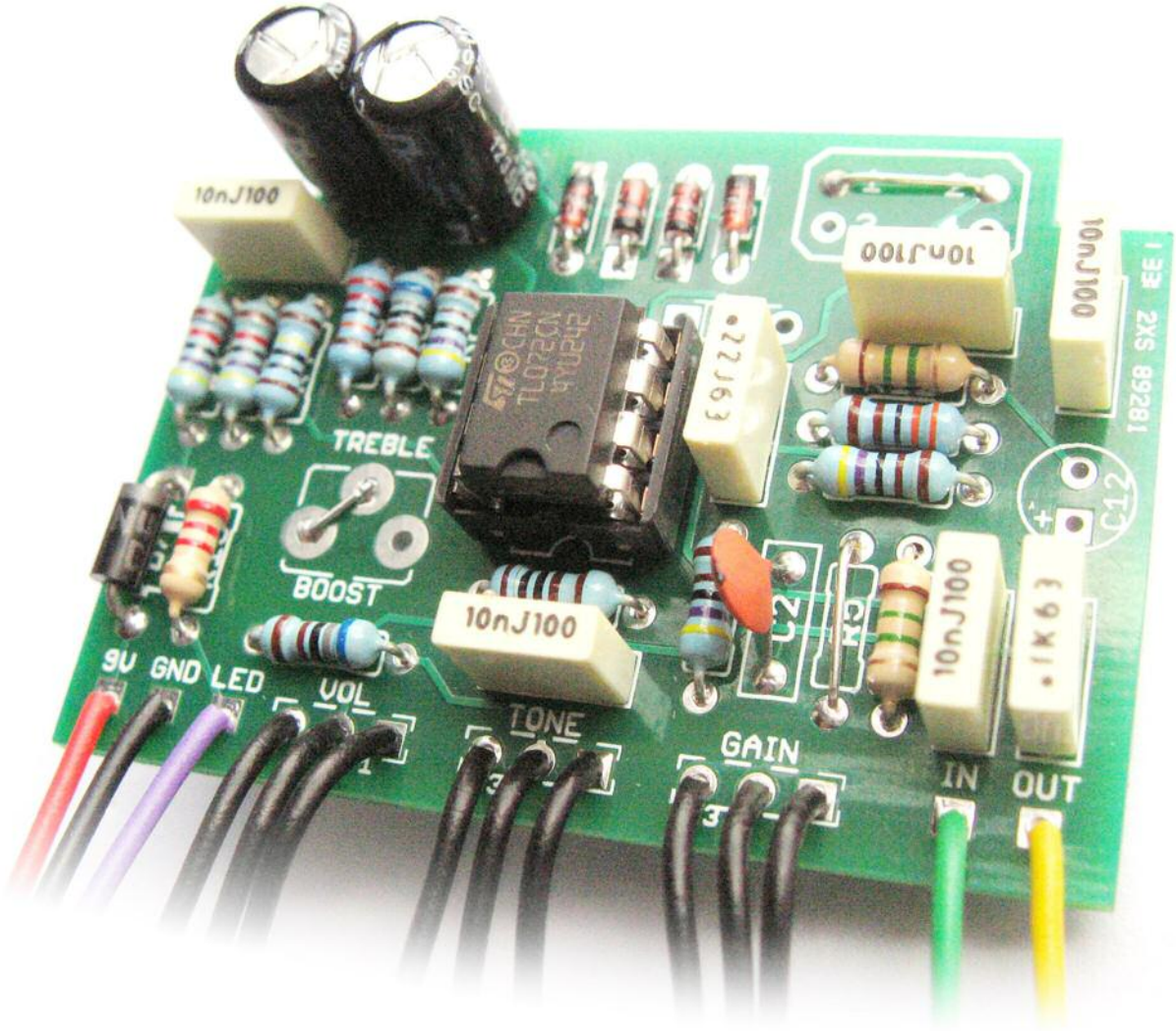

BALL BREAKER

Mk I Blues Breaker clone
with some boutique-ability

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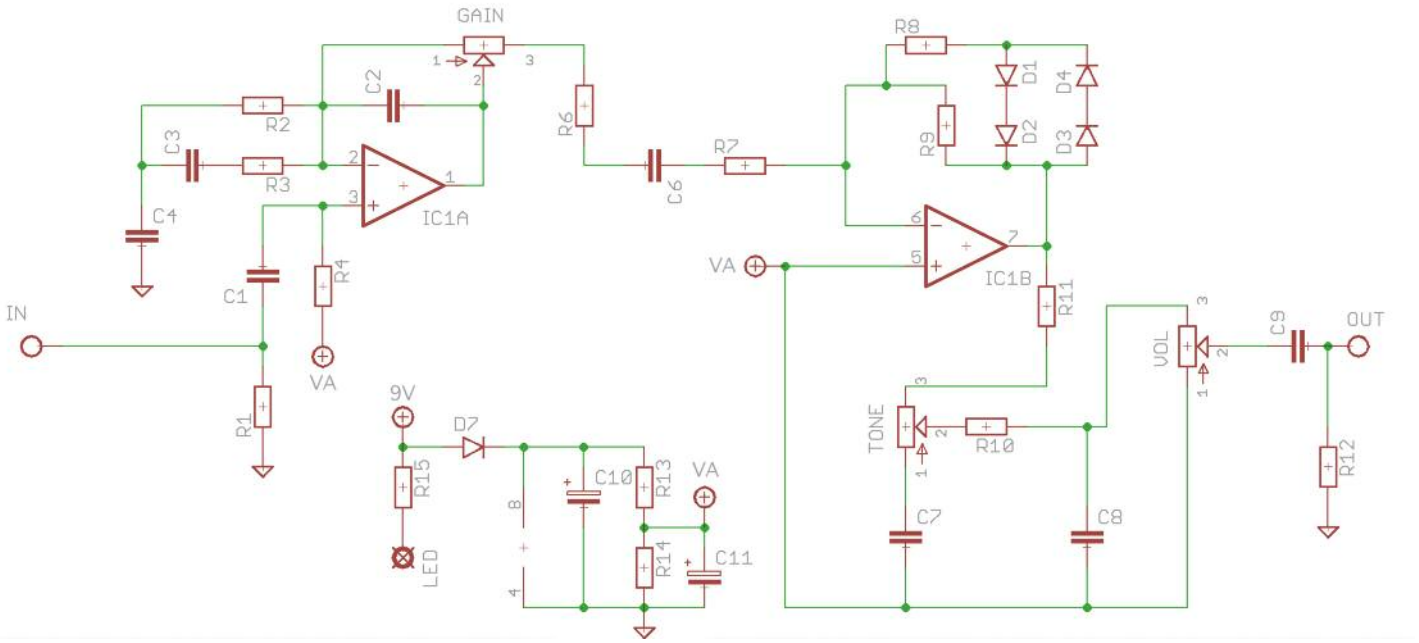
Schematic - Normal circuit



BOM

There is no C5!

See note overleaf about placing jumper wires

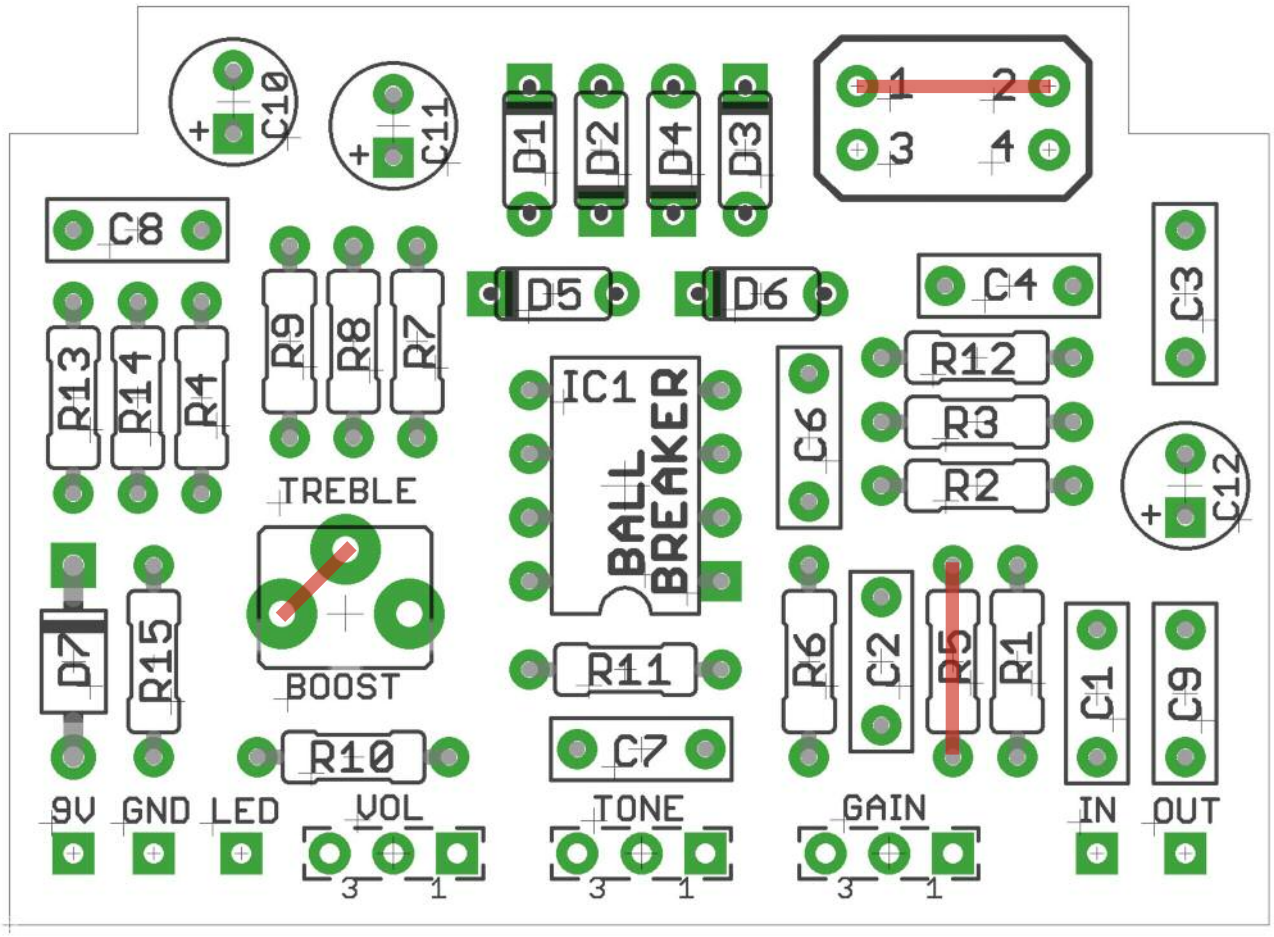
R1	1M5
R2	4K7
R3	3K3
R4	1M
R5	Jumper
R6	4K7
R7	4K7
R8	6K8
R9	220K*
R10	6K8
R11	1K
R12	1M5
R13	47K
R14	47K
R15	2K2 (CLR)

C1	10n
C2	47p
C3	10n
C4	10n
C6	100n
C7	10n**
C8	10n**
C9	100n
C10	100u
C11	100u
C12	empty

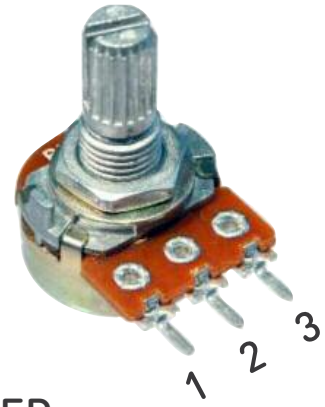
D1-4	1N4148
D5-6	Empty
D7	1N4001
IC1	TL072
TONE	20KB
GAIN	100KB
VOL	100KA

*Replace with 330K for slightly more gain

**Replace with 22n for a better tone control with more bottom end



As the board has spaces for boutique mods, it is necessary to add some jumpers to make the stock circuit. Place wires as shown above.



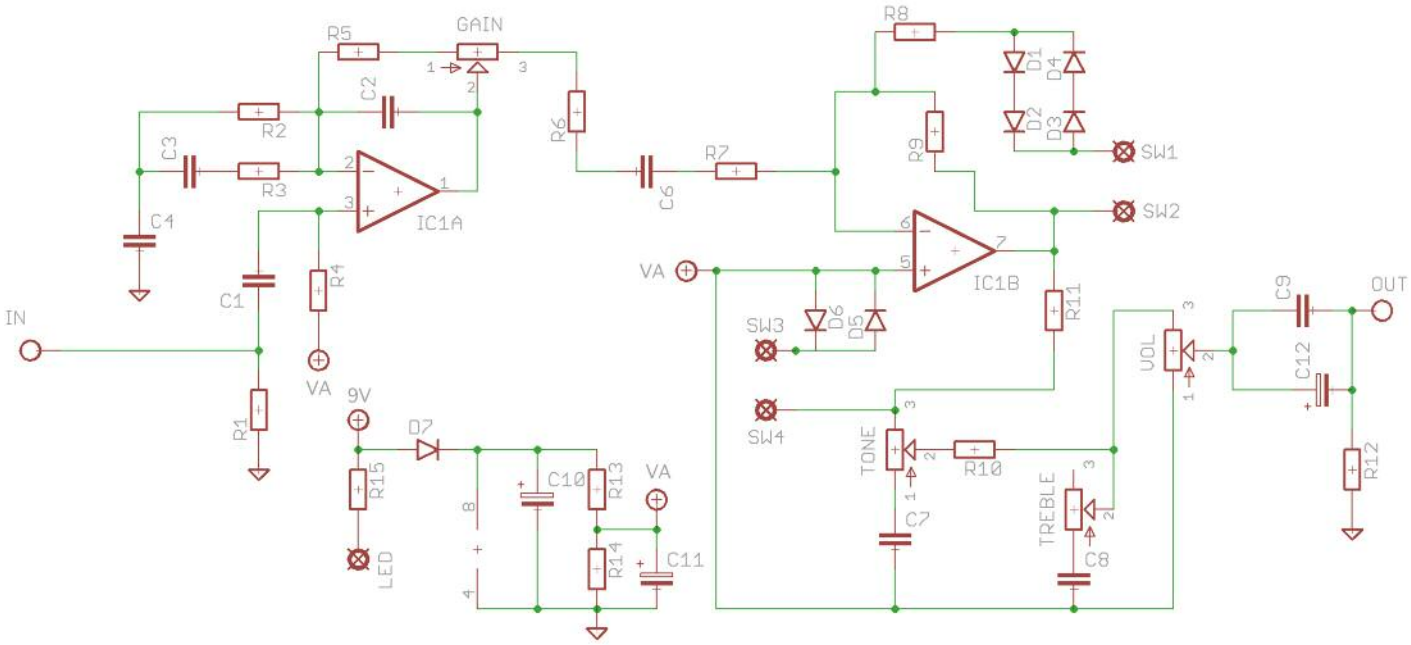
Snap the little metal tag off the pots to mount them flush in the box.

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 3-4 seconds of iron and they're toast.

I've incorporated the Current Limiting Resistor for the LEDs into the board for your pleasure.

The Treble Boost trimmer, DIP switch, R5, C12 and D5-6 aren't used in the stock circuit. See the King of Boutique Breakers overleaf.

Schematic - King of Breakers



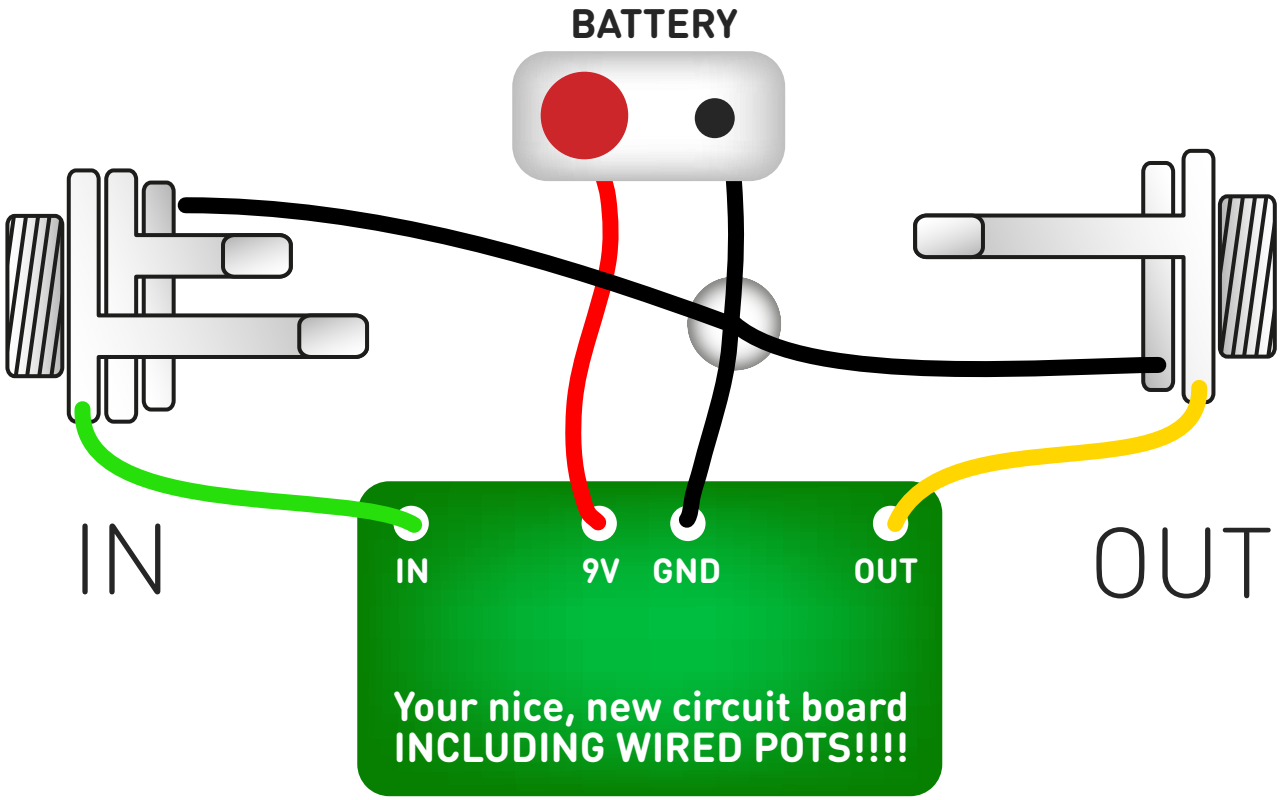
BOM

R1	1M				
R2	27K	C1	10n		
R3	33K	C2	100p		
R4	1M	C3	10n	D1-4	MA856
R5	10k	C4	10n	D5-6	1S1588
R6	10K	C6	100n	D7	1N5817
R7	Jumper	C7	10n		
R8	6K8	C8	10n	IC1	JRC4580D
R9	220K	C9	1u		
R10	6K8	C10	100u elec	TONE	25KB
R11	1K	C11	100u elec	GAIN	100KB
R12	1M	C12	1u elec	VOL	100KA
R13	47K				
R14	47K	SW1-4	2-way	TREBLE BOOST	
R15	2K2 (CLR)		DIP switch*	50KB TRIM**	

*or external switches if desired.
Pads 1+2 switch in/out D1-4, pads 3+4 do the same for D5-6.

**external pot if desired.

Test the board!

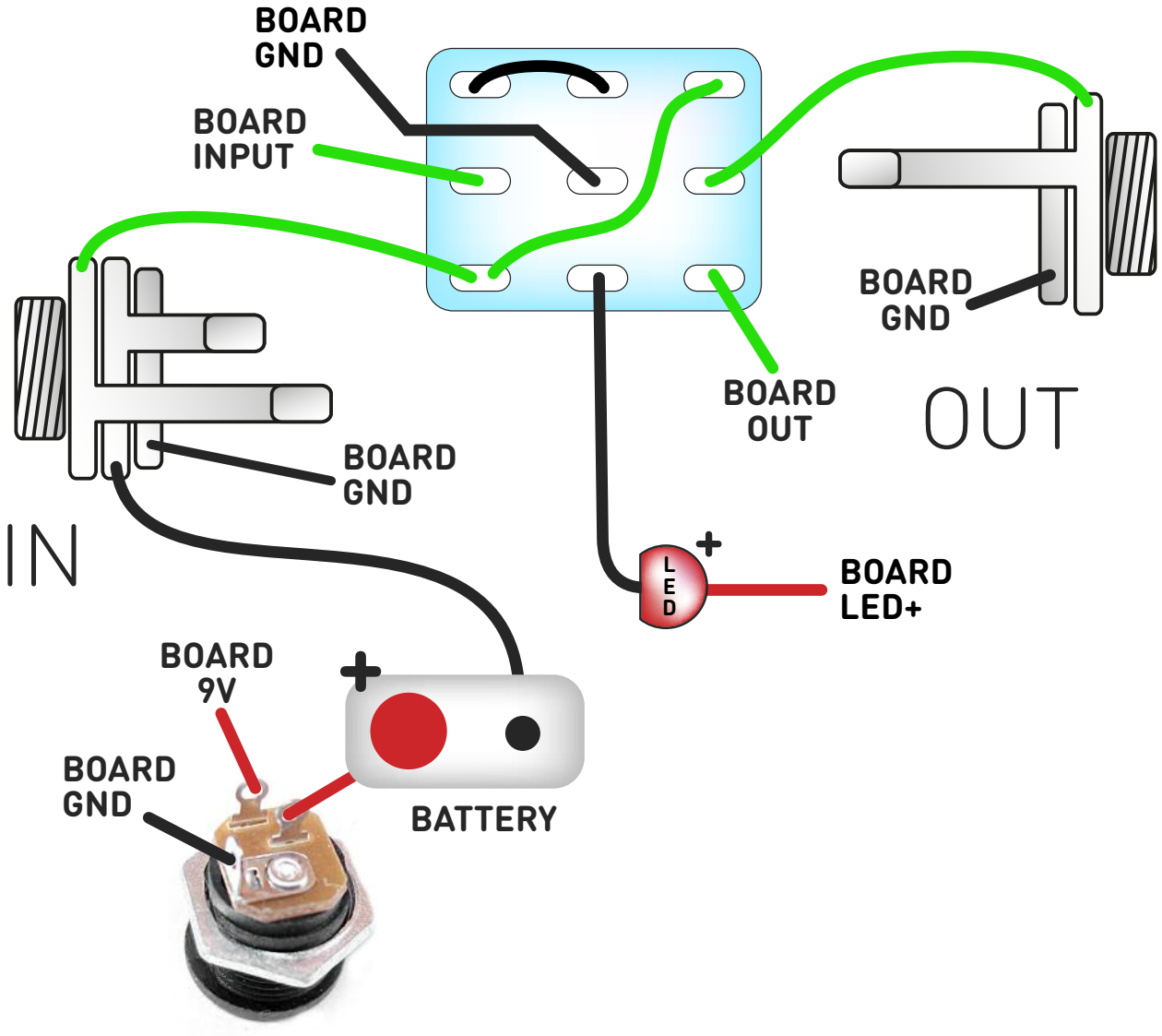


Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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. Now... Break some blues!

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