

AC-SIM V1.1

Switch your electric guitar to acoustic mode!

OVERVIEW

This acoustic simulator enables you to play acoustic guitar without carrying one around (That is when you do carry a electric guitar with you – of course ☺)

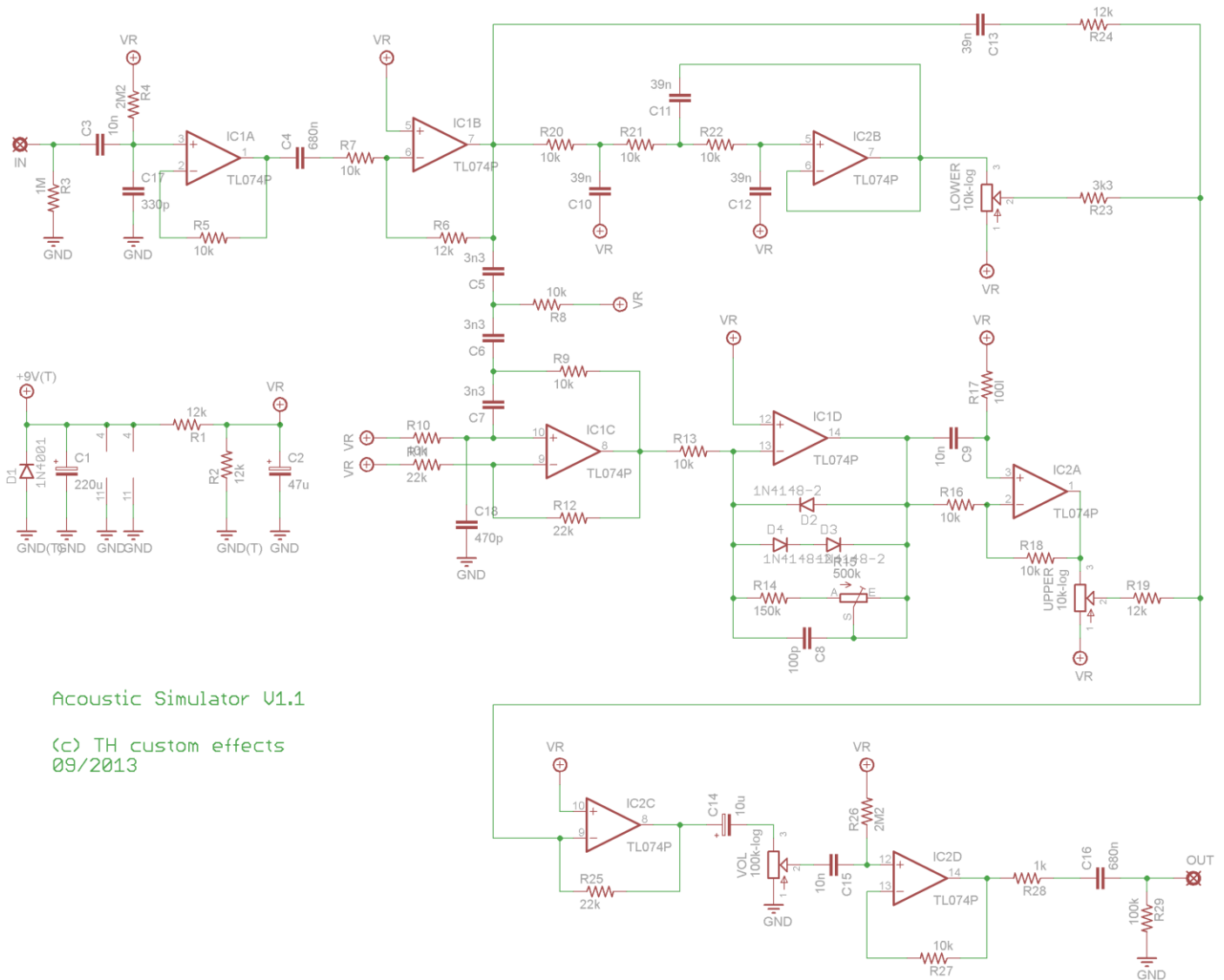
GENERAL

The effect is based on the well known Woody by Mark Hammer. All credit for this great circuit goes to him.

The “Lower”- control manipulates the body-resonance and the “Upper”-control the higher frequency band for string attack and such.

Rev 1.1 of the board has the noise filter caps included.

SCHEMATIC



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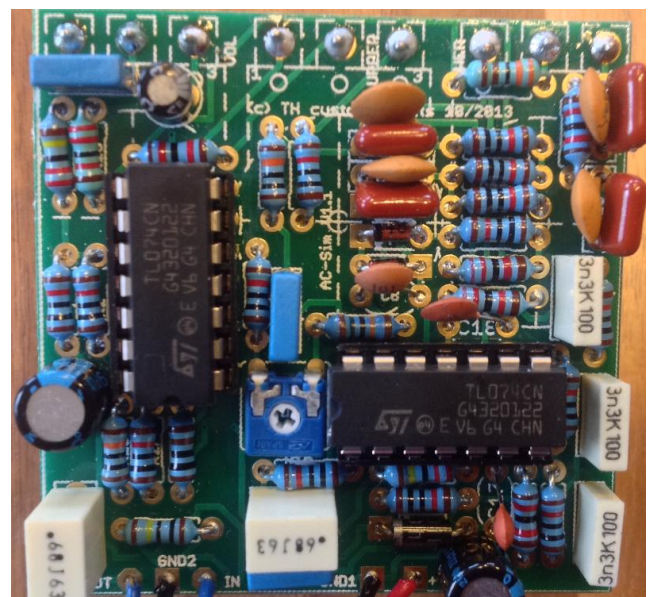
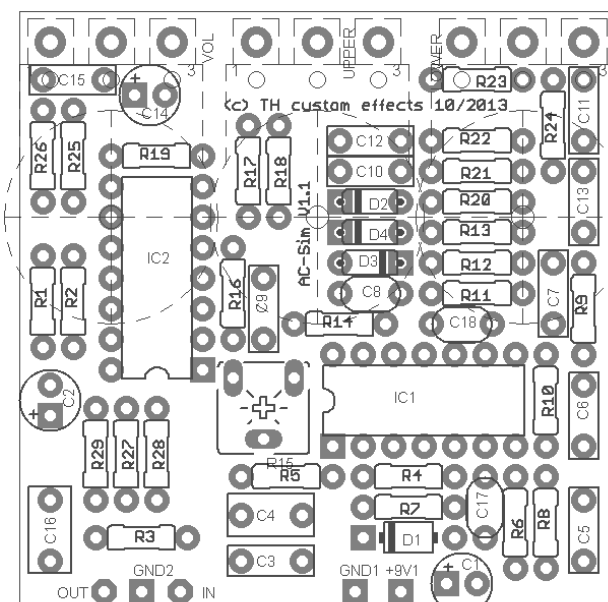
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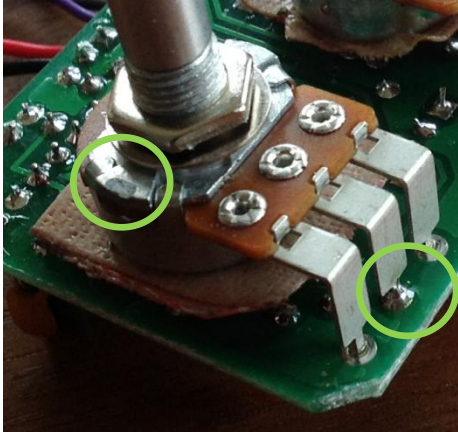
BILL OF MATERIALS

	Device#	Qty	Value	Comment
Resistors	R1, R2, R5, R7, R8, R9, R10, R13, R16, R18, R20, R21, R22, R27	14	10k	
	R3	1	1M	
	R4, R26	2	2M2	
	R6, R19, R24	3	12k	
	R11, R12, R25	3	22k	
	R14	1	150k	
	R17, R29	2	100k	
	R23	1	3k3	
	R28	1	1k	
	Capacitors	C1	1	220u
C2		1	47u	polarized electro
C3, C9, C15		3	10n	box film
C4, C16		2	680n	box film
C5, C6, C7		3	3n3	box film
C8		1	100p	ceram
C10, C11, C12, C13		4	39n	box film
C14		1	10u	polarized electro
C17,C18		2	330p-470p	ceram
Pots	Upper, Lower	1	10k-log	
	Vol	1	100k-log	
	R15	1	500k	9mm trimpot
Diodes	D1	1	1n4001	
	D2.D3.D4	3	1N4148	
ICs	IC1, IC2	2	TL074	

BUILDING

Start populating resistors and diodes first, then IC sockets and trimpot, last do the capacitors.





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 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.

The trimpot is there to adjust the highpass filter.

You will need a certain level of signal to generate the right harmonic content. Depending on your pickup this varies. Just dial in the nicest sounding tone.

FINALLY

Playing acoustic guitar without the need to carry one around is what the Ac-Sim can be used for. Also you can use it as a "brightener" for your general electric sound.

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