



# Caterpillar

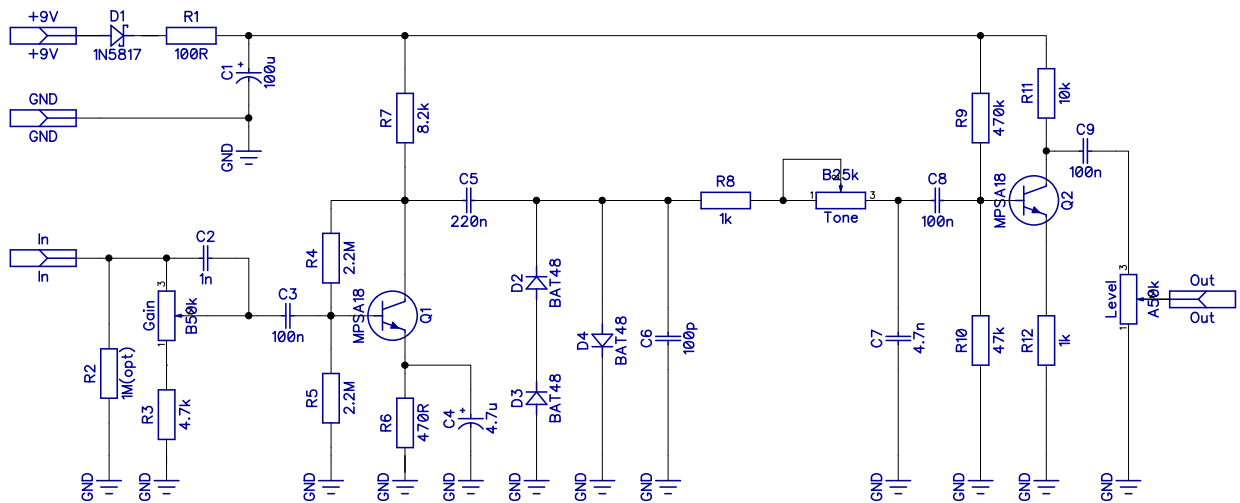
Based on Earthquaker Devices Chrysalis

PCB artwork ©2018 drdFX

Release date: 2018. 05. 16.

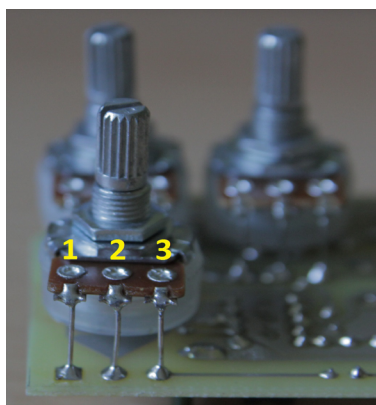
**Caterpillar is a clone of Earthquaker Devices' Chrysalis.**

## SCHEMATIC



BOM							
Resistors		Capacitors		Semiconductors		Others	
R1	100R	C1	100u	D1	1N5817	Gain	B50k
R2	1M(opt)	C2	1n	D2	BAT48	Level	A50k
R3	4.7k	C3	100n	D3	BAT48	Tone	B25k
R4	2.2M	C4	4.7u	D4	BAT48		
R5	2.2M	C5	220n	Q1	MPSA18		
R6	470R	C6	100p	Q2	MPSA18		
R7	8.2k	C7	4.7n				
R8	1k	C8	100n				
R9	470k	C9	100n				
R10	47k						
R11	10k						
R12	1k						

## NOTES



The Volume and Gain pots are board mounted and the Tone pot is connected off-board with wires on the large layout.

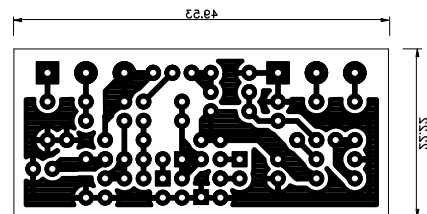
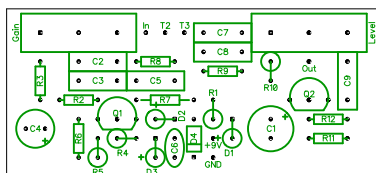
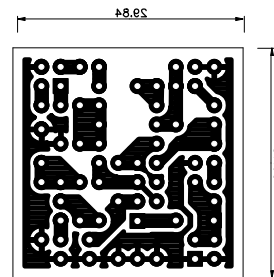
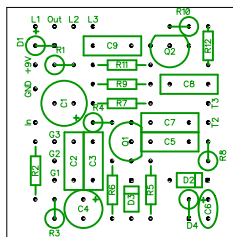
The square pad marks the lug 1, for the numbering of the lugs see the picture. The smaller layout uses off-board wiring for all pots.

There are many modding options in such a simple design:

- The clipping arrangement: you can change the arrangement or the types of the diodes. I have used BAT46 in mine simply because BAT48 are rare and expensive.
- The transistor types
- The gain of each stage
- The frequency response of the tone stack, or you could entirely replace the simple variable lowpass filter with something more sophisticated
- The 1nF bypass cap around the Gain pot can be altered or left off to change the amount of presence

# 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. The smaller layout fits into a 1590A, the larger one can be mounted with the pots and fits 1590B or 125B.

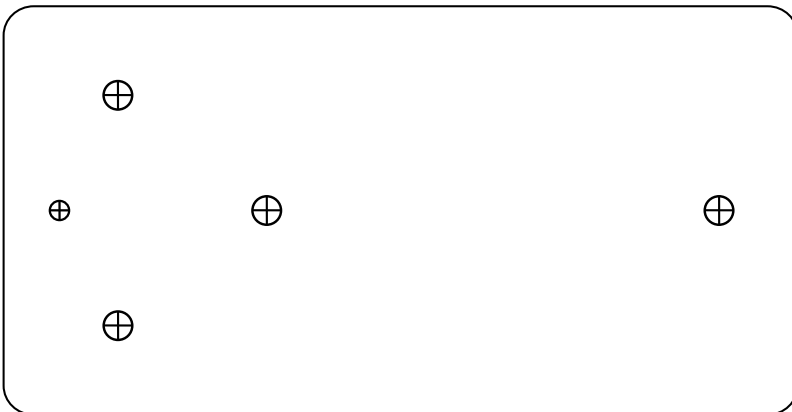


## DRILLING TEMPLATES

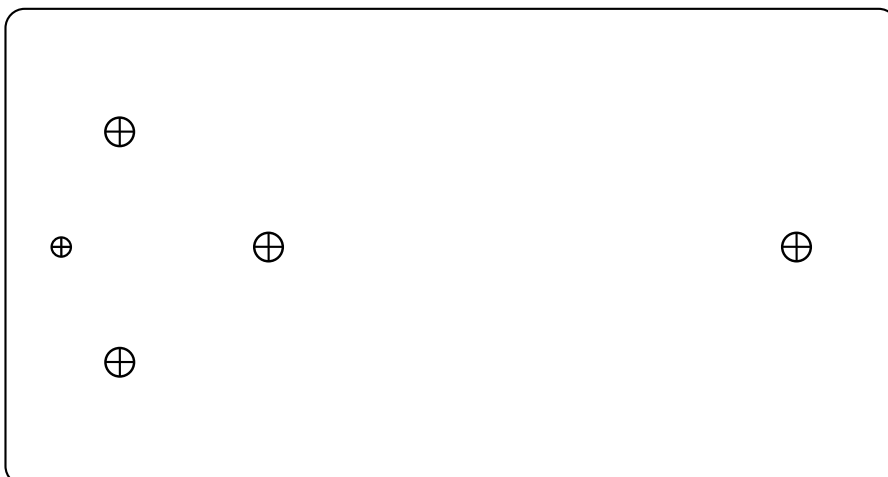
Here are three templates for the top of the box for the various box sizes. The design fits in both 1590B and 125B, however if you are less experienced you may find the 125B enclosure easier to work with. With careful measurement and low profile parts it might fit into the small 1590A enclosure as well.



1590A



1590B



125B