8-BITAR

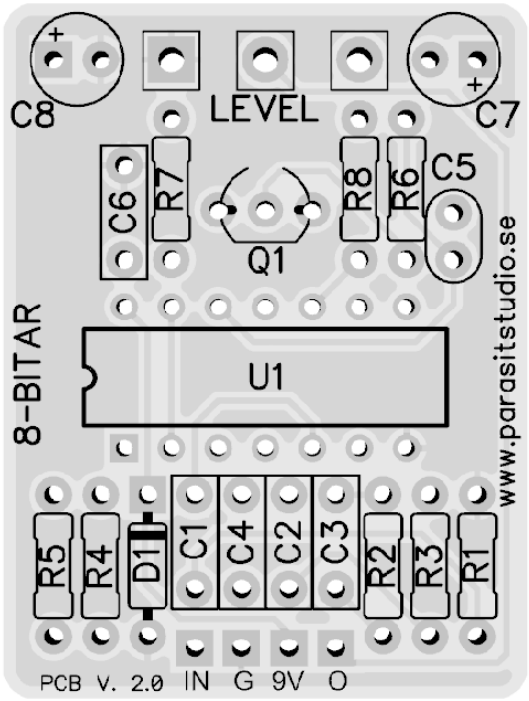
Build Document last updated october 2026
for PCB version 2.0

Please make sure that you are looking at the correct version of the build document. The 1.0 PCB is red and the new 2.0 PCB is white.

The 8-Bitar (Åtta bitar) is a minimalistic octave down pedal.

It does one octave down and has a glitchy and gated sound reminiscent of the 8-bit era of videogaming. It's a very simple one-knob design – a perfect build for a beginner or fans of small simple circuits.

Have fun building!



PCB dimensions: 28mm x 37.5mm

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 a 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 angeled 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.

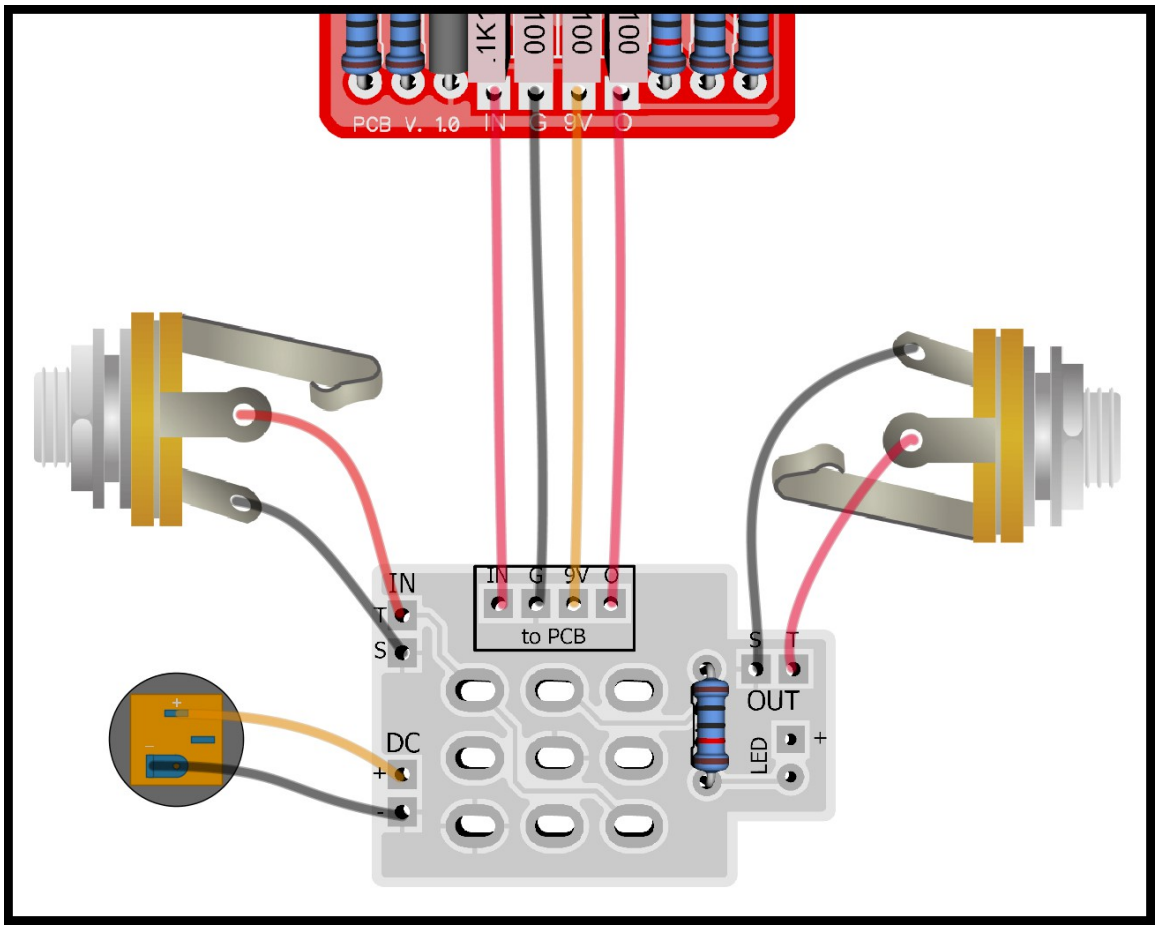
8-Bitar Bill of Material (BOM)

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

- * = 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



(same wiring for 1.0/2.0)

The top row of connections on the 3DPT 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*

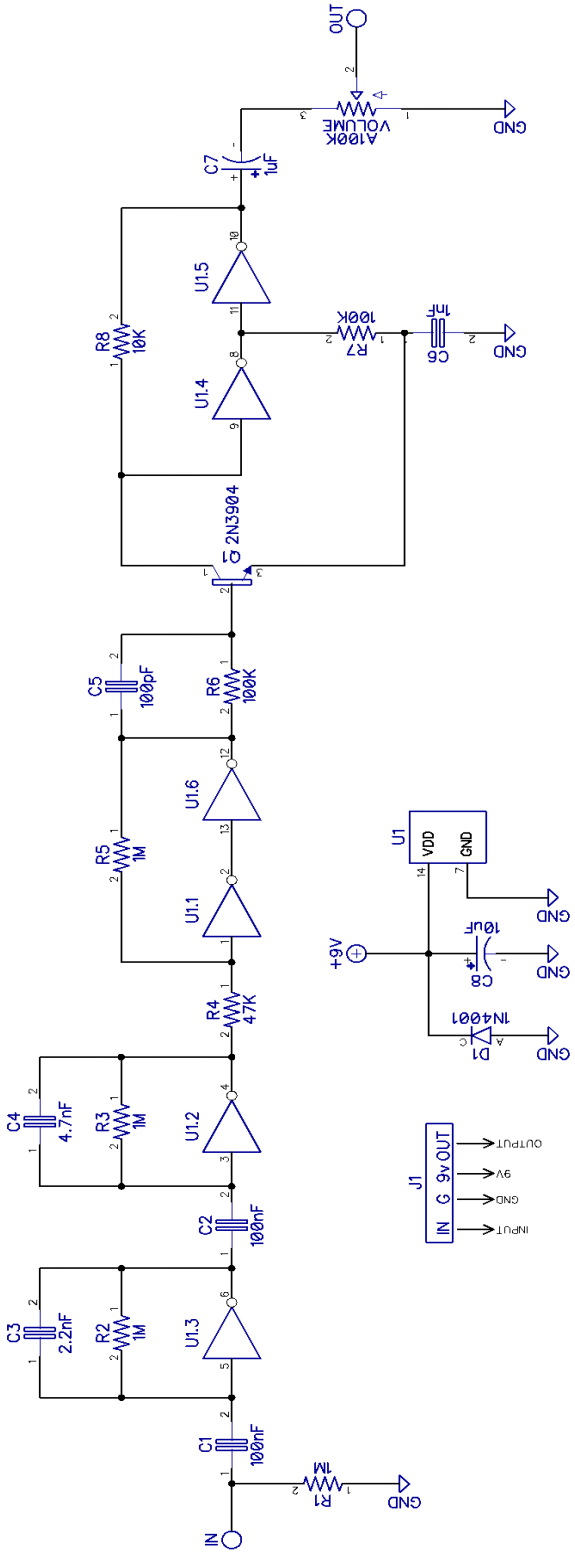
Output jack sleeve → ”S” OUT pad *the lug that connects to the inner ring of the jack*
Output jack tip →”T” OUT pad *the lug that connects to the tip bracket on the jack*

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).

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

Schematic



Please do not share the schematic without permission

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 insted of a cheap iron.

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