

Small Time V1.0

Delay with tails - based on Merlin Blencowe's circuit

Overview

Merlin is famous for his knowledge about valve circuits. But from time to time he releases stompbox circuits after his own ideas. His site: <u>http://www.valvewizard.co.uk/</u>

General

Here is Merlins project page: http://www.valvewizard.co.uk/smalltime.html

This is a delay with tails – the wet signal is trailing out when the effect is switched off. See the wiring instructions on the end of the document.

What Merlin says about his circuit:

"The Small Time delay is a straightforward delay/echo effect, with tails. In fact, one of the reasons I designed this effect was because most of the other DIY designs on the internet don't have tails, and tails is essential in a delay effect, in my opinion.

(In acoustics the "tail" is the decaying end of the echo. A delay effect with tails does not instantly kill the echo when you hit bypass; it instead lets the last trace of echo decay naturally.)"



Schematic





Bill of Materials**

	Device#	Qty	Value	Comment
Resistors	R1	1	4k7	Try with your LED for brightness
	R2, R14, R15, R25	4	1k	
	R3	1	10M	
	R4, R5, R8, R16, R17, R18, R19, R20, R21	9	10k	
	R6, R7, R22	3	100R	
	R9	1	15k	
	R10, R12, R23	3	100k	
	R11, R24	2	1M	
Capacitors	C5, C11	2	2n2	
	C2, C15	2	10n	box film
	C3, C6, C8, C17, C19, C21, C22, C23	8	100n	box film
	C4, C20	2	47u	polarized electro
	C7, C12	2	47n	box film
	C1, C9, C10, C14, C24	5	10u	polarized electro
	C13	1	22u	polarized electro
	C16	1	1n	box film
	C18	1	10u	tantalum
Pots	MIX, REPEATS	2	10k-lin	
	DELAY	1	50k-lin	
Diodes	D1	1	1N4148	
	D2	1	1N4001	
	LED	1		LED of your choice
Transistors	Q1	1	J201	Alternative J107 or others.
ICs	IC1	1	PT2399	
	IC2	1	TL072IP	
	REG1	1	78L05	

**The schematic and the values in the BOM can differ! Always look in the BOM for correct parts values!



Building

There are a lot of parts on relatively small space, so take your time and everything will work out well.

Start populating resistors and diodes first, then IC sockets. If you want to socket the transistor you put the sockets in now (but there is no need to do so because almost any J-FET will work). Next do the capacitors, starting ceramic, box film and last the tantalum and polarized. electros.





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.



Wiring

This is a buffered bypass circuit.

You only need a Single pole latching footswitch (SPST/SPDT) to turn it on and off.





Finally

This is an easy to build and great sounding delay with tails!

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