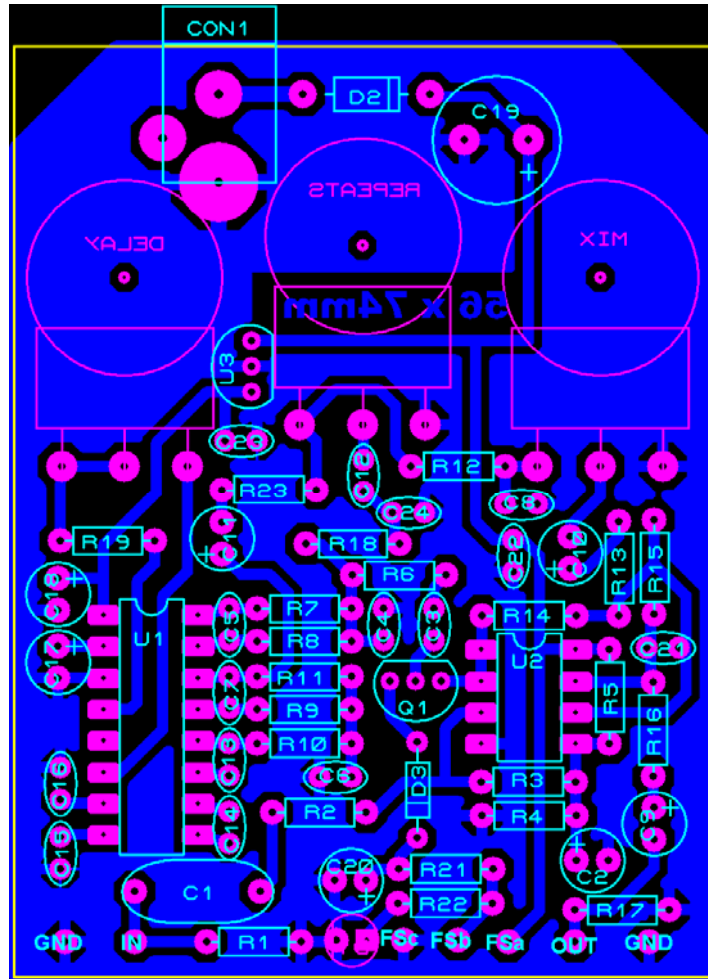
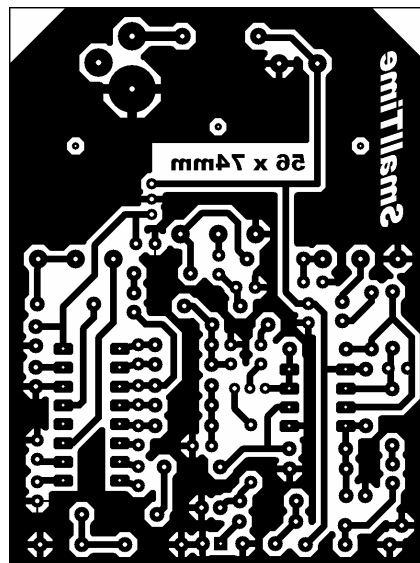
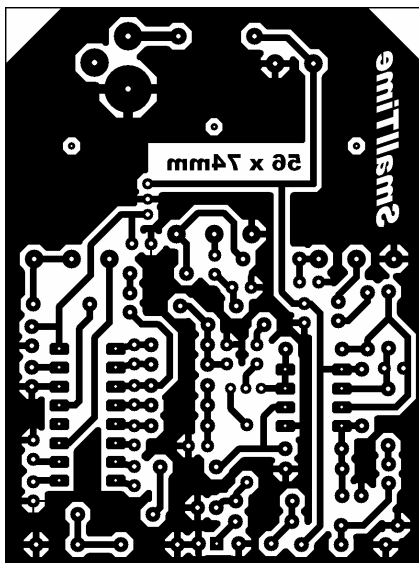


Small Time Delay with Tails

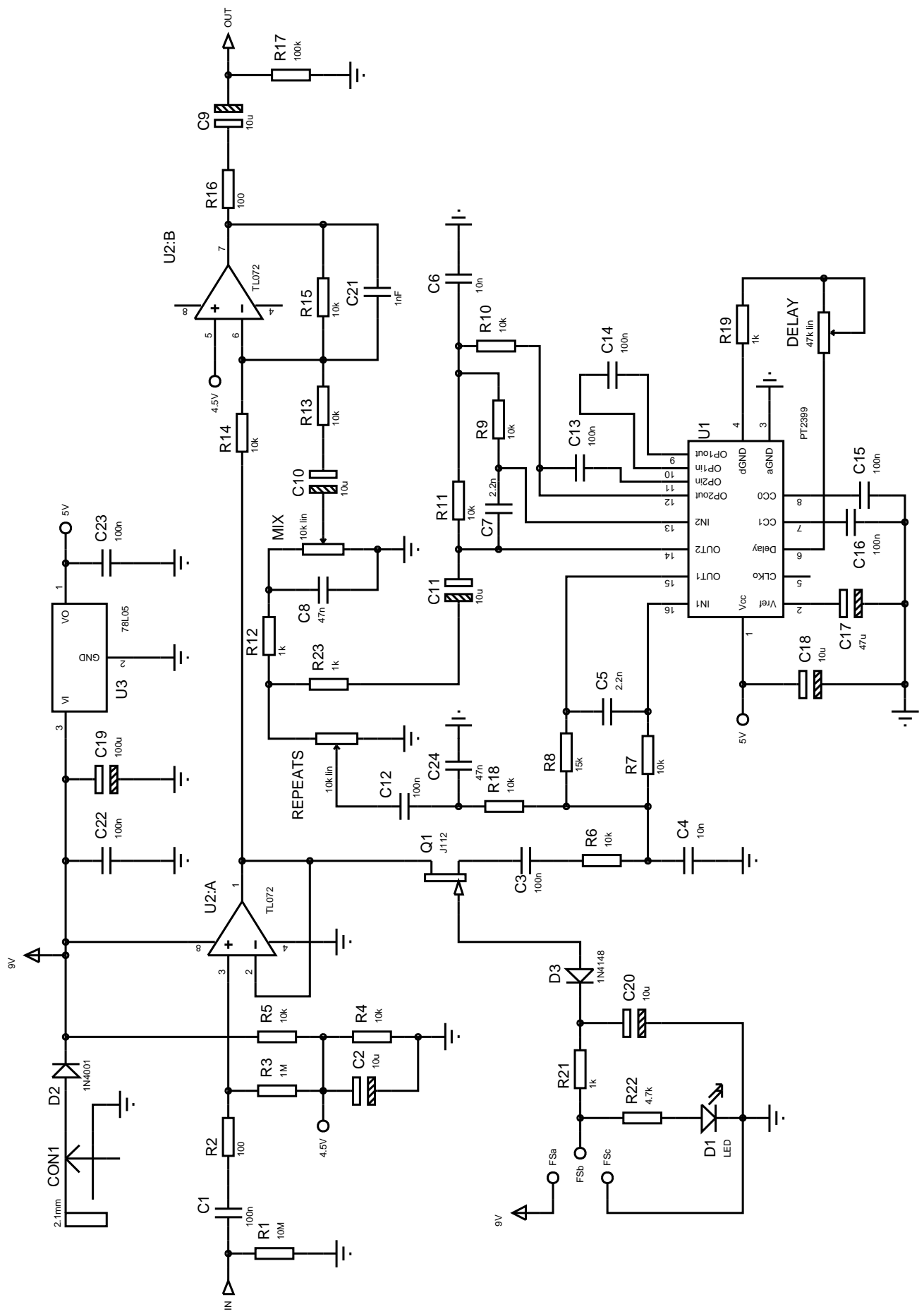
A Valve Wizard Effect



PCB 56 x 74mm







Bill Of Materials For Small Time Delay

Design Title : Small Time Delay
Author : Valve Wizard
Revision :
Design Created : 01 September 2011
Design Last Modified : 11 March 2012
Total Parts In Design : 57

22 Resistors

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Notes</u>
1	R1	10M	Optional
2	R2, R16	100	
1	R3	1M	
11	R4-R7, R9-R11, R13-R15, R18	10k	
1	R8	15k	
4	R12, R19, R21, R23	1k	
1	R17	100k	
1	R22	4.7k	Adjust for LED brightness

24 Capacitors

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Notes</u>
9	C1, C3, C12-C16, C22, C23	100n	
5	C2, C9-C11, C20	10u	
2	C4, C6	10n	
2	C5, C7	2.2n	
2	C8, C24	47n	
1	C17	47u	
1	C18	10u	1u to 10u tantalum preferred
1	C19	100u	
1	C21	1nF	

3 Integrated Circuits

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Notes</u>
1	U1	PT2399	
1	U2	TL072	
1	U3	78L05	

1 Transistors

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Notes</u>
1	Q1	J112	Other JFETs will work, except J111

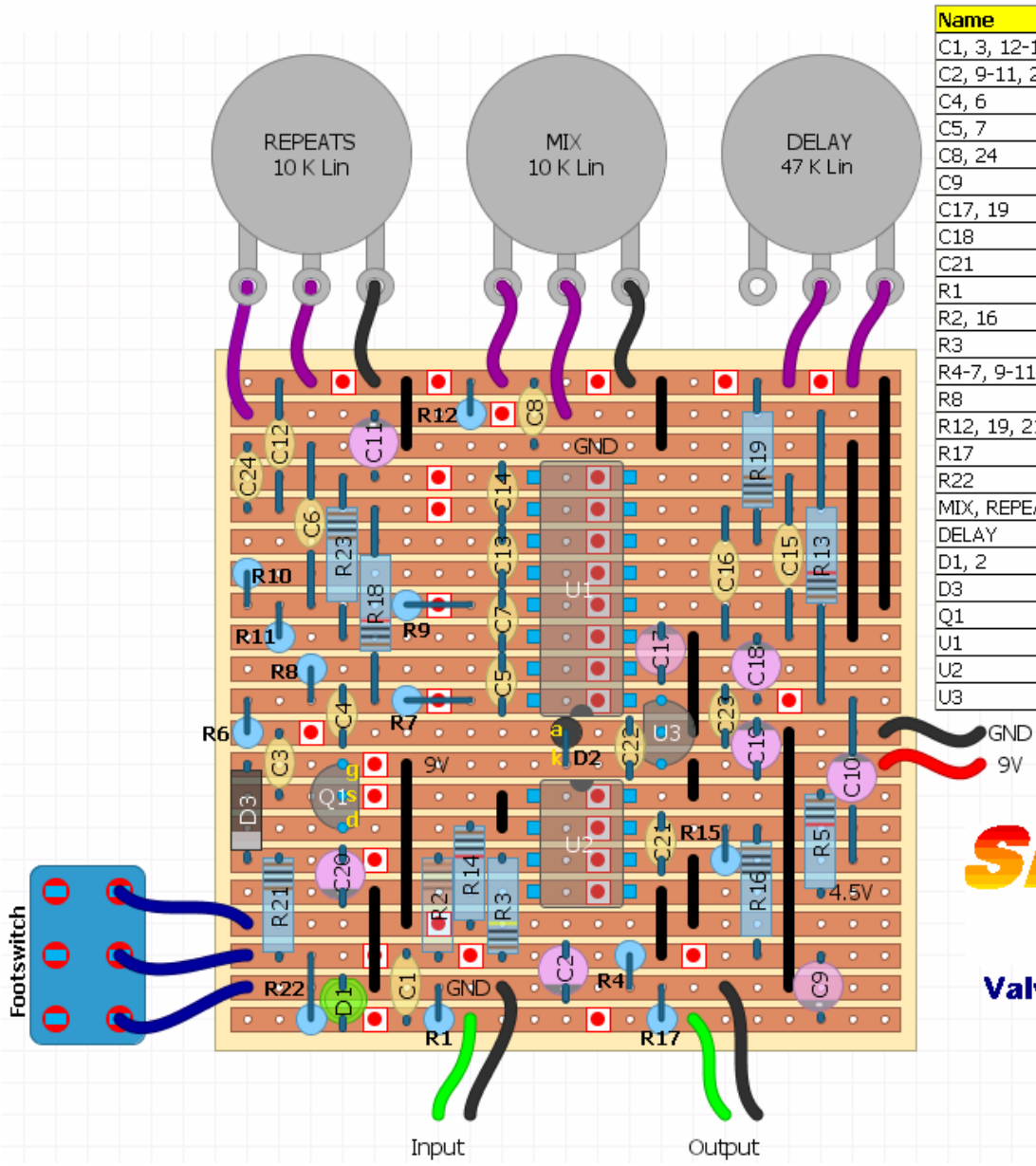
3 Diodes

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Notes</u>
1	D1	LED	
1	D2	1N4001	
1	D3	1N4148	

4 Miscellaneous

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Notes</u>
1	CON1	2.1mm	
1	DELAY	47k lin	22k if you don't want really long delay
2	MIX, REPEATS	10k lin	

11 March 2012 11:12:09



Name	Value	Qty
C1, 3, 12-16, 22, 23	100 nF	9
C2, 9-11, 20	10 uF	5
C4, 6	10 nF	2
C5, 7	2.2 nF	2
C8, 24	47 nF	2
C9	10 uF	1
C17, 19	47 uF	2
C18	1 to 10 uF tant	1
C21	1 nF	1
R1	10 M (Optional)	1
R2, 16	100 Ω	2
R3	1 M	1
R4-7, 9-11, 13-15, 18	10 K	11
R8	15 K	1
R12, 19, 21, 23	1 K	4
R17	100 K	1
R22	4.7 K	1
MIX, REPEATS	10 K Lin	2
DELAY	47 K Lin	1
D1, 2	Indicator LED	2
D3	1N4148	1
Q1	J112 / J201	1
U1	TL072	1
U2	PT2399	1
U3	78L05	1

SMALL TIME
ValveWizard Delay