



Hope

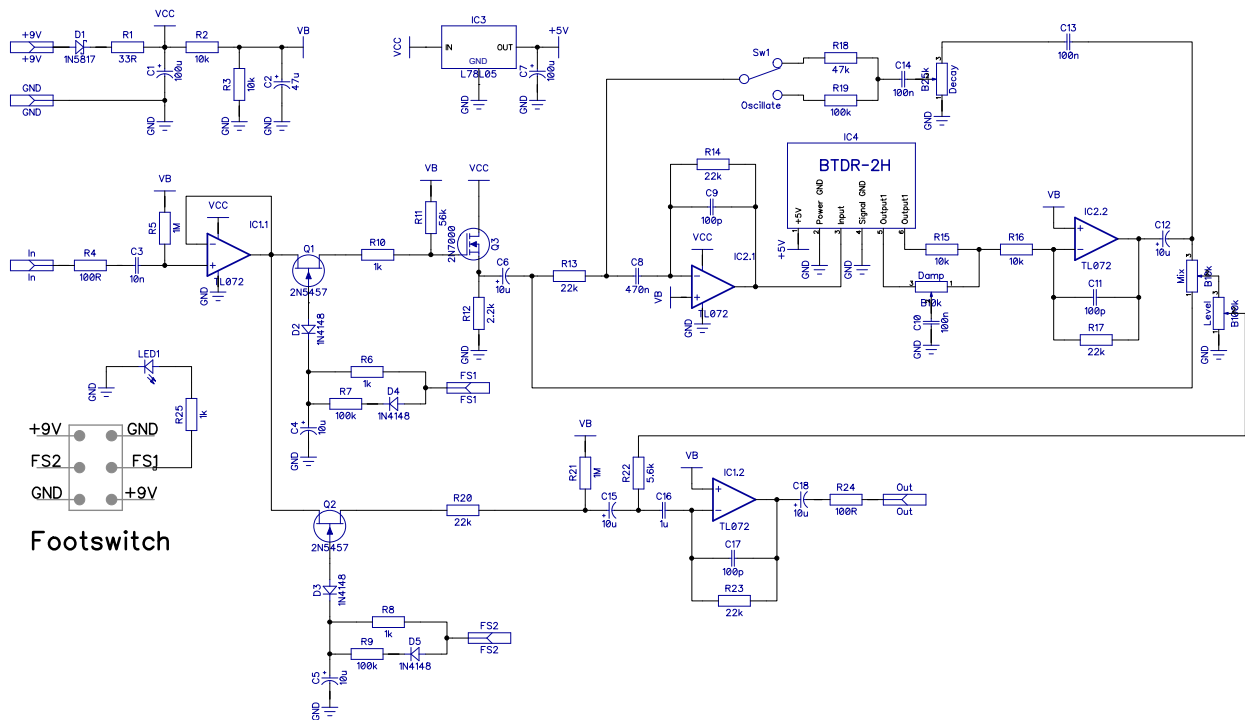
Based on Deadastronaut Chasm Reverb

PCB artwork ©2018 drdFX

Release date: 2018. 03. 07.

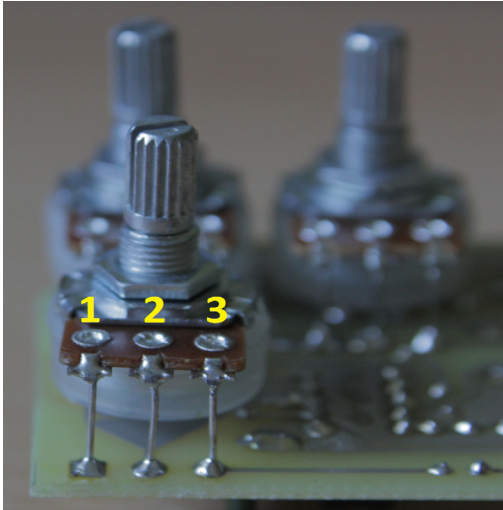
Hope is a clone of Deadastronaut's Chasm Reverb. It is a bit more complicated layout where you might need some more thinking and tinkering around, so I don't recommend this one for beginners.

SCHEMATIC



BOM							
Resistors		Capacitors		Semiconductors		Others	
R1	33R	C1	100u	D1	1N5817	Damp	B10k
R2	10k	C2	47u	D2	1N4148	Decay	B25k
R3	10k	C3	10n	D3	1N4148	Level	B100k
R4	100R	C4	10u	D4	1N4148	Mix	B10k
R5	1M	C5	10u	D5	1N4148	Footswitch	DPDT
R6	1k	C6	10u	Q1	2N5457	Oscillation	SPDT
R7	100k	C7	100u	Q2	2N5457		
R8	1k	C8	470n	Q3	2N7000		
R9	100k	C9	100p	IC1	TL072		
R10	1k	C10	100n	IC2	TL072		
R11	56k	C11	100p	IC3	L78L05		
R12	2.2k	C12	10u	IC4	BTDR-2H		
R13	22k	C13	100n				
R14	22k	C14	100n				
R15	10k	C15	10u				
R16	10k	C16	1u				
R17	22k	C17	100p				
R18	47k	C18	10u				
R19	100k						
R20	22k						
R21	1M						
R22	5.6k						
R23	22k						
R24	100R						

NOTES



The Mix and Damp pots are board mounted, the Level and Decay pots and the Oscillate switch are connected off-board with wires on both layouts. The square pad marks the lug 1, for the numbering of the lugs see the picture. The 125B layout can be squeezed into a 125B box with careful measurements. I also recommend using this version if you intend to put the Oscillate switch on a footswitch and build a dual footswitch effect in a 1590BB box horizontally. The 1590BB version is intended for using in a 1590BB box built vertically.

In either cases if you use a toggle switch for the Oscillate function it may go below the PCB and then you need to use extra long legs for the pots to avoid contact between the lugs of the switch and the solder side. I also recommend to insulate the PCB where it lays over the toggle switch. Foamy type double sided tape is good for this purpose.

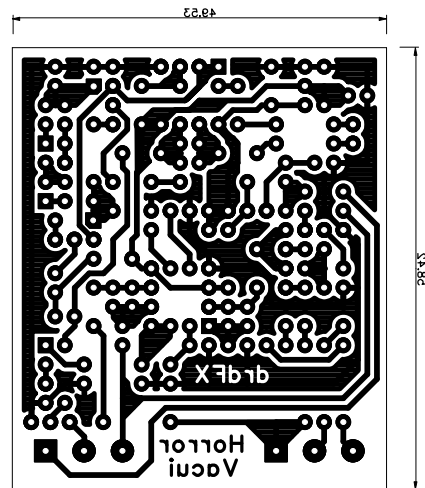
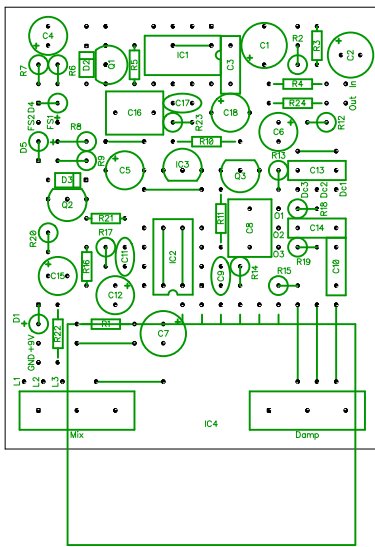
The overall level of the effect seems to be a bit too low, if you have the same issue, simply use a booster instead of the Level pot. I used a modified LPB in mine (the modification was to increase the emitter resistor to decrease the gain, as I only needed a little extra). This modification will most probably not fit into a 125B enclosure.

The original calls for 2N5457 JFET transistors for the switching, I have used J202 with good results. Try whatever you have available, only take care of the different pinouts of different types.

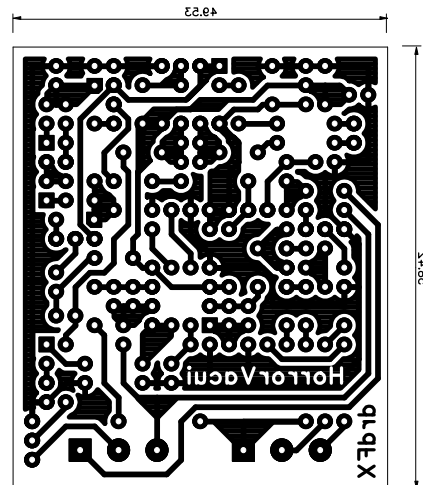
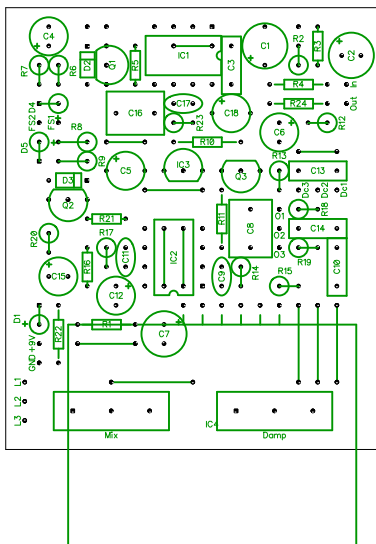
LAYOUT

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.

125B

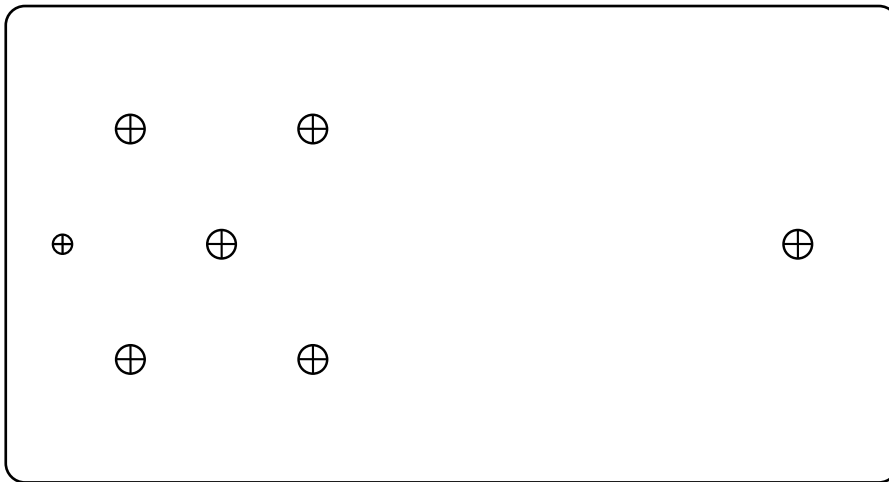


1590BB



DRILLING TEMPLATES

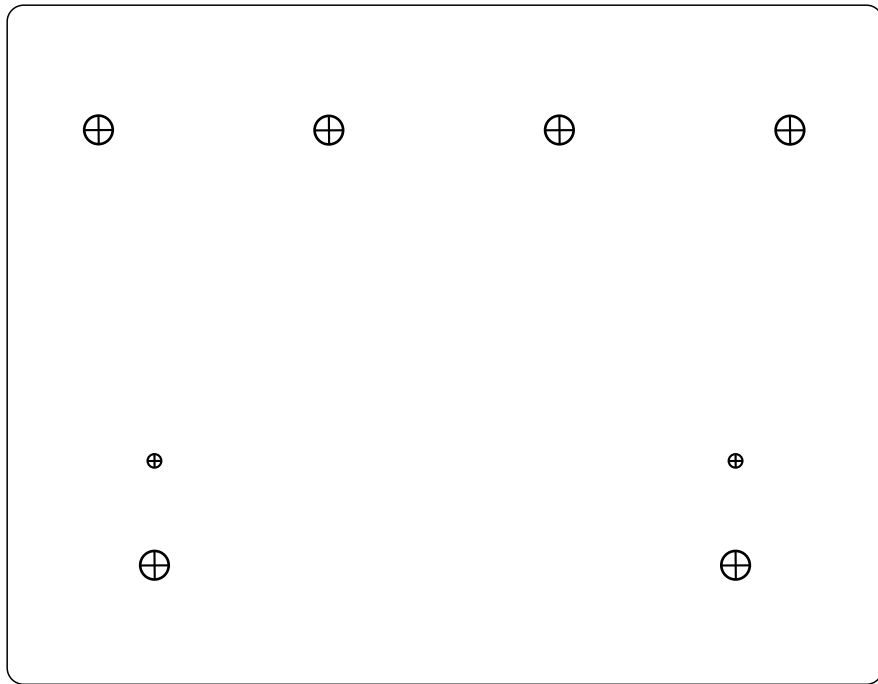
Here are three templates for the top of the box for the various box sizes.
The design fits in both 1590BB and 125B, however if you are less experienced you may find the 1590BB enclosure easier to work with.



125B



1590BB vertical



1590BB horizontal
with two footswitches