AZABACHE V1.1

Runoffgroove's overdrive inspired by classic Fender amps

OVERVIEW

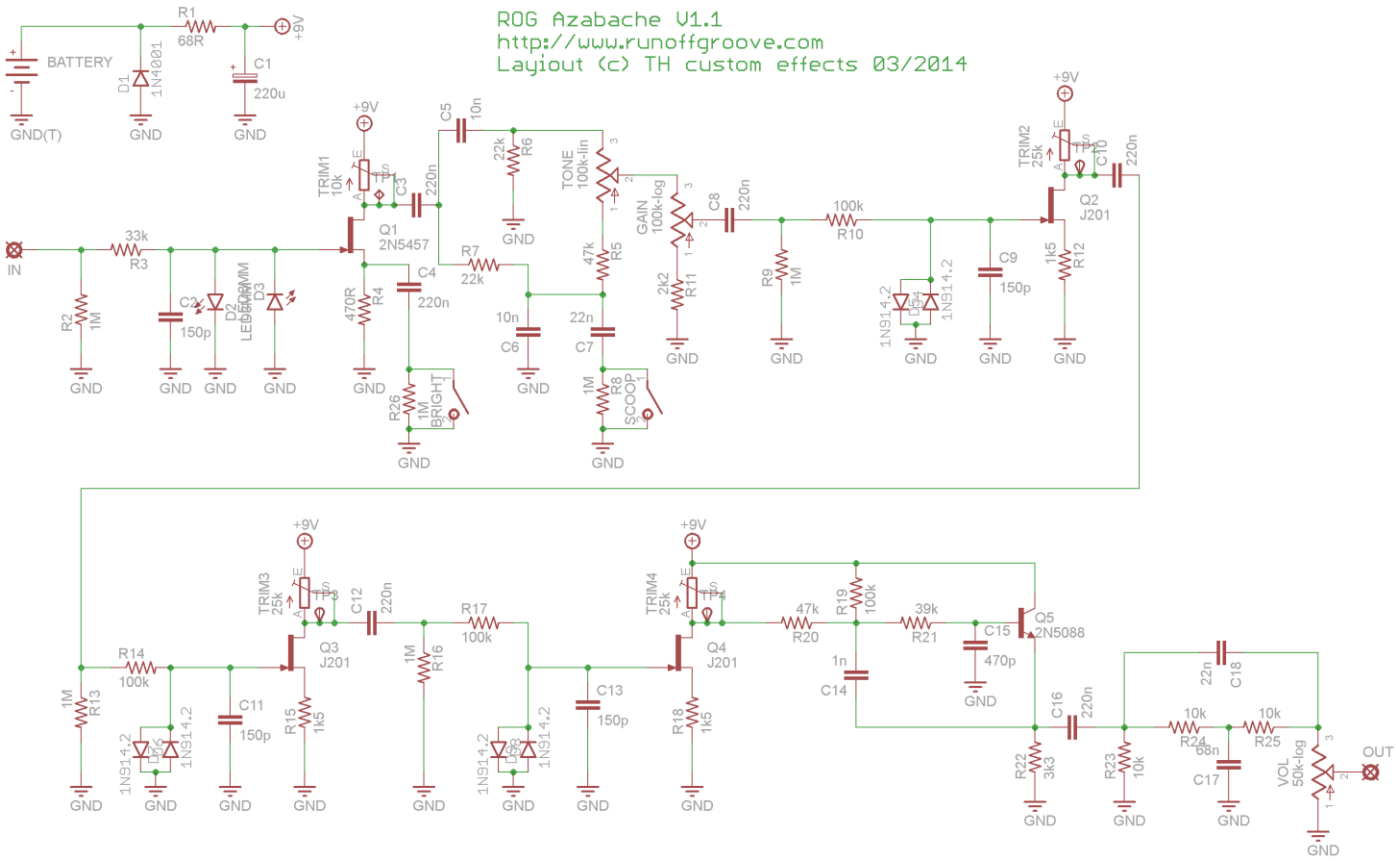
All credit for the circuit goes to http://runoffgroove.com. You will also find a lot of sound samples and documentation on their website.

GENERAL

This is my attempt on an easy-to-use PCB for this great circuit. According to runoffgroove this is their special approach to a Fender-like overdrive. I did built it and it really sounds like it.

Revision 1.1 optimizes the layout to make the board smaller. Testpoints will make the biasing of the JFETs easier.

SCHEMATIC

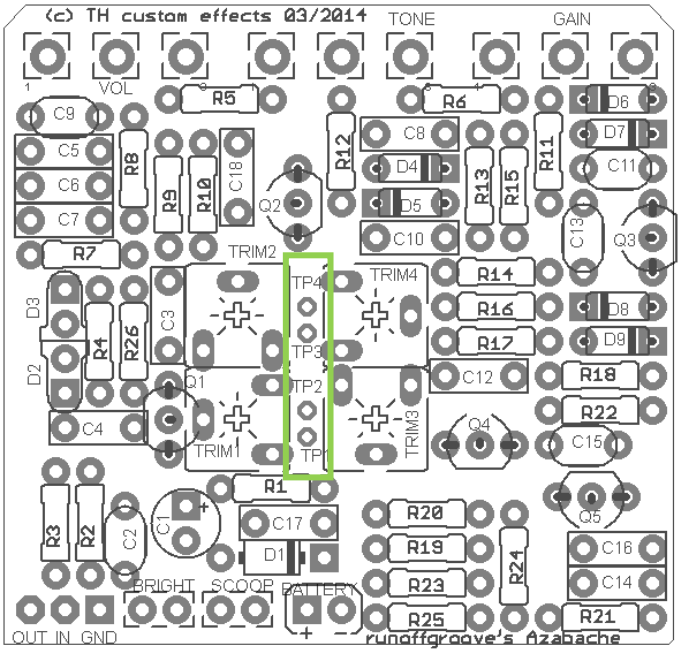


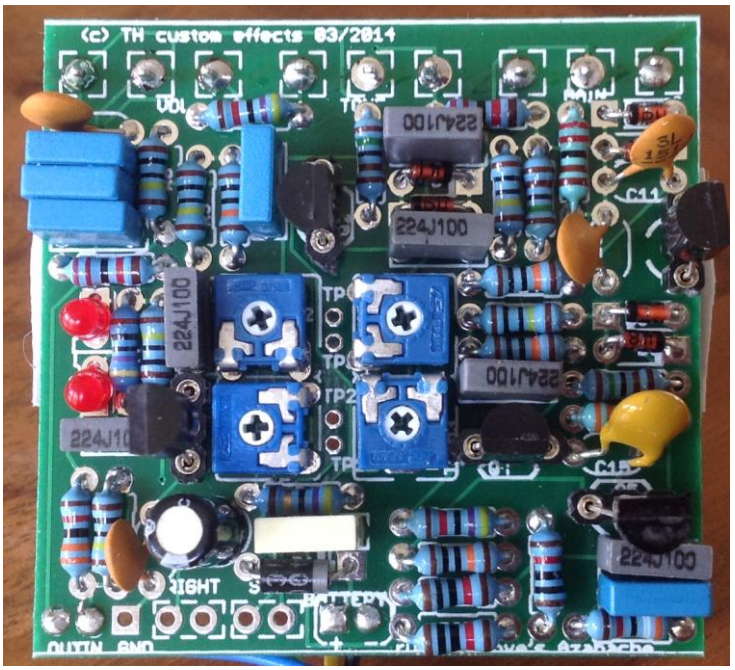
BILL OF MATERIALS

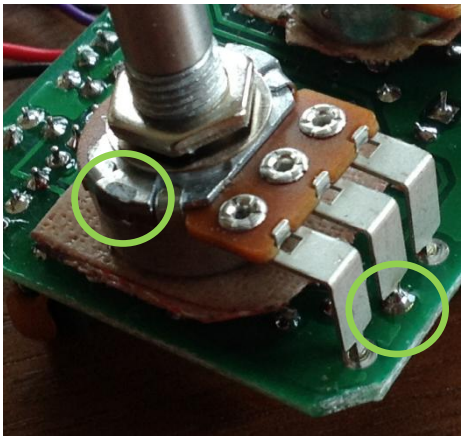
	Device#	*Qty*	*Value*	*Comment*
Resistors	R1	1	68R	
	R2,R8,R9,R13,R16, R26	6	1M	
	R3	1	33k	
	R4	1	470R	
	R6,R7	2	22k	
	R5,R20	2	47k	
	R10,R14,R17,R19	4	100k	
	R11	1	2k2	
	R12,R15,R18	3	1k5	
	R21	1	39k	
	R22	1	3k3	
	R23,R24,R25	3	10k	
Capacitors	C1	1	220u	polarized elektro
	C2,C9,C11,C13	4	150p	ceram
	C3,C4,C8,C10,C12, C16	6	220n	box film
	C5,C6	2	10n	box film
	C14	1	1n	box film
	C15	1	470p	ceram
	C17	1	68n	box film
	C7,C18	1	22n	box film
Diodes	D1	1	1N4001	
	D2,D3	2	LED 3mm red	
	D4,D5,D6,D7,D8,D9	6	1N4148	
Transistors	Q1	1	2N5457	
	Q2-Q4	3	J201	
	Q5	1	2N5088	
Trimmer	TRIM1	1	25k	6mm
	TRIM2-4	3	50k	6mm
Pots	GAIN	1	100k-log	16mm right-angle print
	TONE	1	100k-lin	16mm right-angle print
	VOL	1	50k-log	16mm right-angle print
Other	SW1,2	2	SPST	

BUILDING

Start populating the diodes and resistors first. You want to socket the transistors. Put the socket in next. Then go the trimmpots. Last are the LEDs, ceramic and film box capacitors, then the electrolytic.







The board mounted pots need to go onto the other side of the board. Use some (double-sided) tape to make sure the pot cases do not shorten any pins that come through the board. As you solder them it is good practice to apply some solder to the middle pin first, then pull it back or approx. 1mm and let it harden. Then solder the other pins. This will align the pot horizontally in a better way and avoid shortcuts of the wide pot pins and the board.

Don't forget to clip of the small bracket before you mount the circuit.

BIASING:

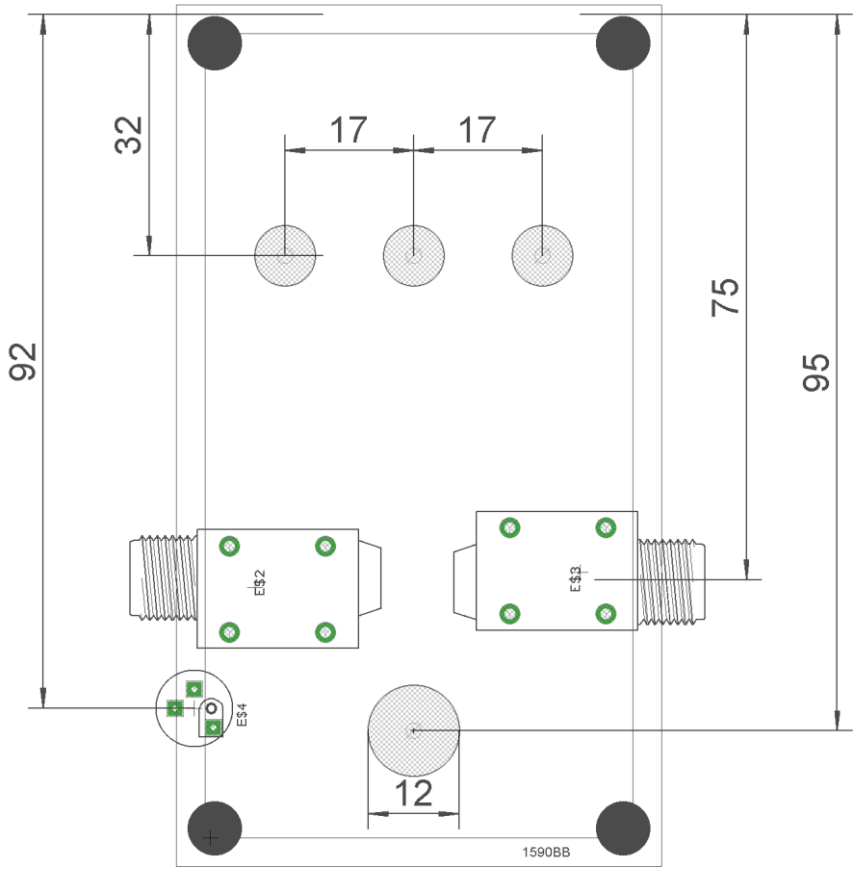
As there are four transistors you will have difficulty adjusting this by ear. Please use a multimeter and check that the transistor drain voltage is close to 6V for the 2N5457 (Q1) and 5V for the J201s (Q2-Q4).
To do this connect your multimeter to ground and tip the testpoints TP1-TP4 to measure the voltage. Adjust it using the corresponding trimmers TRIM1-TRIM4.

At least this should put them into their working area. You can fine-tune the transistors once you have powered the circuit up by ear.

ENCLOSURE

Drilling a 1590B enclosure (measurements in mm)

Check your printout for correct measurements before drilling!



FINALLY

Once you managed biasing this circuit you have all the Fender-like tones available. Have fun!

DISCLAIMER & LICENSE

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