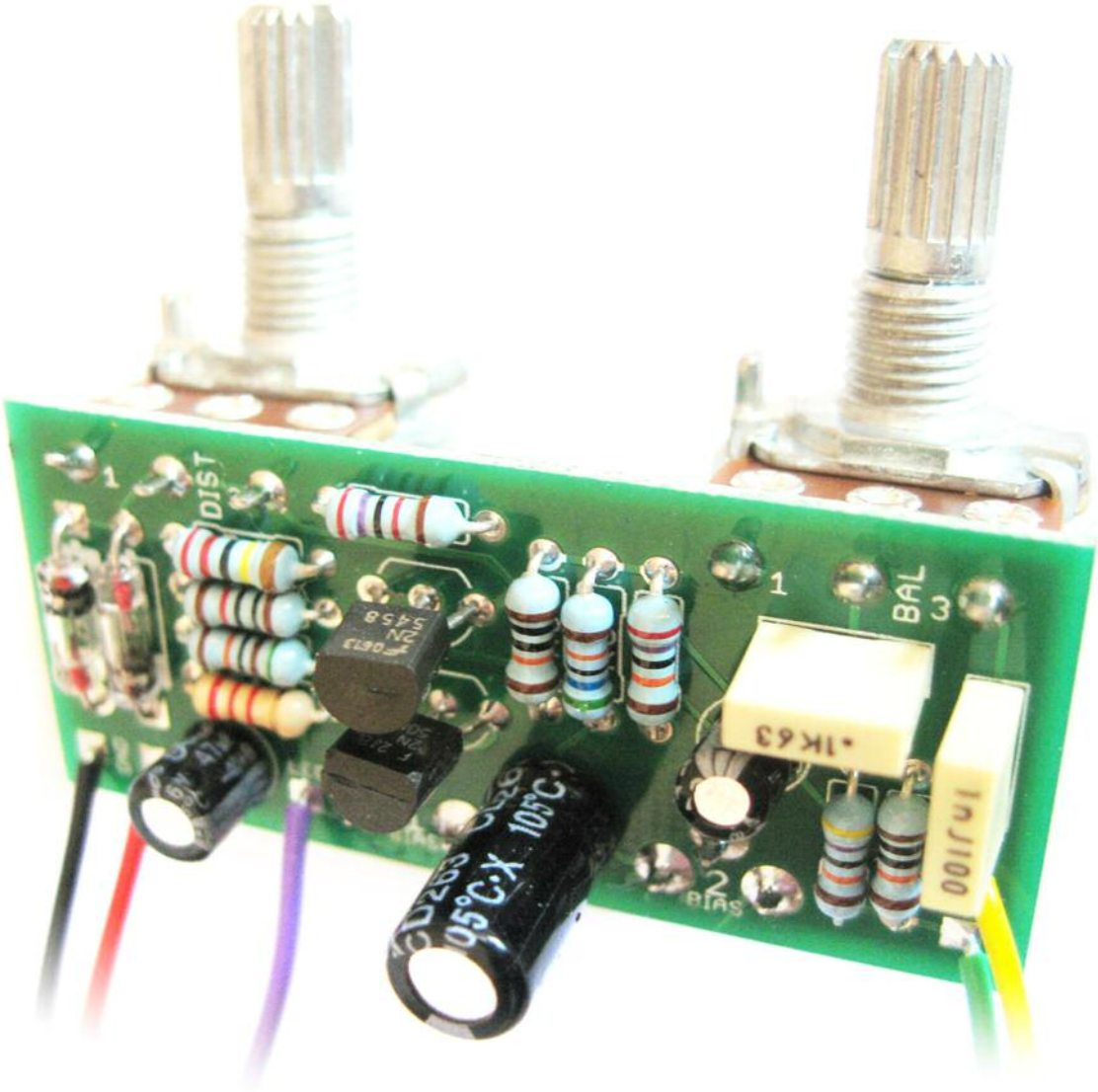

Square Wave

Clone of the Univox Square Wave Fuzz

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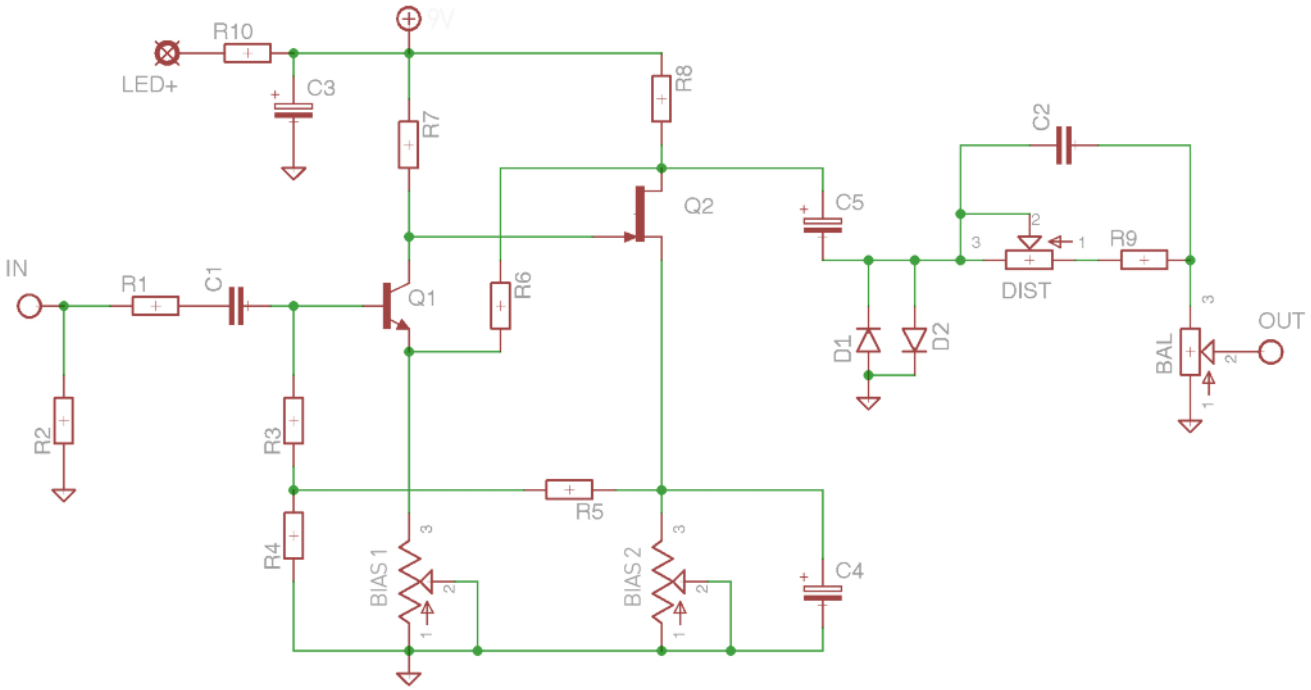
Schematic



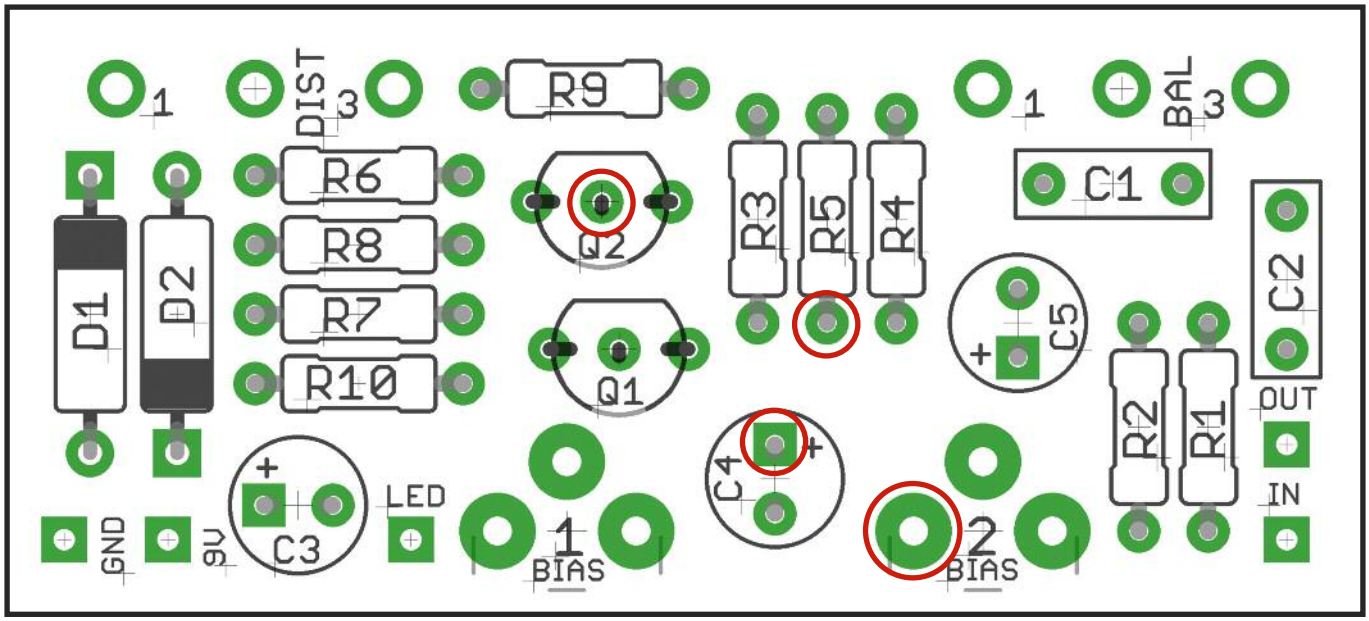
BOM

R1	100K
R2	470K
R3	100K
R4	270K
R5	560K
R6	2M2
R7	560K
R8	10K
R9	27K
R10	2K2 (CLR)
D1,2	1N34A
Q1	2N5088*
Q2	2N5458**

*other medium gain transistors will work, i.e. 2N3904

**other FETs can be used, i.e. J201, 2N5457

C1	100n
C2	1n
C3	47u electrolytic
C4	33u electrolytic
C5	4u7 electrolytic
DIST	250KB
BAL	50KA
BIAS1	4K7 TRIM
BIAS2	10K TRIM



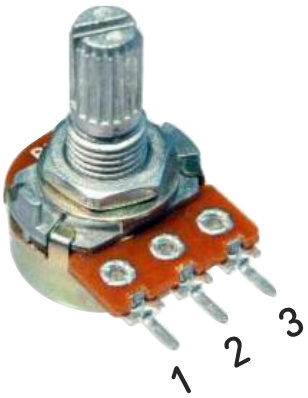
The PCB is designed to have the pots mounted directly to it.
You can use wire if you like - simply connect the board pads to the corresponding pins on the pots.

Pots and BIAS trimmers should be mounted on the back side of the PCB.

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 pots to mount them flush in the box.

Be VERY careful when bending the legs of the 1N34A. The glass case is very fragile and likely to break. Best to hold the leg with some needle-nosed pliers against the case, and bend the leg with your finger so the pliers are taking any strain away from the diode.



Diodes and transistors do NOT like heat. Be very careful when soldering them, and don't leave the iron on them for more than a couple of seconds. Using a heatsink (self-closing tweezers, crocodile clip) on the leg you're soldering will help avoid frying them. Same goes for the LED.

BIAS TRIMMERS

Before you mount BIAS1, adjust it so the resistance between pins 2 and 3 is around 1K. This isn't critical, but it will help in setting up.

Once you have the circuit all built and connected up for testing as shown on the next page, you should adjust BIAS2 until you get between 1.6 - 1.8V at the Source of Q2. Measure this by putting the negative lead of your multimeter on any ground point, the positive on any of the points marked in red above.

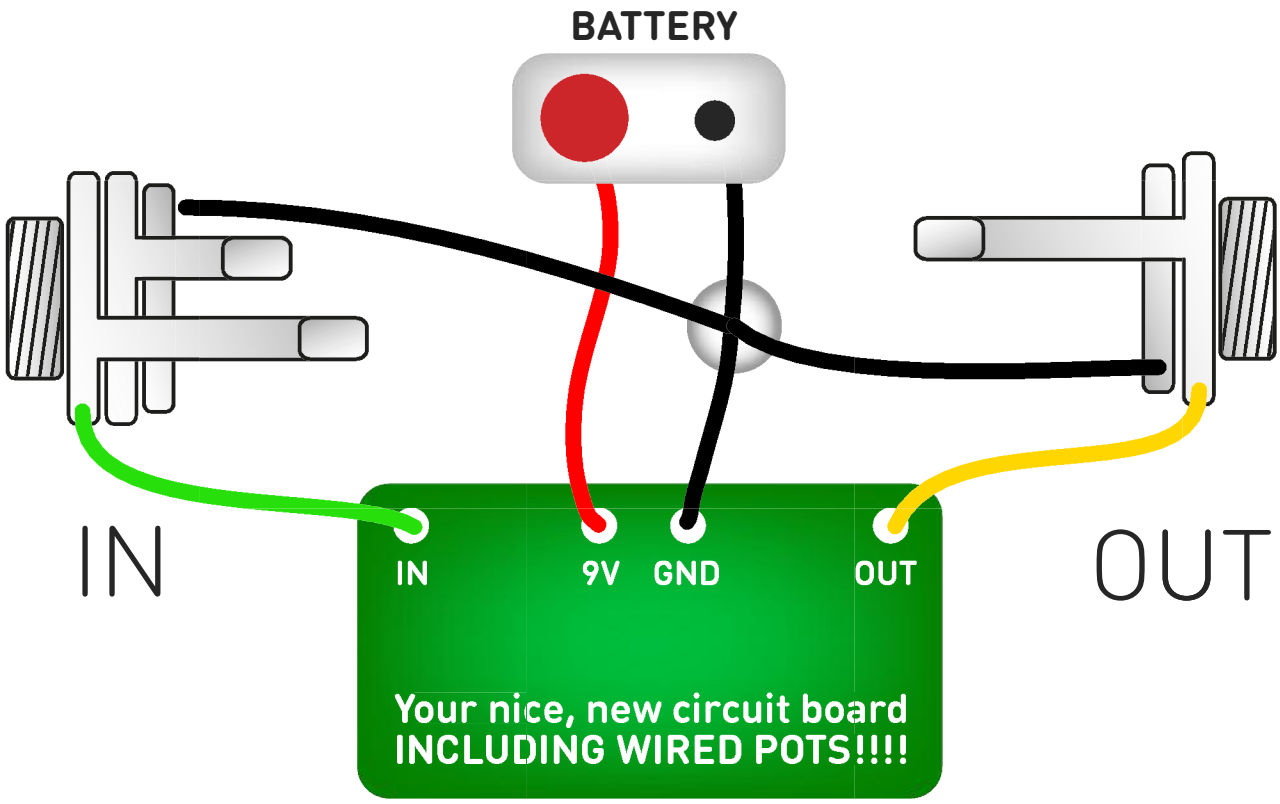
With that set, adjust BIAS1 slowly until you get a satisfactory tone. Minor tweaking of BAIS2 may be necessary.

CLIPPING DIODES

The circuit will have a different feel if you miss out one or both of the clipping diodes. Try it with none, then add only D1.

Test the board!

Very important. Under no circumstances will any troubleshooting support be offered if you have skipped this stage.

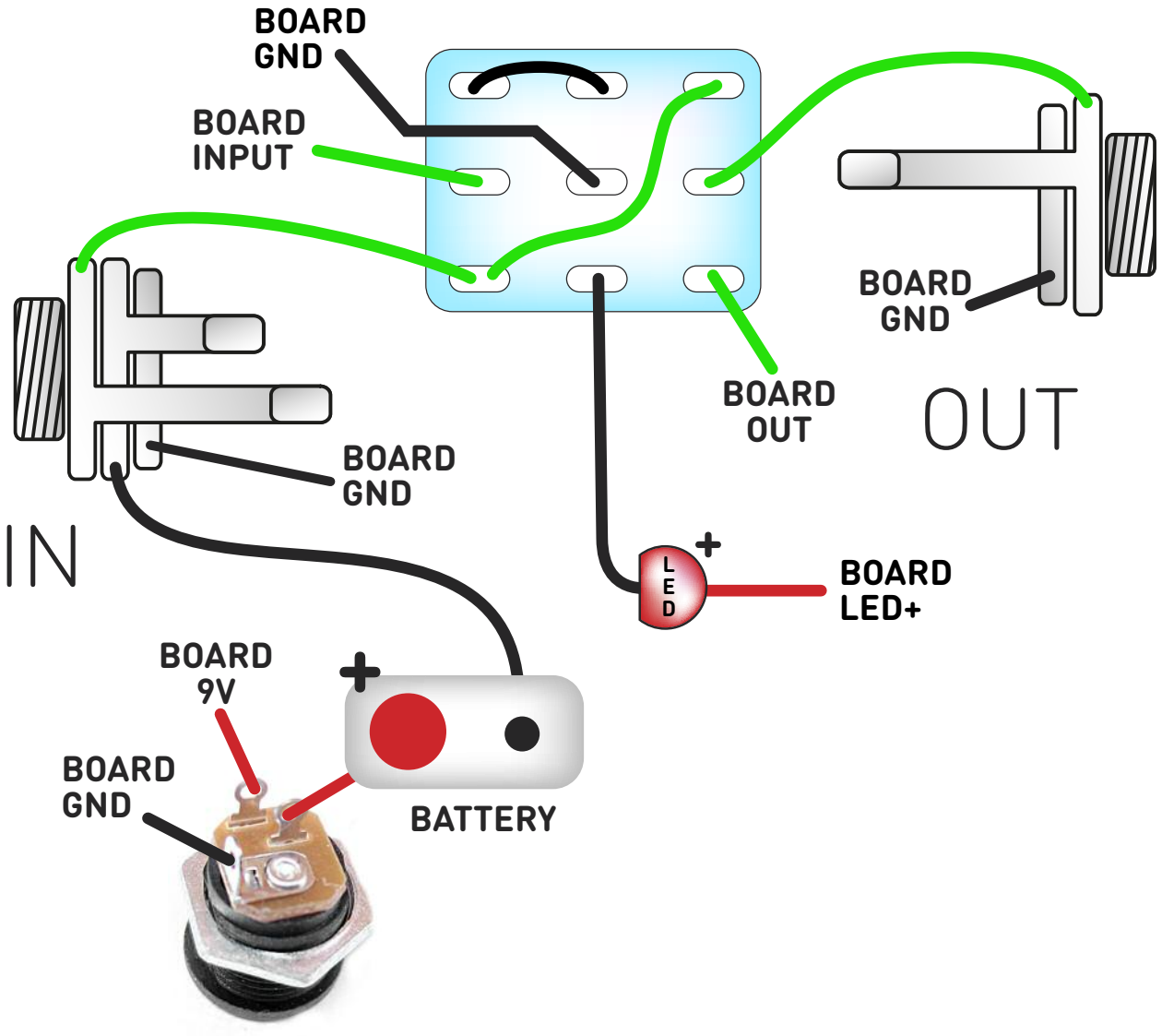


Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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. Now... crank it!

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