



## General build tips

- Solder the low profile components first, from short to tall. Recommended order: resistors, diodes, IC socket, film-caps, electrolytics, pots
- CMOS chips are very sensitive to static charges and can be easily damaged. It's a good idea to wear an anti-static bracelet or at least avoid wearing a wool jumper and petting your cat/dog while building...
- Always use sockets for IC chips to avoid heating them directly. It also makes it much easier to swap them out if needed.
- Pay special attention to the orientation of the diodes, electrolytic capacitors and the IC
- This PCB is designed for a board mounted angled pot, but if you want to use a regular solderlug-pot, the square hole represents pot pin 1
- Make sure that the back of the pot is covered so that it doesn't create any short on the back of the PCB
- The pot is meant to be mounted on the back side (solder side) of the PCB and soldered on the front side (component side) to match the silkscreen

## Drilling the enclosure

The 8-Bitar has only one knob and the PCB is small, so drill the enclosure to your own preference. It's a good fit for a 1590B enclosure, but it can also fit inside a 1590A with some careful measurement.

## 8-Bitar Bill of Material (BOM)

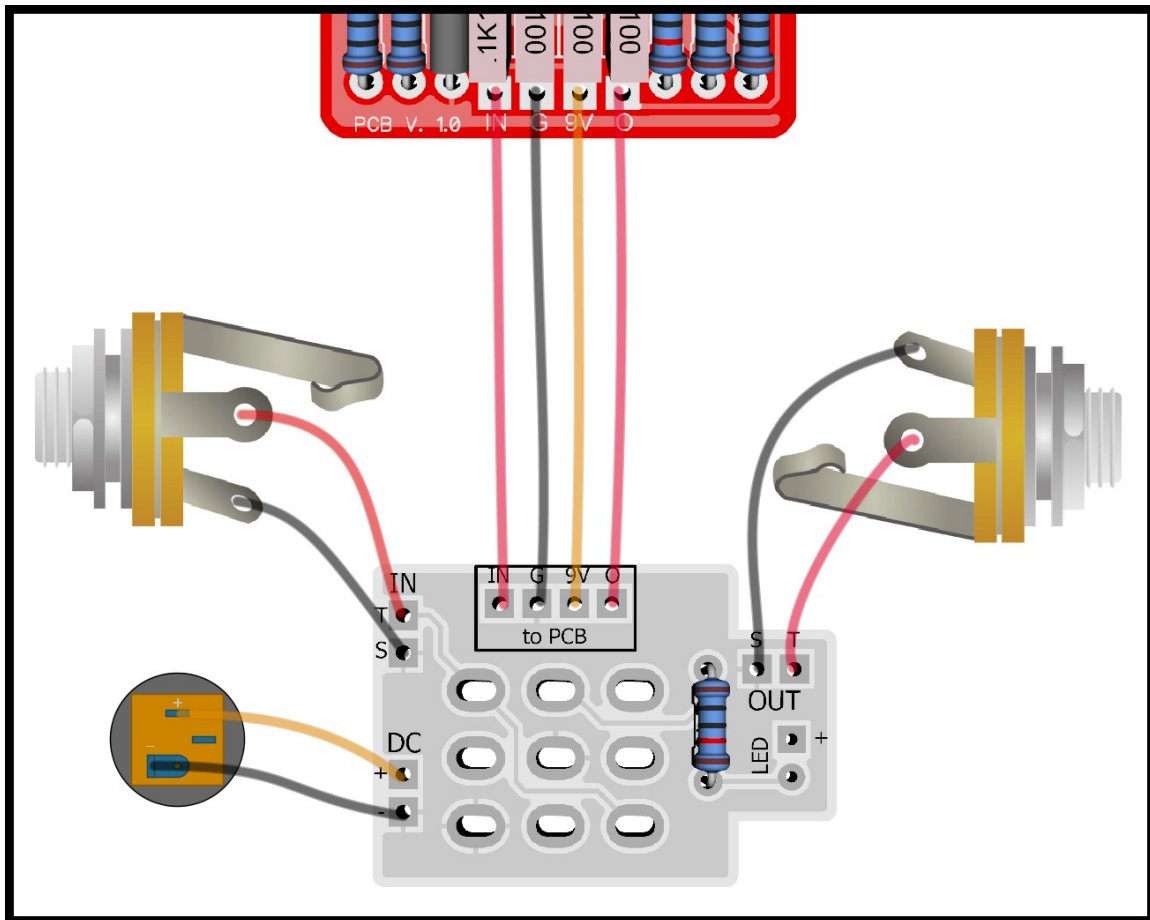
Resistors		Capacitors		IC's	
R1	1M	C1	100nF	U1	CD4069UBE
R2	1M	C2	100nF	<b>Transistor(s)</b>	
R3	1M	C3	2.2nF		
R4	47K	C4	4.7nF	Q1	78L05
R5	1M	C5	100pF	Q2	2N3904
R6	100K (10K)	C6	1nF	<b>Potentiometers</b>	
R7	10K	C7	4.7uF		
R8	10K	C8	10uF	LEVEL	A100K (A10K)
R9	100K	<b>Diodes</b>			
CLR*	4.7K-22K	D1	1N4001		
		1x LED (bypass)			

- Notice: A few component changes has been made (may 2024) that will guarantee that the circuit will work with any 2N3904

*Specs can vary a lot with these transistors, which could make the circuit not work properly with the old component values if the transistor had too low hfe*

- R6 changed from 10K to 100K (Use a 100K resistor)
- R7 needs to be omitted (leave R7 unpopulated)
- Level pot value changed from A10K to A100K
- \* = Current Limiting resistor for your bypass LED. This needs to be wired offboard or together with the optional 3PDT board. Choose the appropriate value for your LED. Usually a 4.7K resistor is good for a regular coloured diffused LED and a 15K resistor for a clear superbright LED.
- Other things not included in the BOM: enclosure, input and output jacks, DC jack, LED holder, 3PDT switch and knobs.

## Offboard wiring with 3PDT daughterboard



The top row of connections on the 3PDT daughterboard connects directly across to the main PCB as shown.

Input jack sleeve → "S" IN pad *the lug that connects with the inner ring of the jack*  
Input jack tip → "T" IN pad *the lug that connects to the tip bracket on the jack*

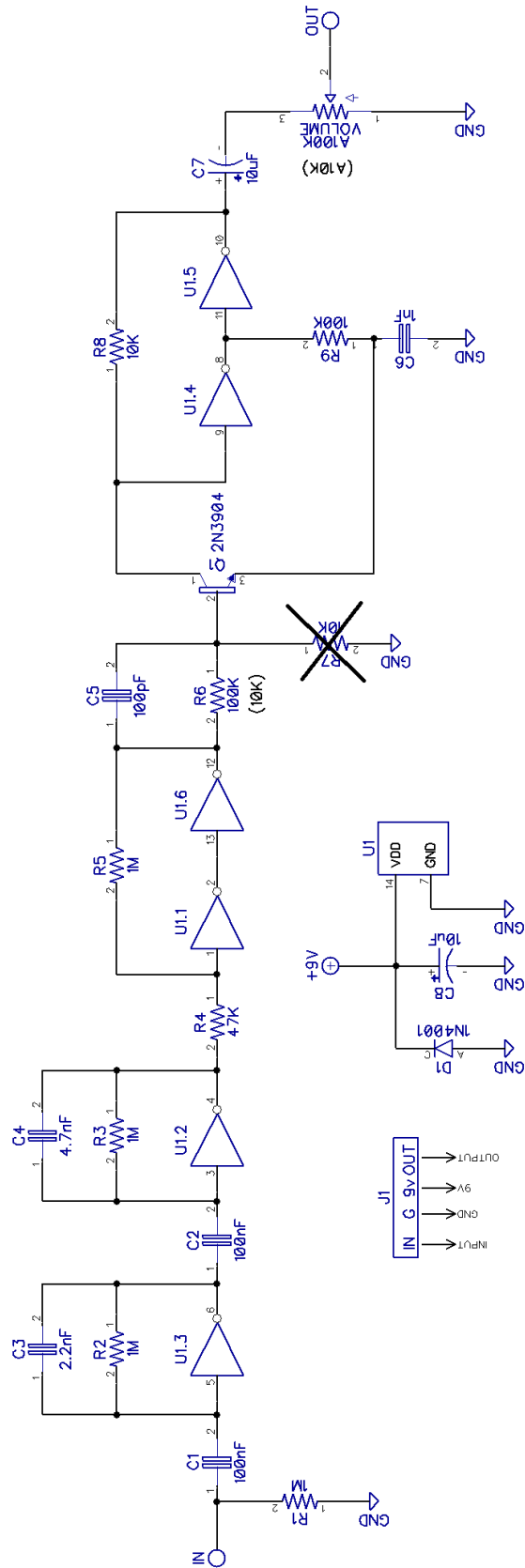
Output jack sleeve → "S" OUT pad *the lug that connects to the inner ring of the jack*  
Output jack tip → "T" OUT pad *the lug that connects to the tip bracket on the jack*

DC jack negative → "-" DC pad *the widest lug, or the short lug (Lumberg style jack)*  
DC jack positive → "+" DC pad *the outer lug if it's a 3 pin DC connector, or the long lug if using a Lumberg style jack*

If you are not using the 3PDT daughterboard PCB, have a look at the offboard wiring diagram here (fig1/3): [wiringrev3.pdf \(parasitstudio.se\)](http://www.parasitstudio.se/wiringrev3.pdf)

The short leg of bypass LED is the negative side (the side with the flat edge of the LED)

# Schematic



## **Troubleshooting**

There's always a chance of running into trouble. To minimize error, follow the BOM and general building tips carefully. Take your time and don't rush. Take a break now and then. Use good solder, and it helps to have a decent soldering station instead of a cheap iron.

If you are still having trouble, please visit the madbean forum Parasit Studio subforum section and ask for help there.

<http://www.madbeanpedals.com/forum/index.php?board=84.0>

If you have bought the Musikding kit and have received a faulty or missing component, please contact musikding directly.

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[www.parasitstudio.se](http://www.parasitstudio.se)  
**parasitstudio@gmail.com**