

Ease of build	Advanced
-partscount	Medium
-density	Medium
Parts sourcing	Normal
Enclosure fitting	Normal
Debugging level	Advanced

# Valv-e-tizer V1.5d

Tube sound in a small package

## OVERVIEW

The Valv-e-tizer allows you to build a basic tube pedal for your pedalboard. Based on the tubes and part values chosen it can range from ultra-clean to heavy distortion. This circuit was inspired by [Juansolo's BoobTube circuit](#) which can easily be built with the PCB, so the credit for the circuit goes to him. The voltage multiplier used can also be found there which not my own work as well.

Board V1.5 has additional mounting holes for supporting the tube socket during insertion/removal of the tube.

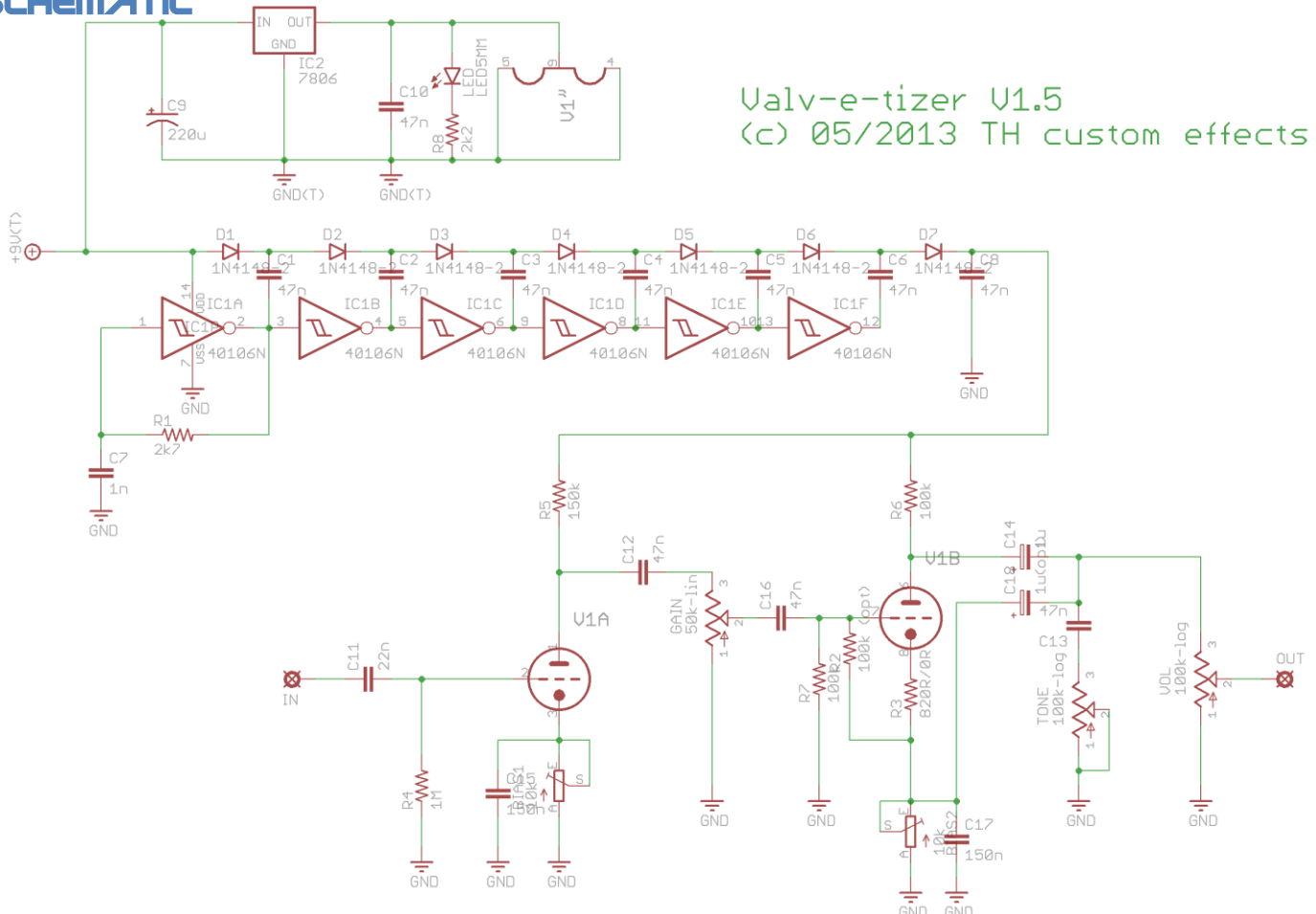
The intention is to provide a board than can be used to try out most of the basic tube-amp-circuits without the lethal impact of working on 'real' high voltage amps can have. And it sounds great by the way!

## GENERAL

This circuit is intended to fit in a 1590B enclosure, so there is not much space regarding tone control. A simple high-cut filter is used to bring a little color to the tone.

The tube heaters can run on 12V or 6V. The later is used in this circuit to allow 9V operation on any pedalboard.

## SCHEMATIC

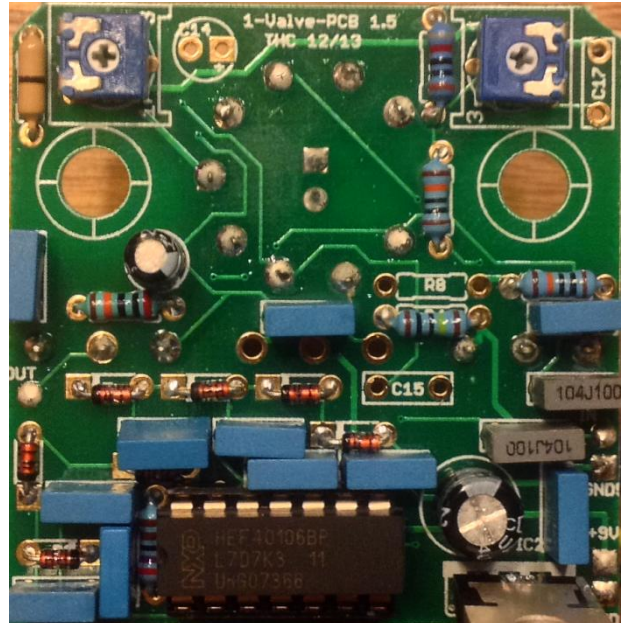
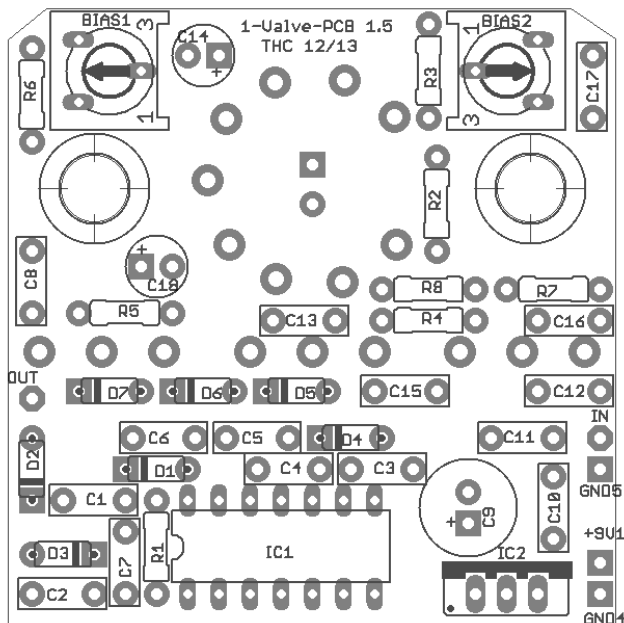


## BILL OF MATERIALS

	Parts	Value			Qty	Description
		Ultra Clean	Clean	Distortion		
Resistors	R1	2k7	2k7	2k7	1	
	R2	100k	empty	empty	1	
	R3	820R	jumper	jumper	1	
	R4	1M	1M	1M	1	
	R5	200k	180k	220k	1	
	R6	jumper	150k	180k	1	
	R7	100k	100k	100k	1	
	R8	1k5-3k3	1k5-3k3	1k5-3k3	1	LED series resistor. Test for brightness with your LED first.
Capacitors	C1, C2, C3, C4, C5, C6, C8, C10, C16	47n	47n	47n	9	box film ! 80-100V !
	C11	100n	22n	22n	1	box film
	C12	100n	22n	10n	1	box film
	C13	100n	47n	10n	1	box film
	C14	empty	1u	1u	1	pol. Electro
	C18	1u	empty	empty	1	pol. Electro
	C15, C17	empty	150n	empty	1	box film
	C7	1n	1n	1n	1	box film
	C9	220u	220u	220u	1	pol. Electro
Diodes	D1, D2, D3, D4, D5, D6, D7	1N4148	1N4148	1N4148	7	
	LED	LED3mm	LED3mm	LED3mm	1	super-bright
Trim pots	BIAS1	5k/10k	5k/10k	5k/10k	1	6mm
	BIAS2	250k	5k/10k	5k/10k	1	6mm
Pots	GAIN	100k-lin	100k-lin	100k-lin	1	Potentiometers
	TONE, VOL	100k-log	100k-log	100k-log	2	Potentiometers
Ics	IC1	40106N	40106N	40106N	1	
	IC2	uA7806	uA7806	uA7806	1	Or 6v switching module
Other	V1	12AU7	12AU7	12AT7	1	
	S1	Socket Noval print			1	

## BUILDING

The BOM lists three different sounding versions that can be built. The clean and the distortion- version build identical, just other parts values are used. Ultra clean has a few additional components.



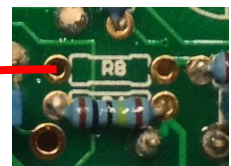
Start populating the small diodes first, then larger diodes, resistors, IC socket and capacitors. Then mount the 3mm LED from the backside. Make sure it is the right orientation before you solder the NOVAL socket on top of it. Of course this does only work if your tube socket has a hole in the middle. If not and it is a plastic socket, you can drill one. If its ceramic you will not get a hole in. Leave some space between tube socket and PCB!



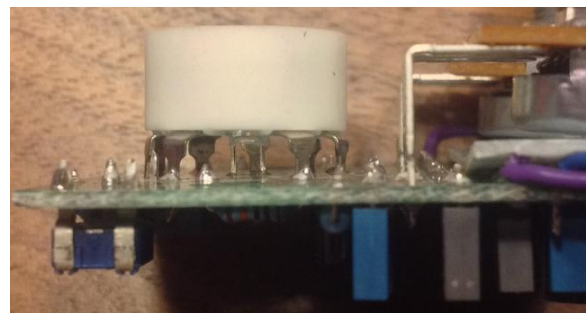
### Making the LED switchable:

Do not put the right leg of R8 through the hole. Instead bend the leg upwards and wire it to your switch which will close it to ground.

To R8 & Switch



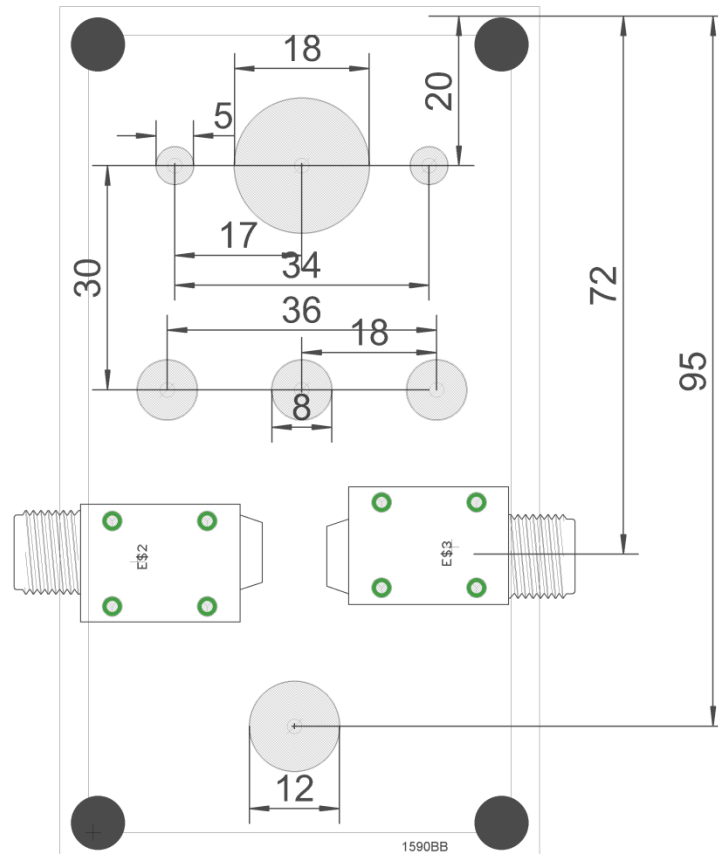
### Detail: mounting height of socket & ports



## ENCLOSURE

Drilling a 1590B enclosure (measurements in mm)

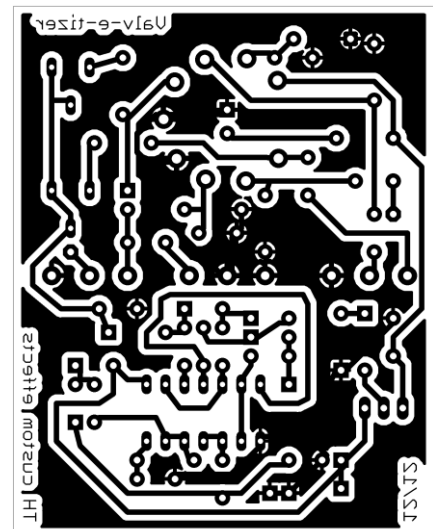
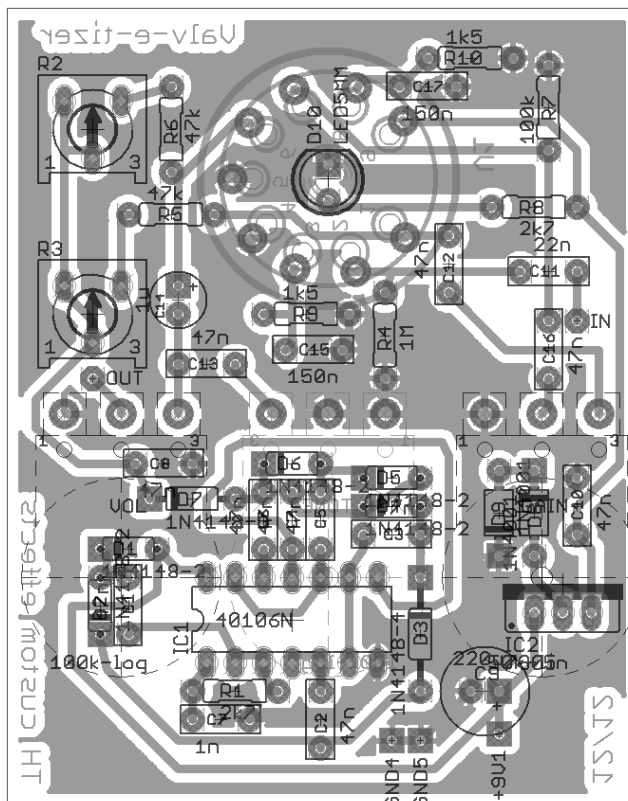
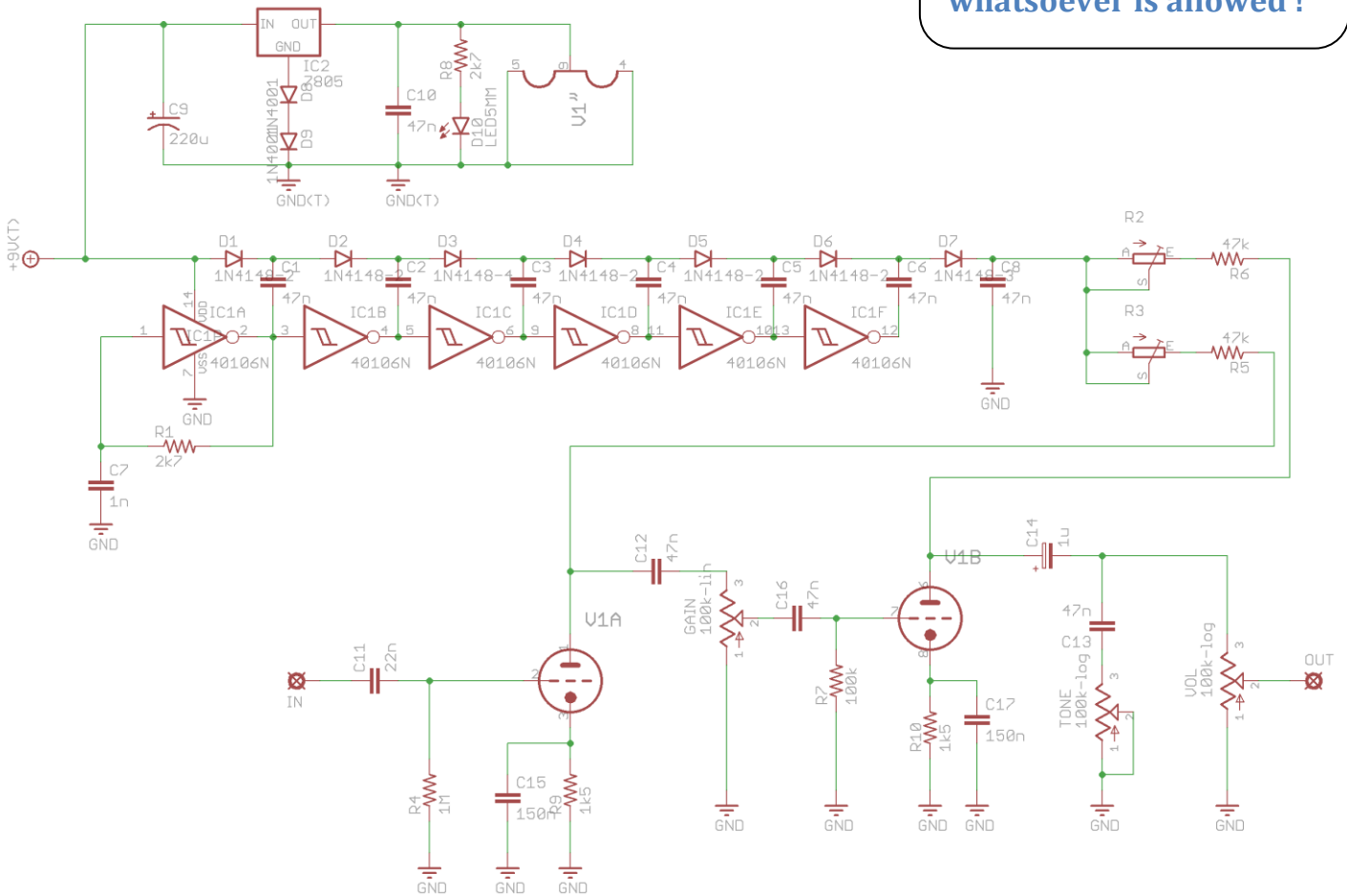
Check your printout for correct measurements before drilling!



## SINGLE SIDED ARTWORK

(71mmx56mm) Please note that there is no C18 in layout !

**This part is DIY-only  
and no commercial use  
whatsoever is allowed !**





## FINALLY

The Valv-e-tizer will produce real tube sound for your setup. It can be added as a clean input (ultra-clean version) or as a preamp with some specific distortion characteristics.

Depending on the tubes you will use (AU7 low gain, AT7 higher gain, AX7 high gain) and the manufacturer that produces them, you will get different sounding effects.

This is a fun circuit. Play around and use what you like best.



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