



Rodent Distortion Kit Building Manual



Effect Pedal Kits:

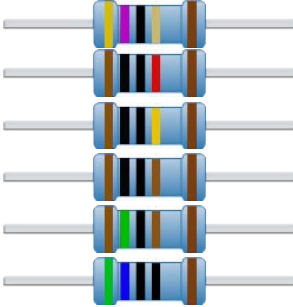
Rodent Distortion

The **Rodent Distortion** is based on the first **ProCo Rat**, one of the most successful distortion effect pedals. Designed around the OpAmp IC, the Rodent Distortion is rich and produces a **lot of harmonics**, delivering everything from a **powerful overdrives** to a **soft fuzz** and every distortion tone in between. If you haven't tried this legendary effect pedal yet, don't miss the chance! If you try the **Rodent Distortion**, it will definitely earn a place in your pedalboard.

To update the **Proco Rat** the old LM308 opamp has been replaced to the **TL071** instead, that delivers better noise ratio than the original one.

The Rodent Distortion kit allows you to build the **Rat**, **Rat 2** and **Turbo Rat** versions. The different diodes (n914 and leds), resistors and capacitors are supplied so you can build the ProCo Rat version you like the most!

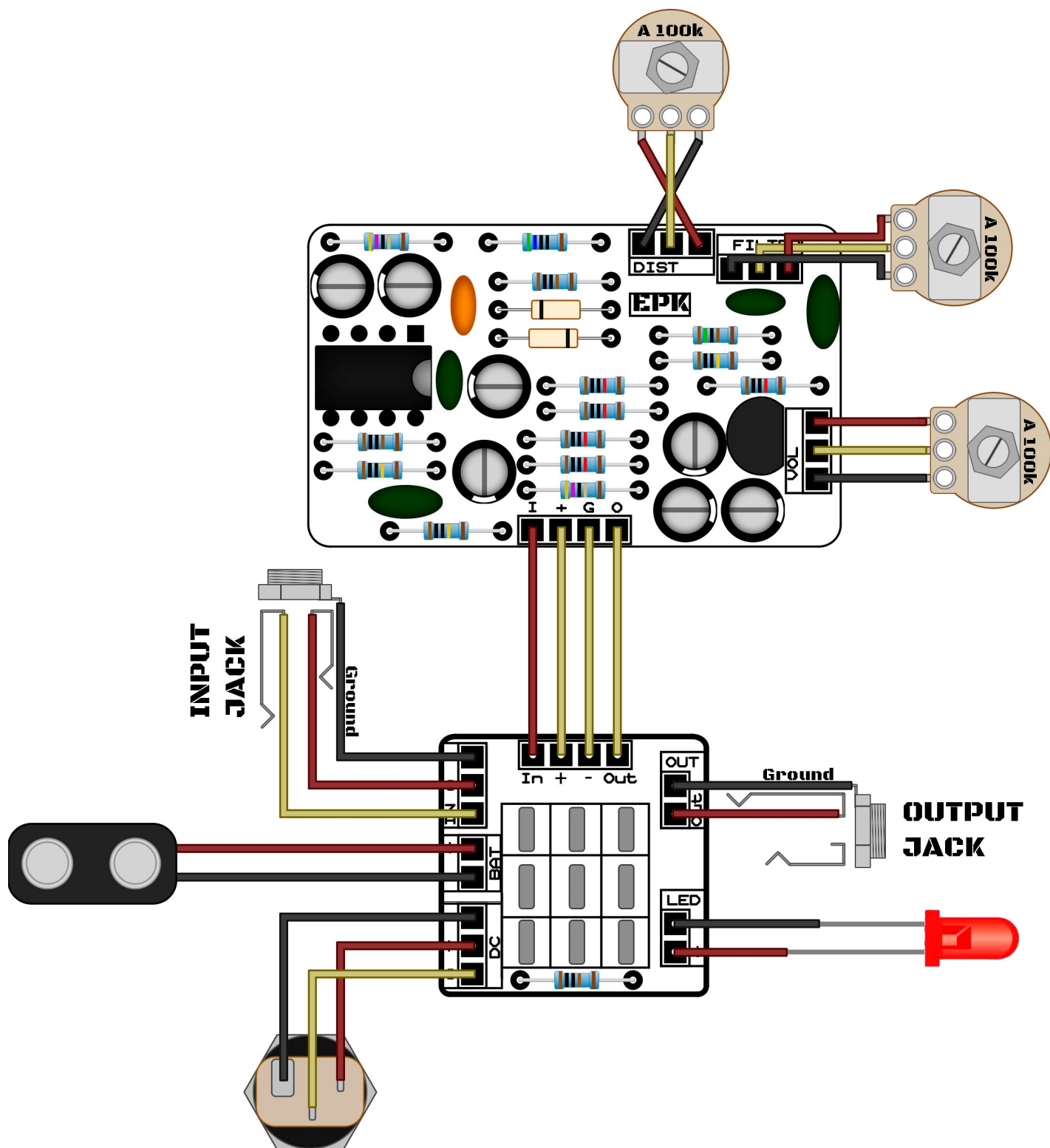
BOM (1/2)

Resistors (14)				Capacitors (12)		
2	R1, R14	47		2	C1, C9	47u (electrolytic)
5	R2, R2, R9, R10, R12	10k		1	C2	100u (electrolytic)
3	R4, R5, R11	1M		2	C3, C8	22n
2	R6, R7	1k		1	C4	1n
1	R8	1.5k		1	C5	100p (ceramic)
1	R13	560		2	C6, C11	4.7u (electrolytic)
				1	C7	3.3n
				1	C10	1u (electrolytic)
				1	C12	2.2u (electrolytic)

BOM (2/2)

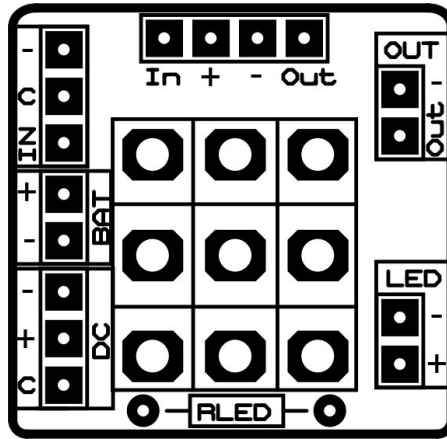
Diodes, Transistors and ICs			Generic Parts and Potentiometers		
1	U1	TL071	1	Battery clip	
1	Q1	J113	1	DC Jack	
			1	RLED	1k LED resistor
			1	LED Bezel	
			1	3PDT	
2	D1, D2	- 1N914 (Rat)	2	IN, OUT	6.35mm Jacks
		- 1N4148 (Rat2)			
		- Red Led (TurboRat)			
			3	100k Logarithmic (A) Potentiometer	Dist, Filter, Vol

Component Placement

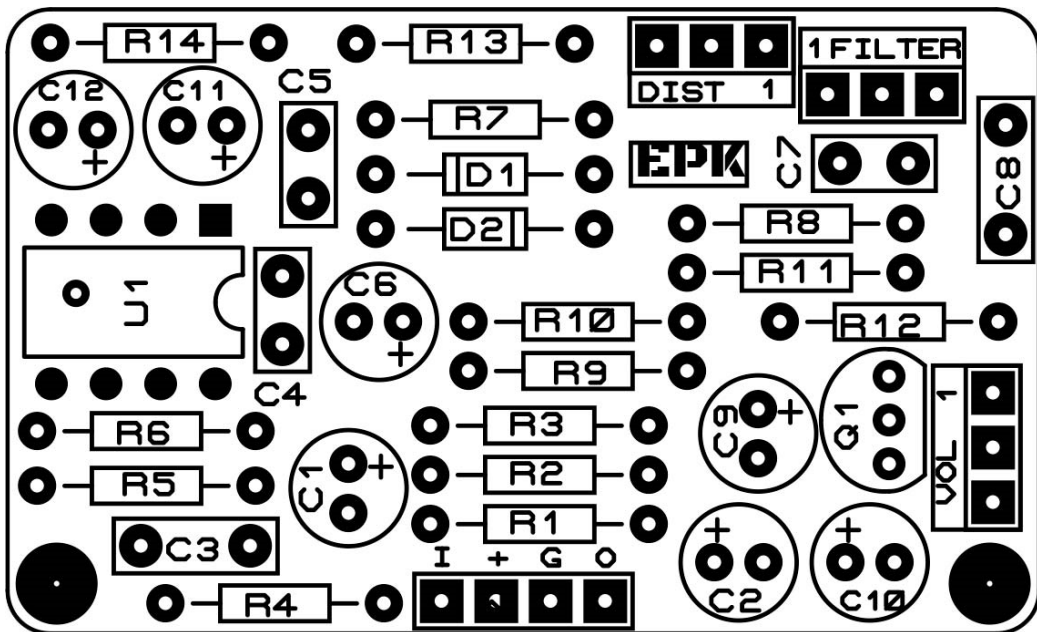


Board Layouts

3PDT PCB

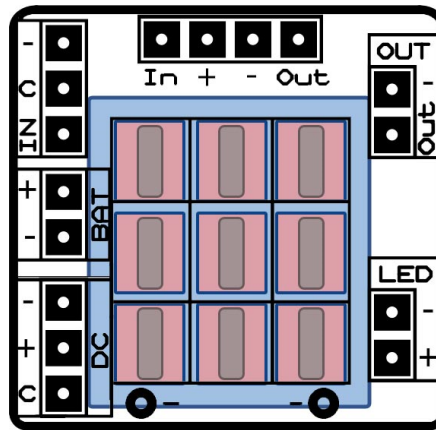


Effect PCB



Building Tips

- 1- Pay attention to the **orientation of the 3PDT**! In the following picture you can see how the 3PDT pins should be positioned (inserting the pins in the holes can be a bit tight to avoid movement while soldering):



- 2- For a proper soldering you just have to apply the **right amount of solder wire**. A right solder joint should have a concave shape around the joint and look like this:

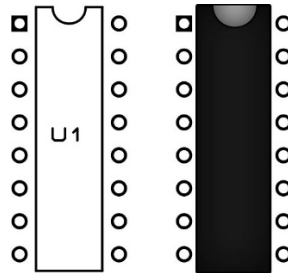


- 3- Don't apply too much heat! When soldering, the time you hold the solder iron against the joint should be **as short as possible** to avoid damaging any part (a few seconds should be enough). If you can't get a solder joint right, **let it cool** a bit before trying again.
- 4- If having troubles with the building, checking the schematic in the last page will help you find **where the audio signal stops**. When you find the spot, check out that **everything around that joint is ok** (components placed at their right place, solder joints...).

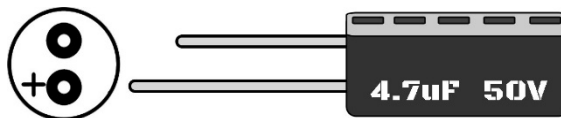
Building Tips

5- Pay attention to the **parts that have a polarity** and make sure they are connected as in the component placement picture:

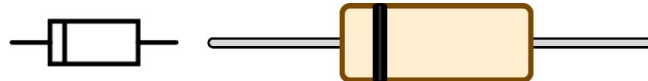
- **ICs** (they have a small dot or indication that must fit the indication in the board)



- **Electrolytic capacitors** (longer pin is connected to the “+” hole):



- **Diodes** (check for the mark and make it fit with the one in the PCB):



- **Leds** (longer pin is connected to the “+” hole)



- **Transistors** (inserted to fit the drawing in the PCB)



To avoid any issue, check the latest building manual. Use the pictures only as a reference! Colors/shapes can change slightly, always check the part polarity, resistor values, potentiometer placement... before soldering.

Schematic

