

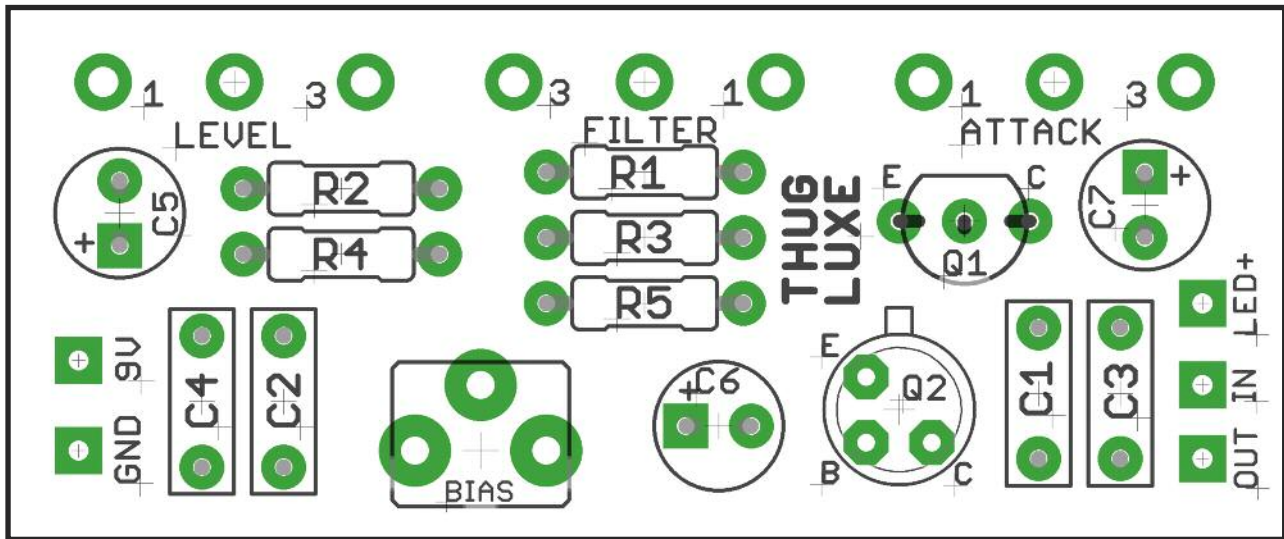
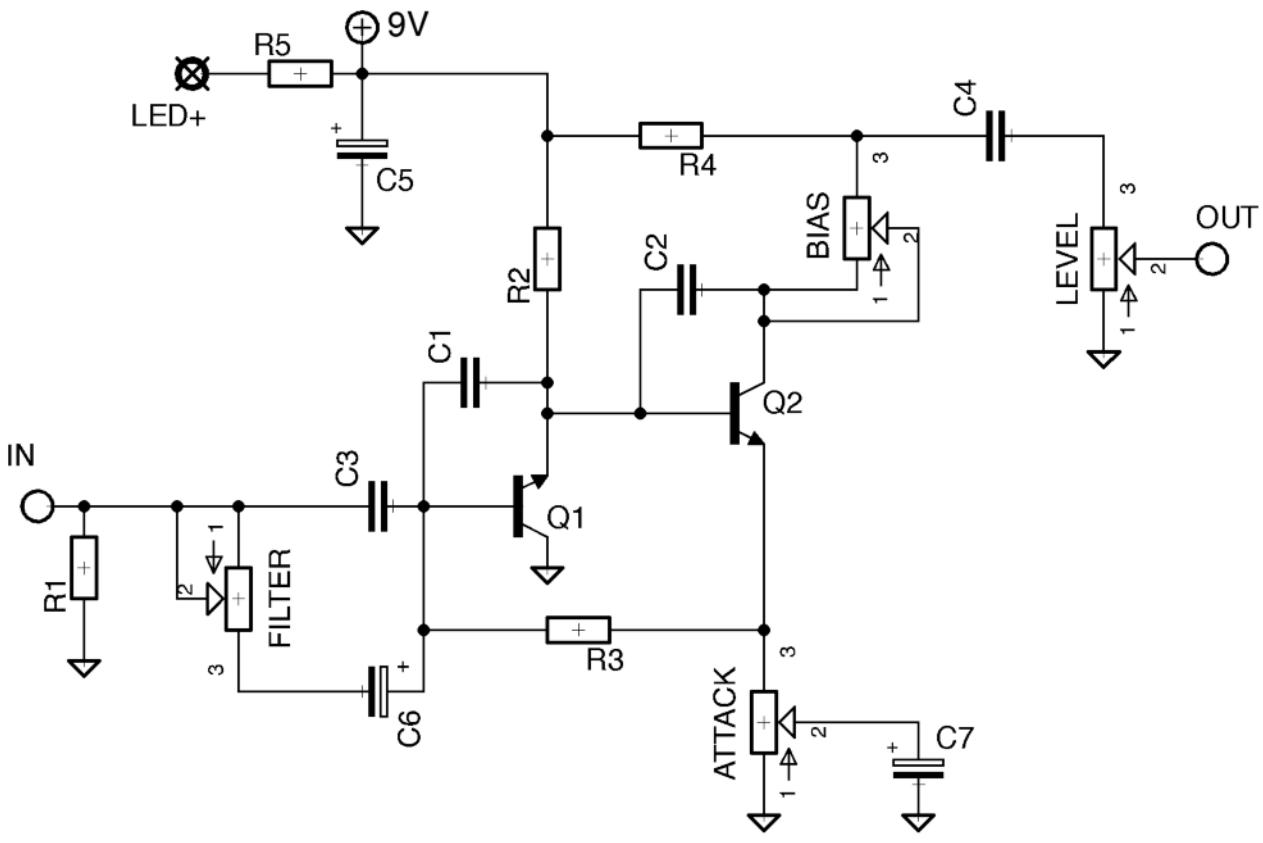


# Thug Luxe

Tweakable 3-knob version  
of the 1-knob fuzz beast

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# Schematic, Layout + BOM



<b>R1</b>	1M	<b>C1</b>	470p	<b>Q1</b>	BC337-16
<b>R2</b>	18K	<b>C2</b>	47p	<b>Q2</b>	BC107B
<b>R3</b>	120K	<b>C3</b>	4n7		
<b>R4</b>	820R	<b>C4</b>	100n	<b>FILTER</b>	100KB
<b>R5</b>	2K2 (CLR)	<b>C5</b>	100u elec	<b>ATTACK</b>	1KB
<b>BIAS</b>	22K trimmer	<b>C6</b>	1u elec	<b>LEVEL</b>	500KB
		<b>C7</b>	22u elec		

# Build notes

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. ATTACK and LEVEL mount on the back side of the board, the opposite side to the rest of the components. FILTER mounts on the component side.

You should use some kind of heat sink on the legs of the transistors when soldering (crocodile clip, self-closing tweezers). They aren't keen on heat. Any more than 3-4 seconds of iron and they're toast.

The BC337-16 pin-out is reversed compared to other transistors such as 2N3904, 2N5088. 2N3904 can be used instead, but reverse it.

Once assembled, adjust the BIAS trim until you get a measurement of 4.5V at the Collector of Q2. A few mV either side and it'll sound awful.

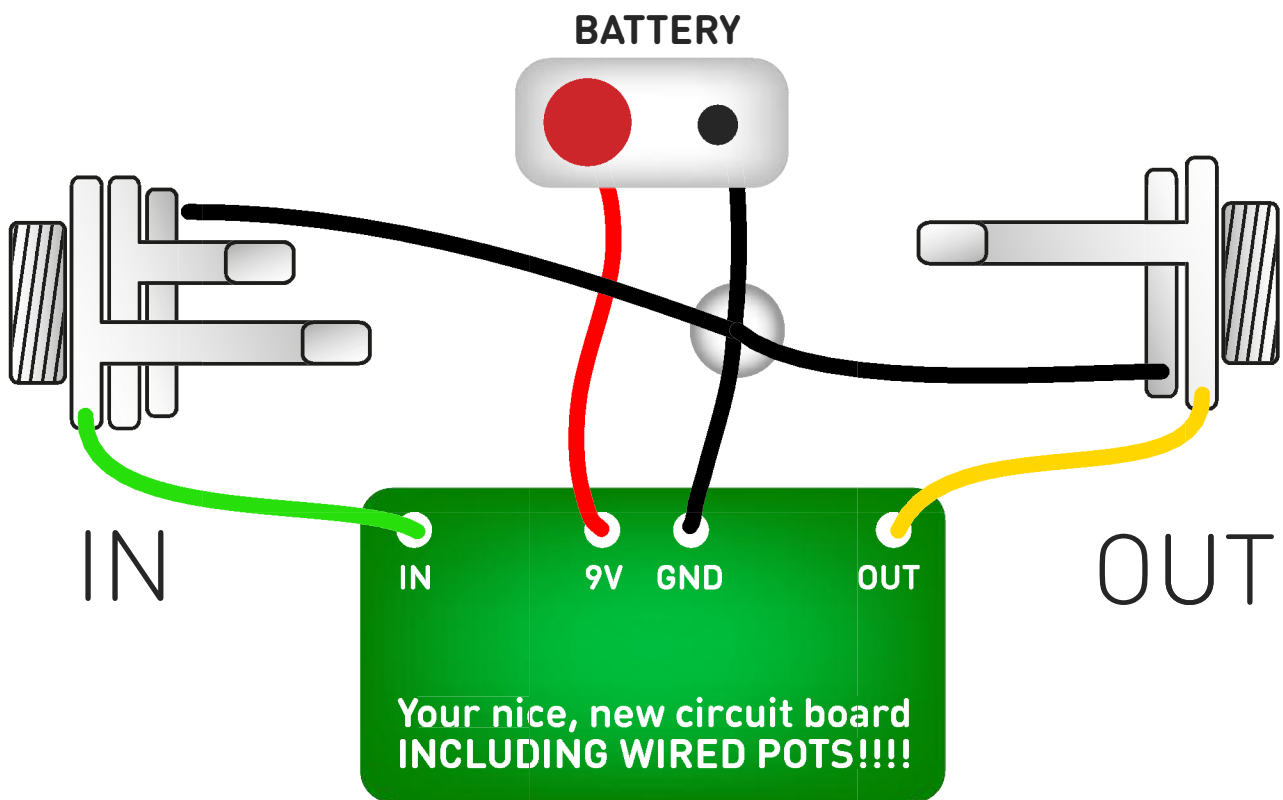


The controls may not work exactly as you'd expect. When you first start playing around with the finished circuit, turn the ATTACK fully up, set the FILTER half way, then adjust OUTPUT to a suitable level. This will give you a near approximation of a standard Thug.

Now, winding the FILTER clockwise will give you more bass, which in turn will push the output harder. Anti-clockwise - well, the opposite.

Turning ATTACK anticlockwise will reduce the drive level, giving less grunt than a standard Thug. This circuit isn't designed to push harder than the Thug, but softer when adjusted.

# Test the board!

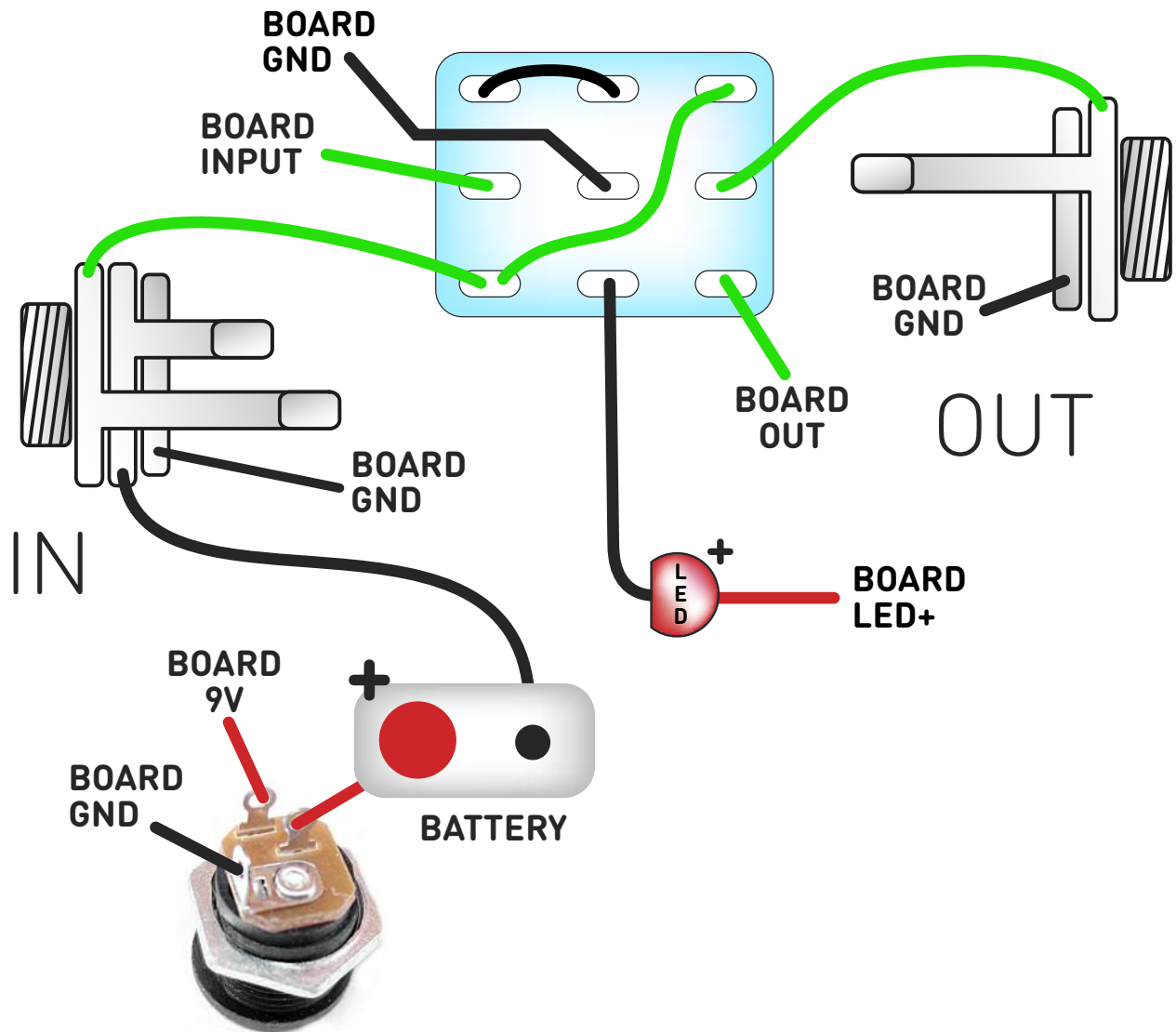


Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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



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. Now... kickass!

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