

nonlinearcircuits

1U Diff-Rect Build & BOM

Those that build a lot of NLC modules will know this is one of my favorite circuits. The diff-rect has appeared on the Neuron, 1050 mix/sequencer, triple Sloth, GENiE and 8 of them make up the Let's Splosh.

It is great for mixing audio and/or CV signals to get all kinds of unexpected and interesting results. [This page from 2012 on my old Pinky site has some more details.](#)

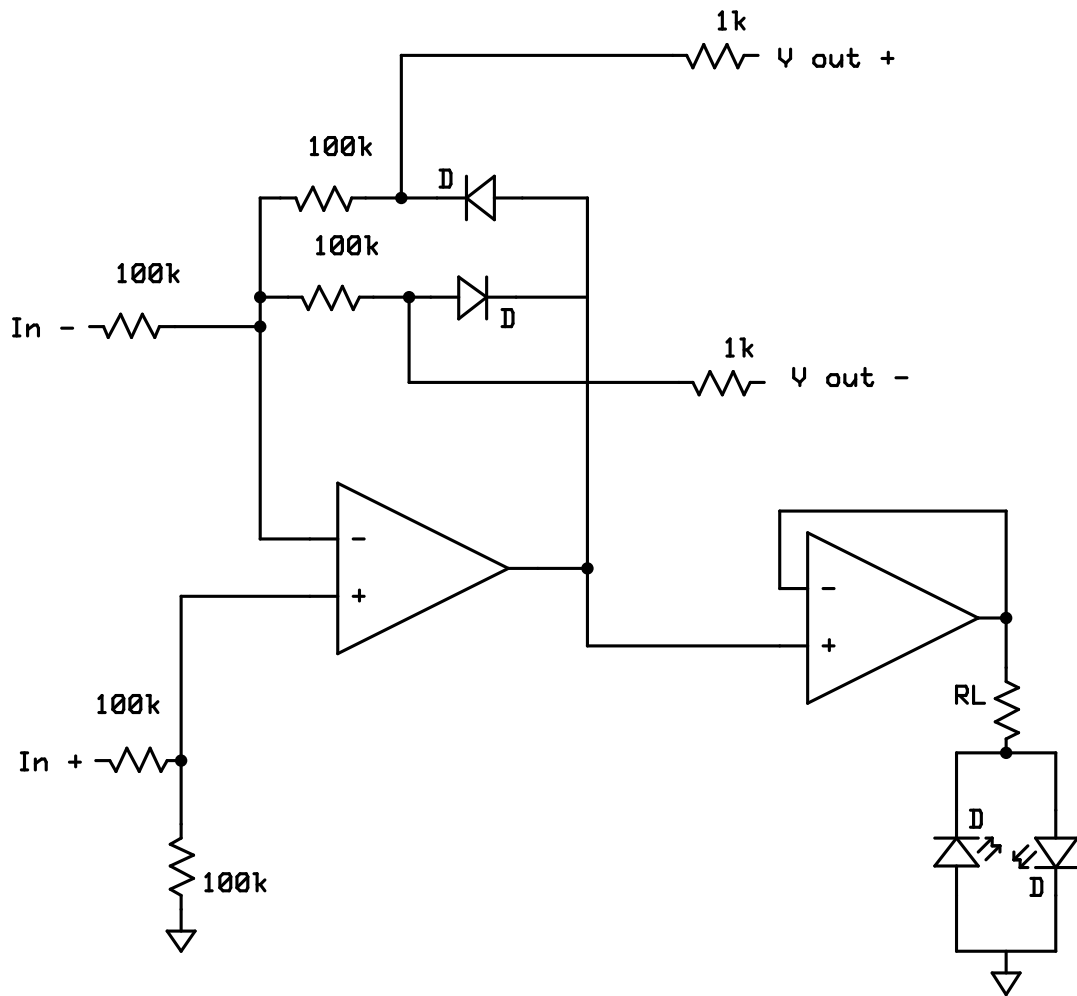
Please note, the PCBs only have eurorack 10 pin power connectors, not the Pulp Logic 3 pin type.

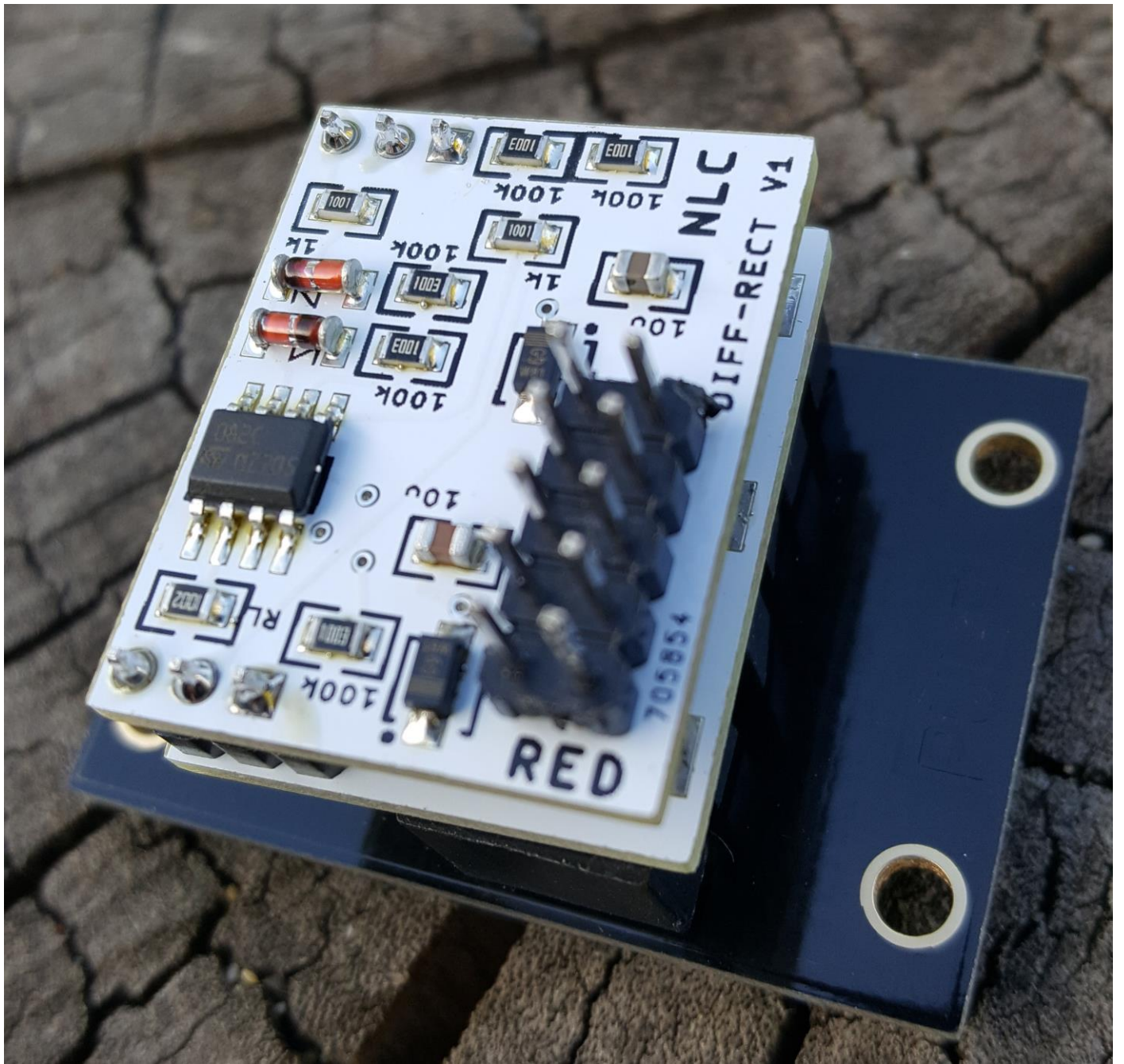
BOM

Resistors and capacitors for each version

Component	quantity	notes
Eurorack 10 pin power connector	1	Tayda: A-198 cut to size
Schottky, power rectifier or 10R, optional - for reverse voltage protection...or not. BAT54GWX	2	SMD, Schottky dot on PCB indicates CATHODE (stripe on component) Mouser: 841-BAT54GWX
3.5MM SOCKET Kobiconn style	4	Tayda: A-2563
2.54mm single row pin header strip	2x 3 pins	Tayda: A-197 cut to size
3mm LED	2	
LL4148 diodes	2	Tayda: A-1213
TL072 or TL082	1	Soic Tayda: A-1139
10uF	2	0805, minimum 25V rating. For decoupling, you can substitute any value 100nF or higher if 10uF are a pita to source
RL	1	0805 Resistor to suit LEDs, I usually use 4k7 - 10k these days
1k	2	0805
100k	5	0805

Other sources for sockets are Synthcube, Modular addict and Think.





A white PCB populated with various electronic components. The components include resistors (labeled 100k, 1k, 100k, 100k, 100k, 100k, 100k, 100k, 100k, 100k), capacitors (labeled 10u, 10u), and two diodes. The board has a grid of through-hole pads. The text 'RED' is printed vertically on the left side, and 'NLC' is printed on the right side. The identifier '705854' is at the bottom left, and 'DIFF-RECT V1' is at the bottom center.

RED

100k 10u 100k 1k 100k 100k 100k 100k 100k 100k

NLC

705854

DIFF-RECT V1

The reverse side of the PCB is mostly blank with some faint traces. It features a large, bold text label 'NON-GM' and a smaller label 'SUITABLE FOR VEGETARIANS' below it. The board has a grid of through-hole pads, including a square pad at the bottom right.

NON-GM

SUITABLE FOR VEGETARIANS

