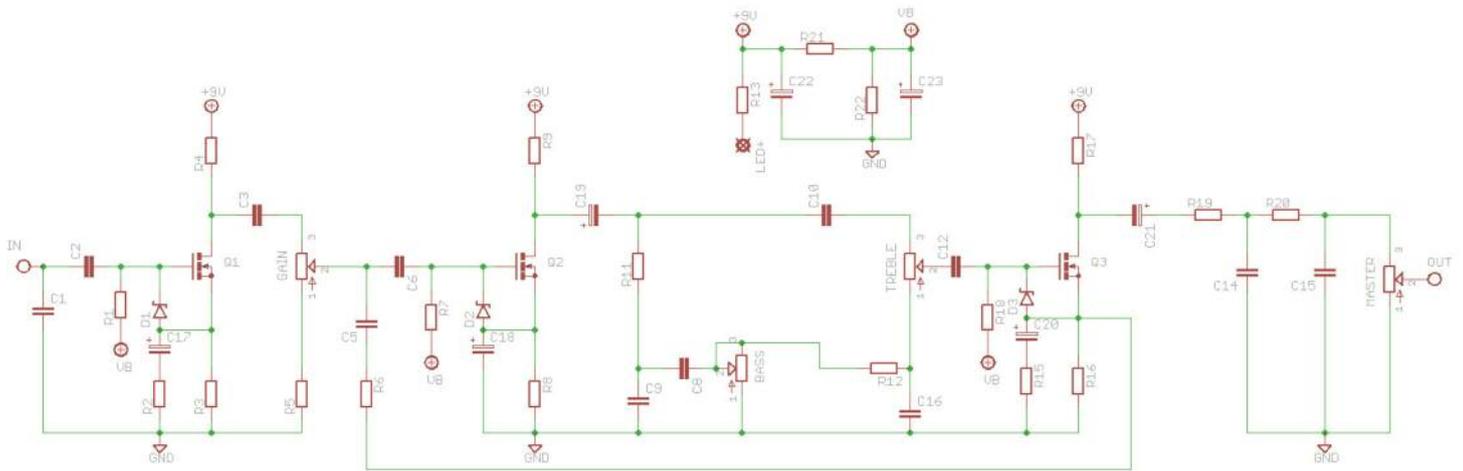


# Mega(HI)Watt

One PCB, two classic  
Hiwatt-based tones

[PedalParts.co.uk](http://PedalParts.co.uk)

# Schematic - NORTH version



## BOM

R1	10M
R2	1K
R3	3K3
R4	3K3
R5	12K
R6	200K
R7	10M
R8	3K3
R9	3K3
R10	empty
R11	100K
R12	10K
R13	2K2 (CLR)
R14	empty
R15	130R
R16	3K3
R17	3K3
R18	10M
R19	12K
R20	12K
R21	62K
R22	100K

C1	250p
C2	100n
C3	220n
C4	empty
C5	470n
C6	47n
C7	jumper wire
C8	10n
C9	4n7
C10	470p
C11	jumper wire
C12	100n
C13	empty
C14	2n2
C15	2n2
C16	10n
C17	100u elec
C18	100u elec
C19	4u7 elec
C20	100u elec
C21	10u elec
C22	100u elec
C23	10u elec

**The board requires a small hack (sorry!).**

**See page 5 of this document before you solder in C22.**

**D1-3** 9.1V Zener

**Q1-3** BS170

**GAIN** 500KA

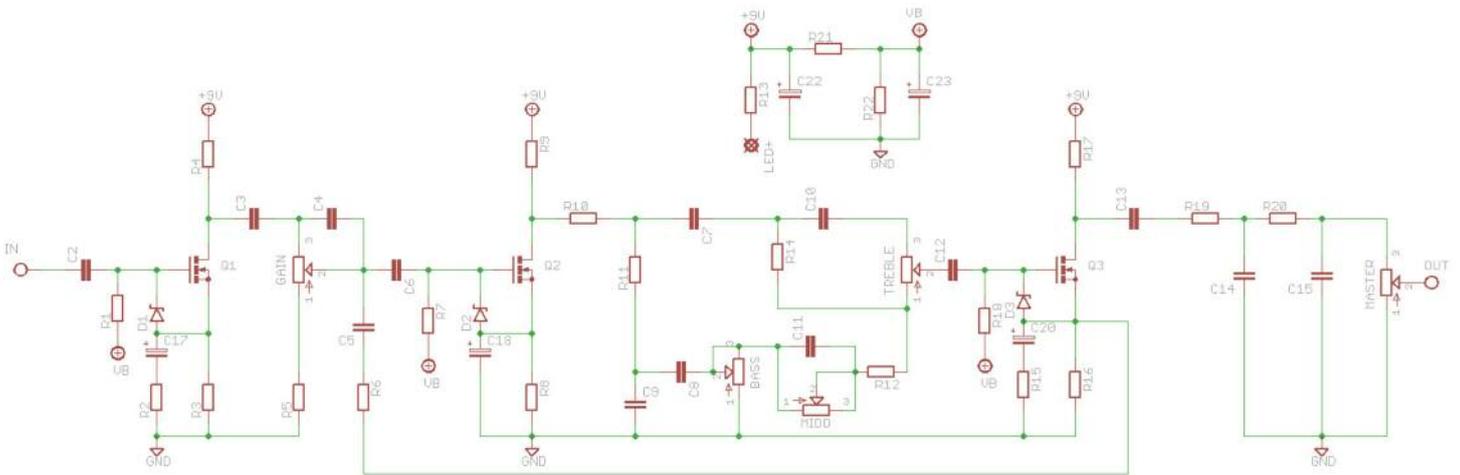
**MASTER** 100KA

**TREBLE** 500KB

**BASS** 500KA

**MIDS** empty

# Schematic - SOUTH version

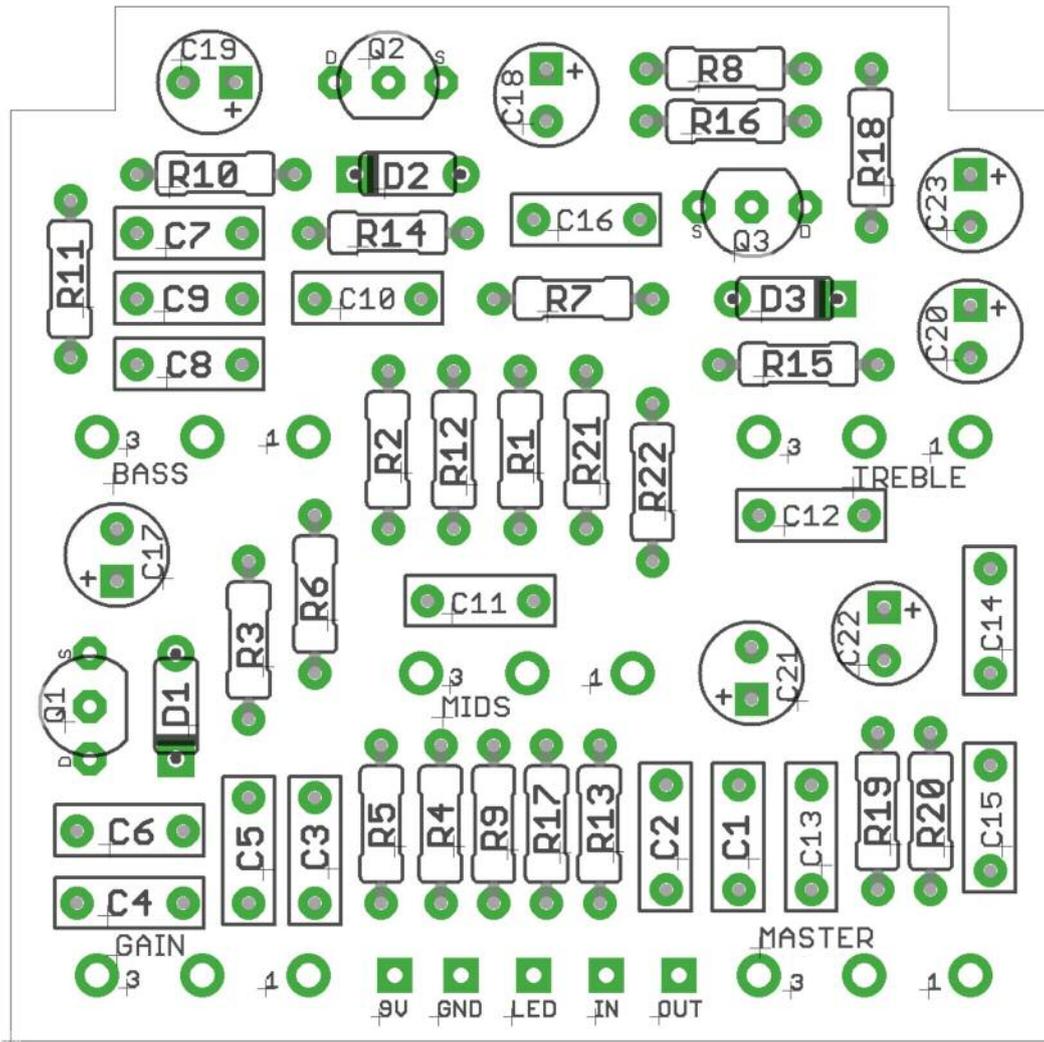


## BOM

R1	1M	C1	empty	
R2	1K	C2	3n3	
R3	3K3	C3	100n	
R4	3K3	C4	47p	
R5	22K	C5	680n	
R6	220K	C6	47n	
R7	1M	C7	1n	
R8	3K3	C8	47n	
R9	3K3	C9	47n	
R10	100K	C10	220p	
R11	100K	C11	1n	
R12	22K	C12	100n	
R13	2K2 (CLR)	C13	220n	
R14	220K	C14	2n2	
R15	130R	C15	2n2	D1-3
R16	3K3	C16	empty	9.1V Zener
R17	3K3	C17	22u elec	Q1-3
R18	1M	C18	10u elec	BS170
R19	10K	C19	empty	GAIN
R20	10K	C20	22u elec	500KB
R21	62K	C21	empty	MASTER
R22	100K	C22	47u elec	250KA
		C23	10u elec	TREBLE
				250KB
				BASS
				500KA
				MIDS
				100KB

**The board requires a small hack (sorry!).**

**See page 5 of this document before you solder in C22.**

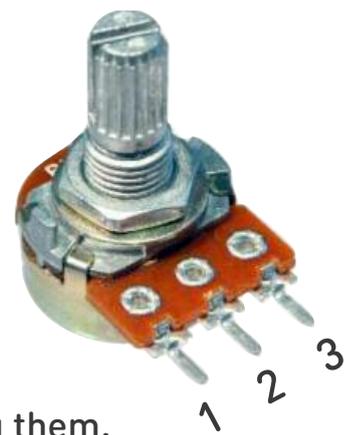


Pots can be mounted in position using header pins or snipped leg components, or just use wire as normal.

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

Pots mount on the underside of the PCB.

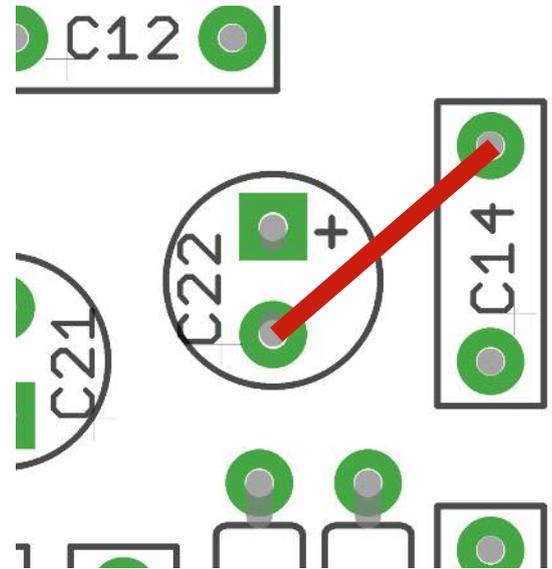
Transistors do NOT like heat. Be very careful when soldering them, and don't leave the iron on them for more than a couple of seconds. Using a heatsink (self-closing tweezers, crocodile clip) on the leg you're soldering will help avoid frying them. Same goes for the LED.



# HACK ALERT

Apologies. A ground connection was left off the CAD document, so a couple of pads need to be connected to get the circuit working.

Connect the two pads shown. You can do this however you like, on the top or bottom of the board. However, the easiest way is to solder C14 in place, then insert C22, solder the + leg, then bend the - leg across the underside of the board to connect with C14. Solder in place.



# Using header pins to attach pots

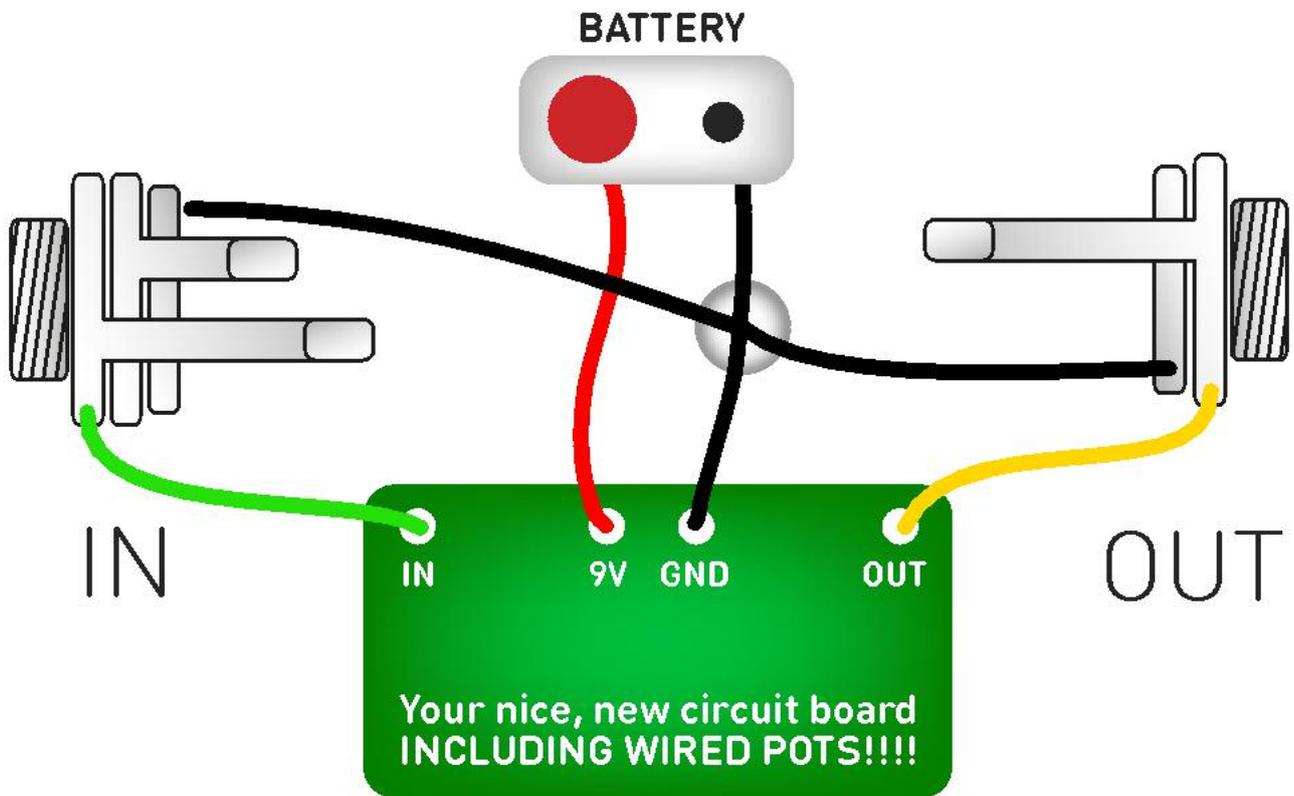
Easy and secure method of getting the pots attached to the PCB and mounting the board in the enclosure.

First, get your header pins soldered in. They need to be nice and straight, so solder one pin in first - don't worry about it being straight for now. Once its in, re-melt the connection and adjust the position of the header with your free hand (you're not holding the solder any more, are you..?) Once it's nice and straight, let the joint harden then solder the other two connections. Then resolder the original pin just to be sure.

To get your pots in pin-point position, place them in the holes in the top side of the enclosure as shown. Get some strips of thick card and place it on the back of the pots. Lower the PCB into place on top of the pots so the header pins are on the pot pins. Solder one leg of each pot. Flip the board over and solder the others. Nice! The card gives you some clearance between the back of the pots and the circuit. You can take it out once you have them positioned, and you should have around 5-6mm clearance if the pots are in line with the top of the headers.



# Test the board!

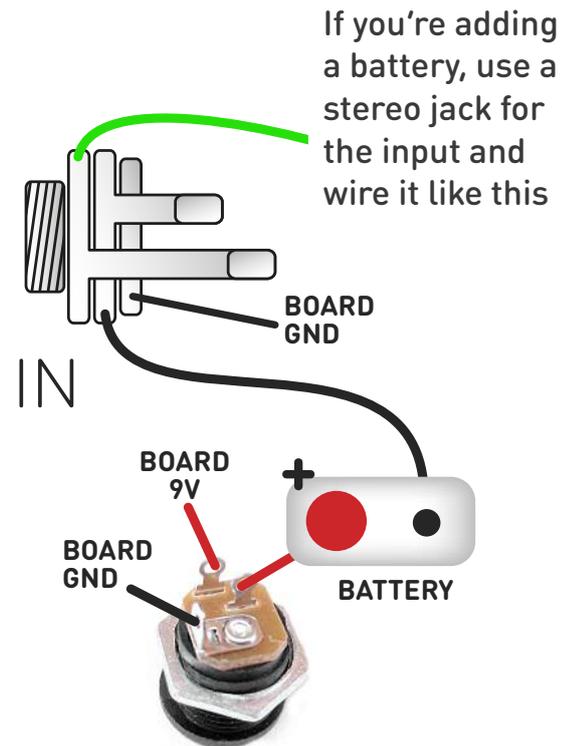
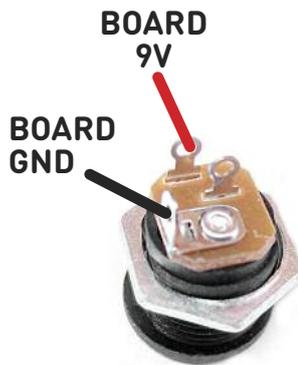
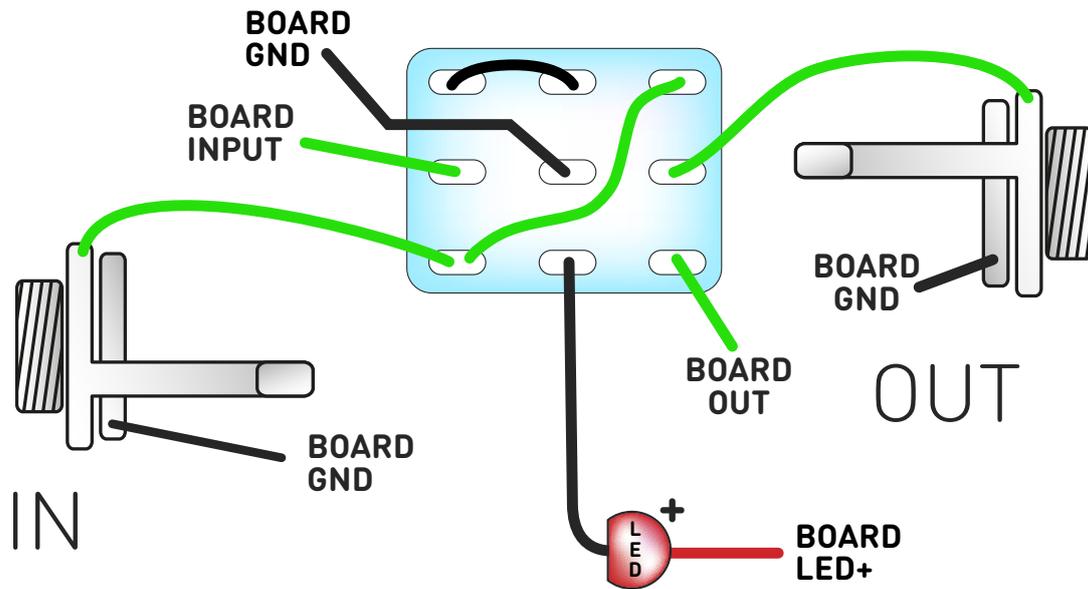


Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

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



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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