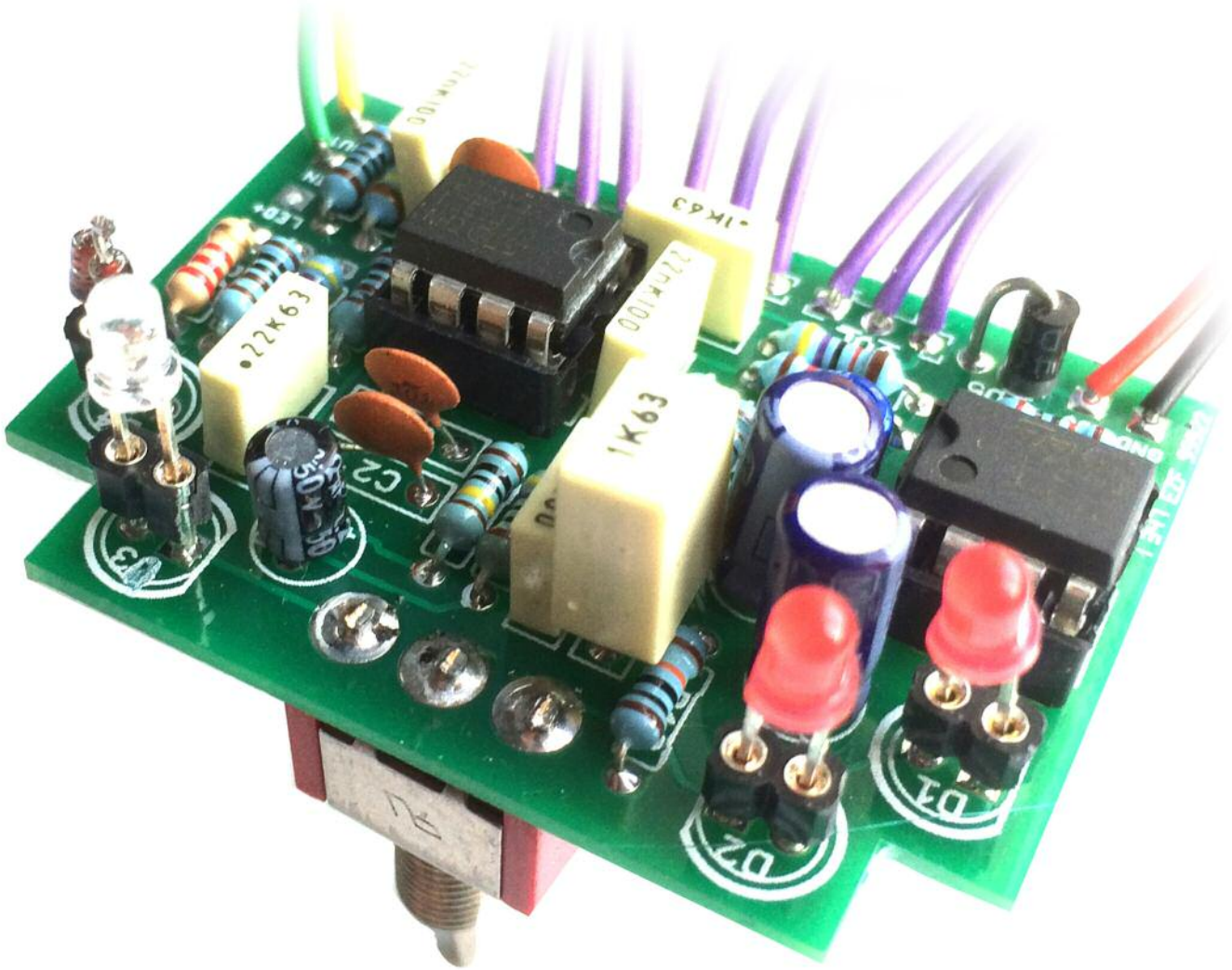

Ruckus

Hi-Gain Distortion Hi-jinx

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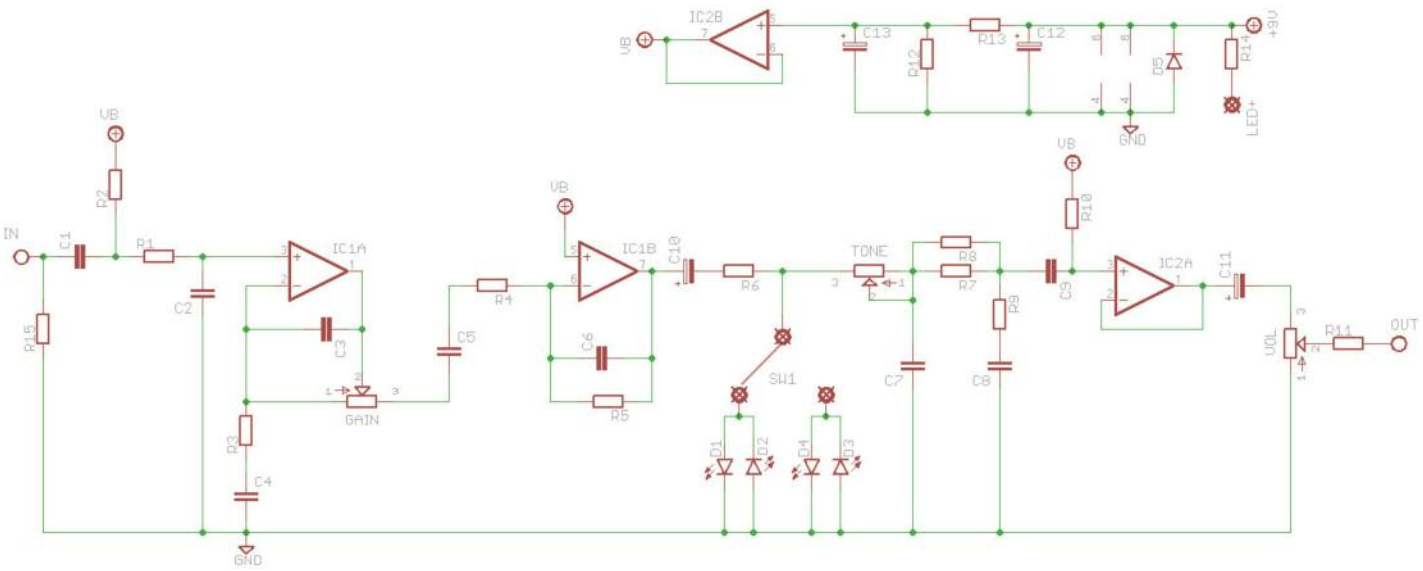
Schematic



BOM

See notes overleaf regarding clipping diodes

R1	1K
R2	470K
R3	1K
R4	10K
R5	1M
R6	470R
R7	47K‡
R8	15K‡
R9	8K2
R10	100K
R11	100R
R12	20K
R13	20K
R14	2K2 (CLR)
R15	2M2

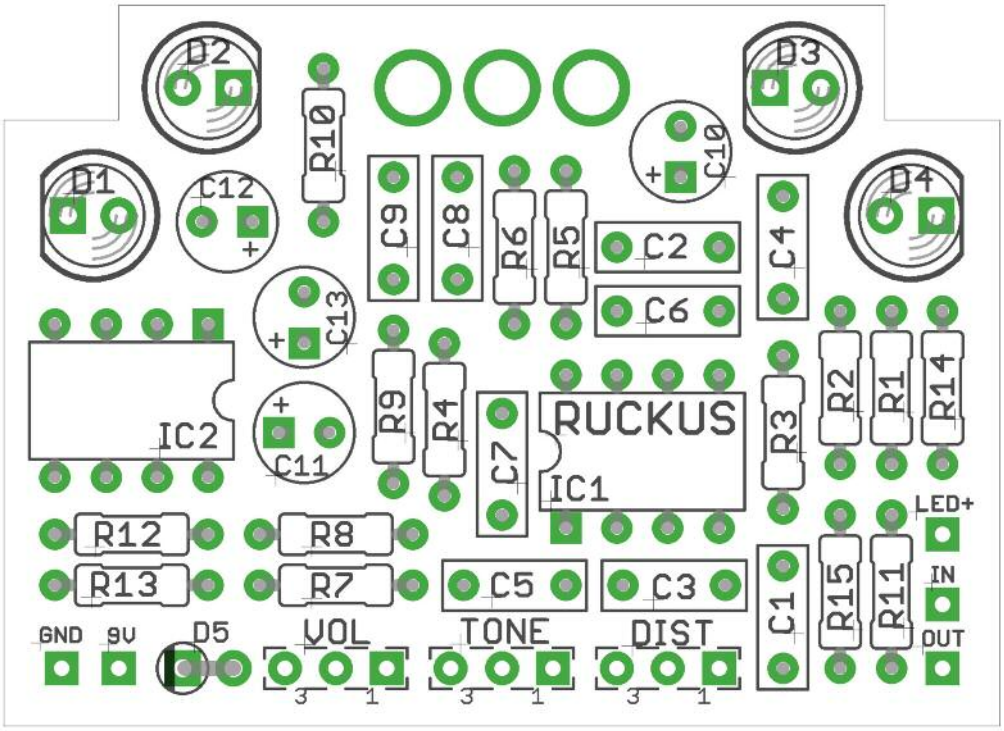
C1	22n
C2	33p
C3	100p
C4	220n
C5	100n
C6	100p
C7	22n
C8	22n
C9	1u
C10	2u2 electrolytic
C11	10u electrolytic
C12	47u electrolytic
C13	47u electrolytic

IC1	4580*
IC2	4580*
GAIN	100KB
TONE	10KC**
VOL	10KA
D1-2	3mm red led
D3	Pair 1N4148
D4	3mm blue led
D5	1N4001
SW1	SPDT ON-ON

‡ R7 and R8 are placed in parallel to make near-as-damn-it 11K3. If you have an 11K3 resistor, place that in R7 and leave R8 empty.

*other op-amps can be used. LM833 is popular.

**If you can't find reverse-log, try 10KB, though the sweep will be awful.



The original circuit has three-position clipping. This kit has only two.

The required SPDT ON-ON-ON is difficult to get hold of, and would make the kit hard to complete if you're sourcing your own parts.

You'll probably find one combination you like and stick with it.

The board has been designed to accommodate two pairs of clipping LEDs. To install other kinds of diodes in pairs, arrange them as shown, with one end of each twisted together and soldered (anode to cathode).

Any amount of combinations are possible.

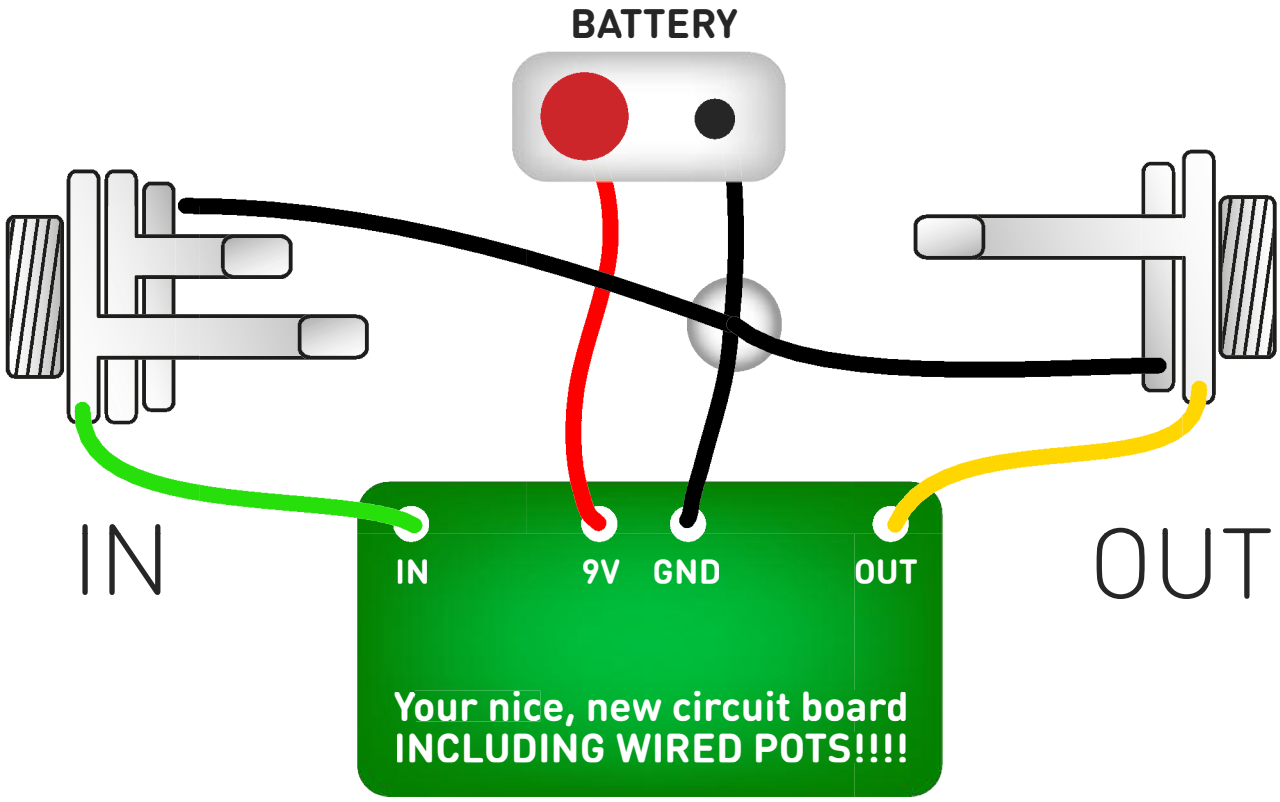
Try two pairs of germanium diodes, such as 1N34A.

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

Snap the little metal tag off the pots to mount them flush in the box.

You should use some kind of heat sink on the legs of the diodes when soldering. They aren't keen on heat.
Any more than 2 seconds of iron and they're toast.

Test the board!

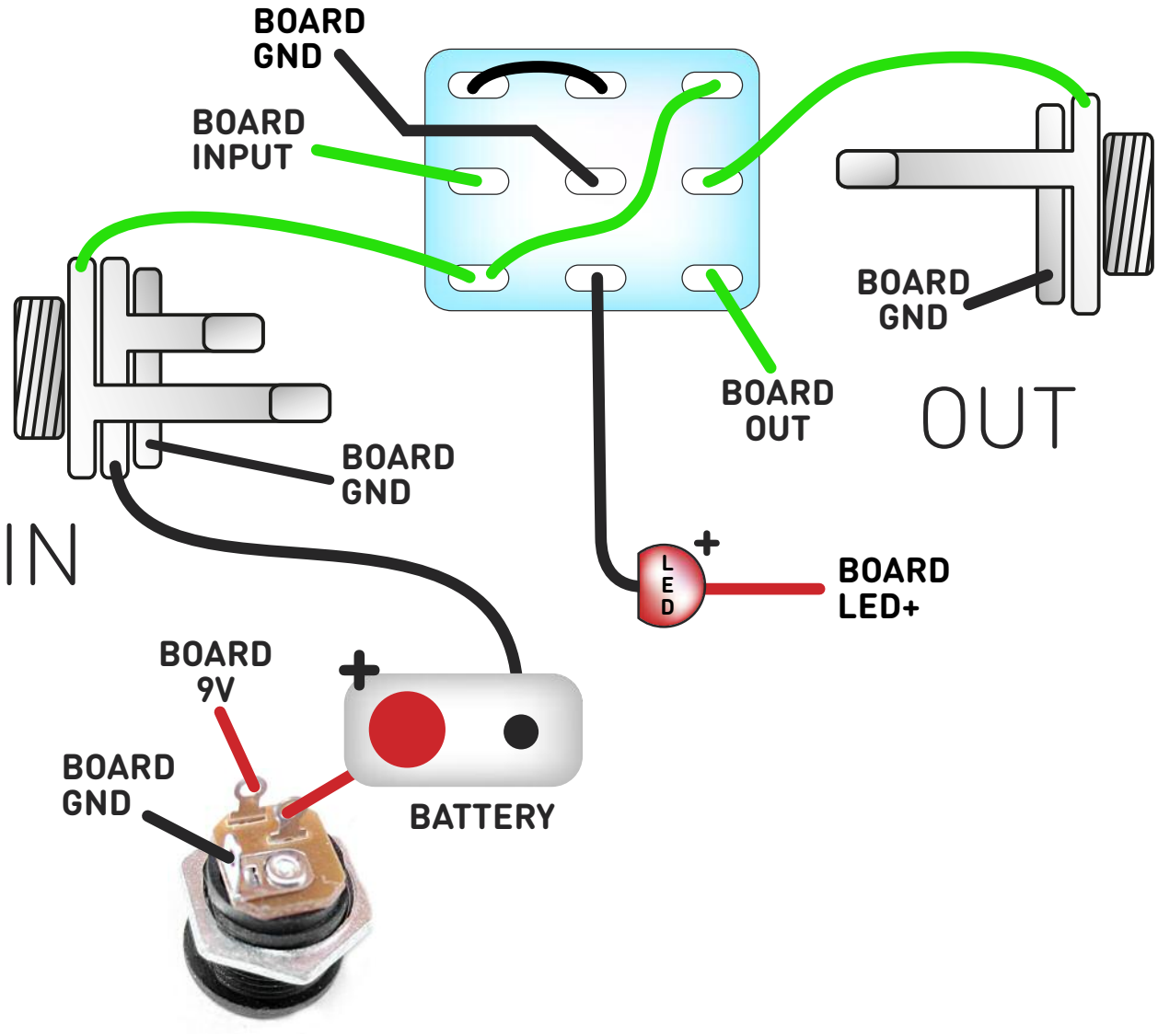


Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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.

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.

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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