



The Depth

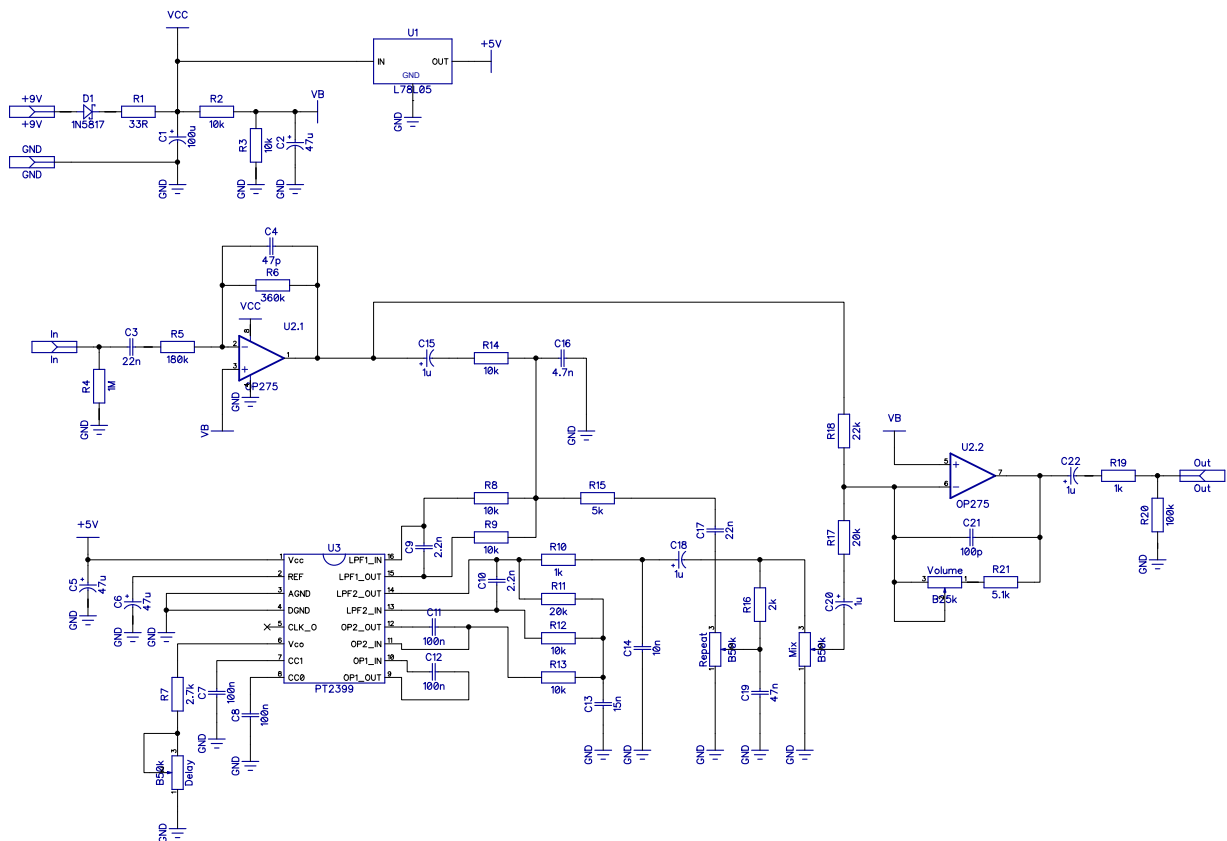
Based on Mad Professor Deep Blue Delay

PCB artwork ©2015 drdFX

Release date: 2015.08.10.

The Depth is an almost 1:1 clone of the Mad Professor Deep Blue Delay. It is a very nice PT2399 based digital delay. The only difference to the original is the added "Volume" pot that controls the overall volume of the effect.

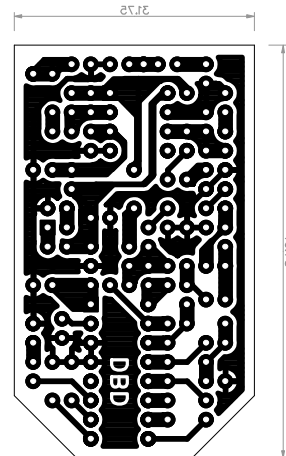
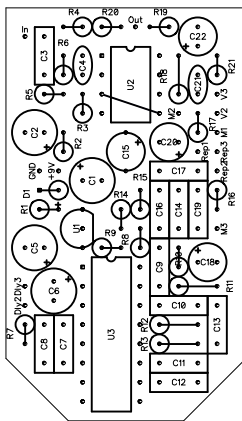
SCHEMATIC



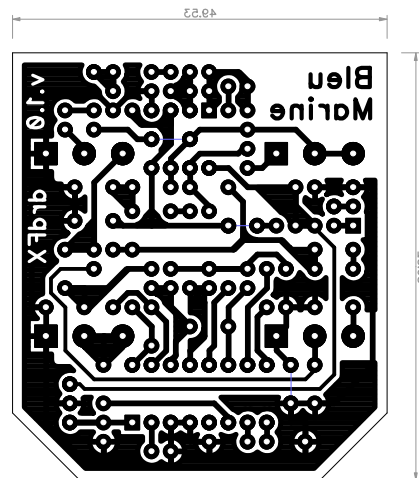
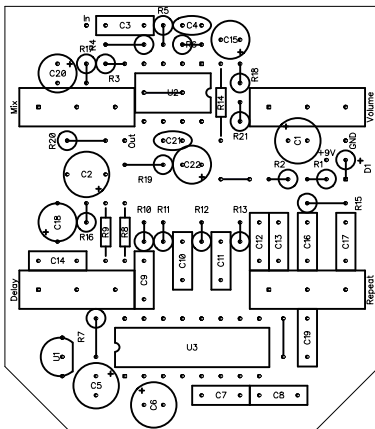
LAYOUT

Print out the PCB design without any resizing options and make sure you switch off the “fit to page” option. The design is free for personal/home use and you also may build one or two for your friends, but the PCB layout is my artwork, therefore protected by copyright and is not permitted to be used for commercial purposes.

1590A layout and PCB

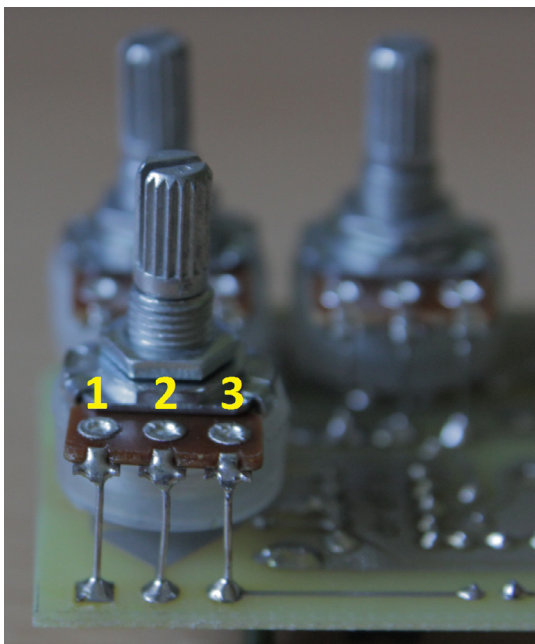


1590B/125B layout and PCB



BOM							
Resistors		Capacitors		Semiconductors		Others	
R1	33R	C1	100u	D1	1N5817	Delay	B50k
R2	10k	C2	47u	U1	L78L05	Mix	B50k
R3	10k	C3	22n	U2	OP275	Repeat	B50k
R4	1M	C4	47p	U3	PT2399	Volume	B25k
R5	180k	C5	47u				
R6	360k	C6	47u				
R7	2.7k	C7	100n				
R8	10k	C8	100n				
R9	10k	C9	2.2n				
R10	1k	C10	2.2n				
R11	20k	C11	100n				
R12	10k	C12	100n				
R13	10k	C13	15n				
R14	10k	C14	10n				
R15	5k	C15	1u				
R16	2k	C16	4.7n				
R17	20k	C17	22n				
R18	22k	C18	1u				
R19	1k	C19	47n				
R20	100k	C20	1u				
R21	5.1k	C21	100p				
		C22	1u				

NOTES



The pots are board mounted to the bottom of the board. The square pads mark the lug 1, for the numbering of the lugs see the picture.

For the 1590A size use low profile parts (especially the electrolytic caps) and low profile jack connectors (Neutrik NRJ6HM-1 worked for me the best).

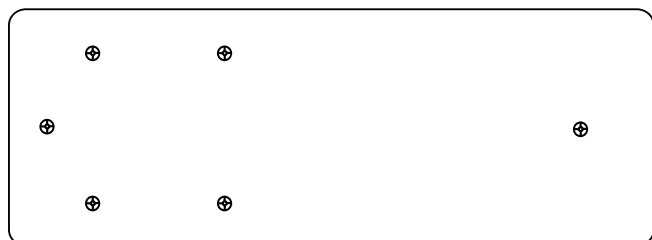
The original DBD does not have the “Volume” control, instead of the “Volume” pot and R21 there is one single 12k resistor. Also you can tweak C13 for darker repeats: just replace it with a higher value (33n-47n, or experiment).

The “Delay” pot is a 50k one. This will give you about 600ms maximum delay time. The minimum delay time is defined by R7.

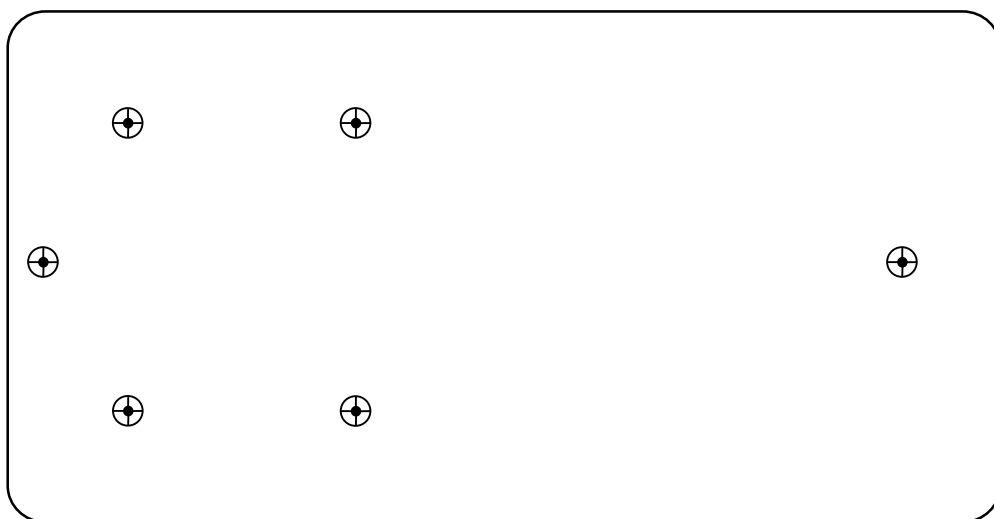
To increase the maximum delay time you can either increase the pot’s value, or R7’s value or both, however if you increase R7 also the minimum delay time will be longer. Take a note that longer delay times will result in more noise in the repeats – and that is digital noise, not the “pleasant” type...

DRILLING TEMPLATES

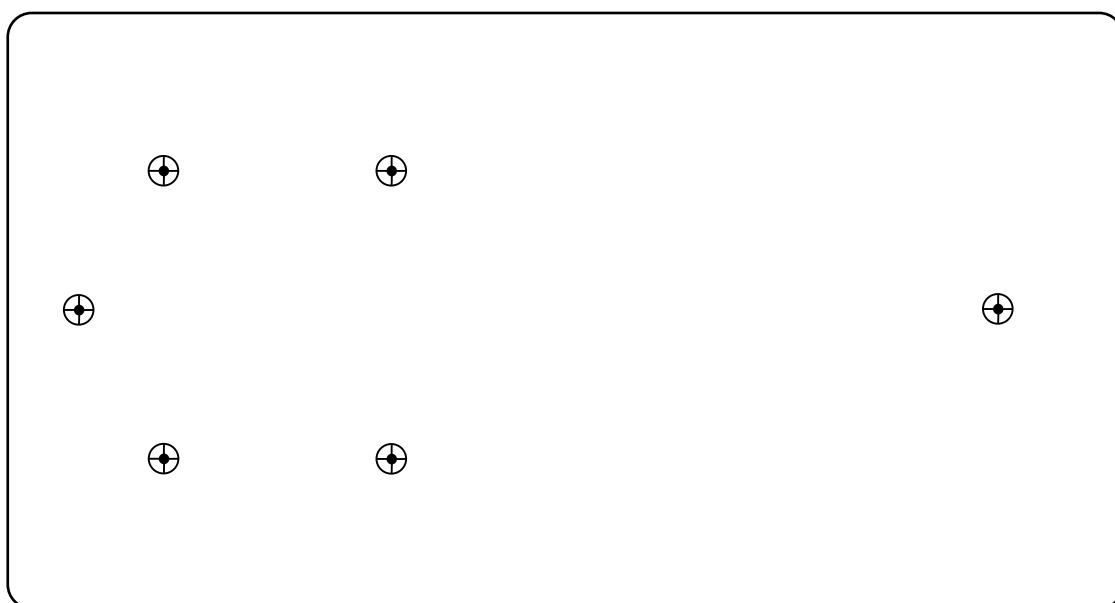
Here are three templates for the top of the box for the various box sizes. The larger design fits in both 1590B and 125B, however if you are less experienced you may find the 125B enclosure easier to work with.



1590A



1590B



125B