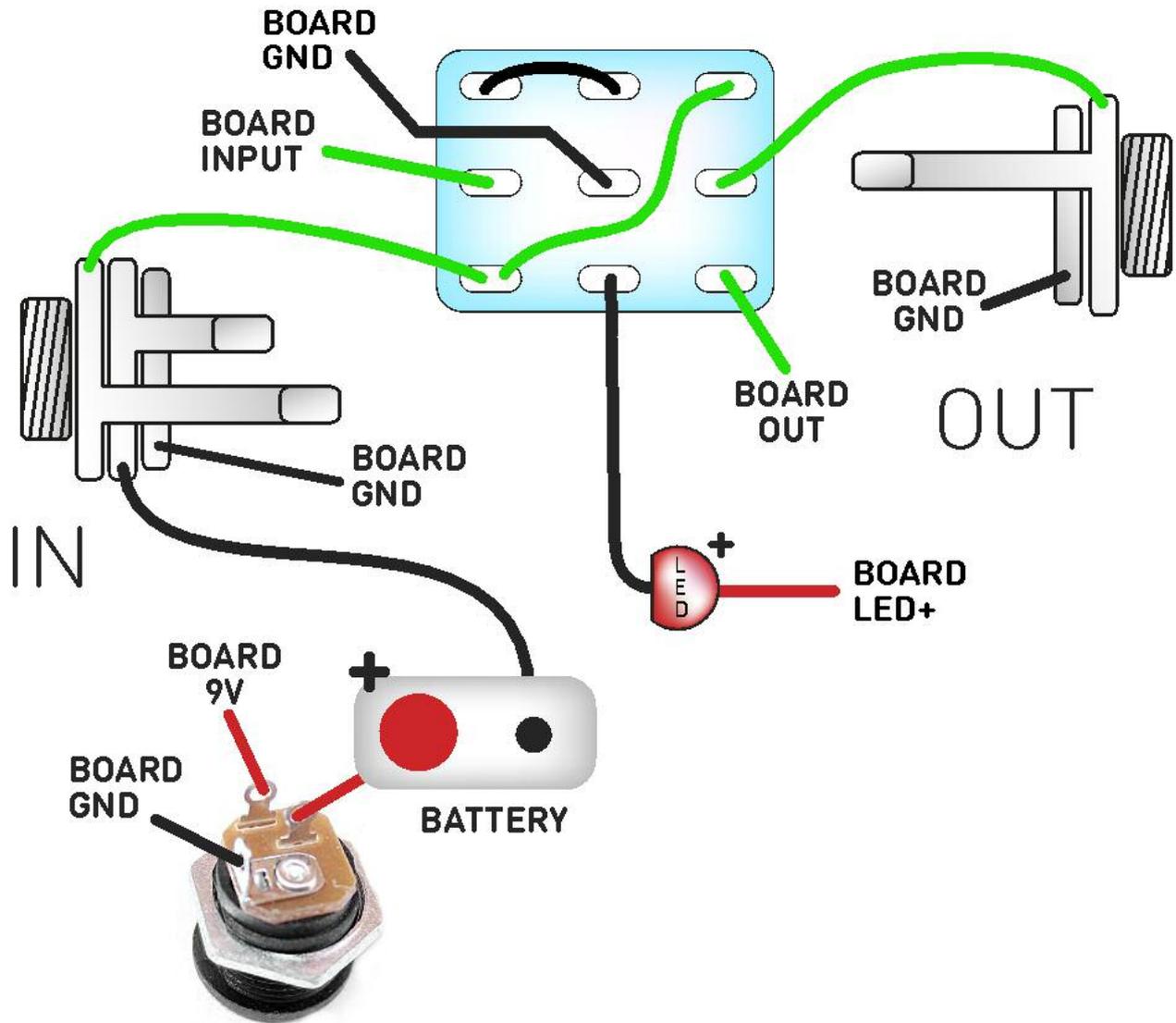


Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

Solder some nice, long lengths of wire to the board connections for 9V, GND, IN, 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



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.

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