

## nonlinearcircuits

### 1U Sloth Build & BOM

This module can be built to run at different rates; Torpor takes approx. 15-30 seconds to travel around 2 strange attractors, Apathy takes 60-90 seconds and Inertia takes 30-40 minutes.

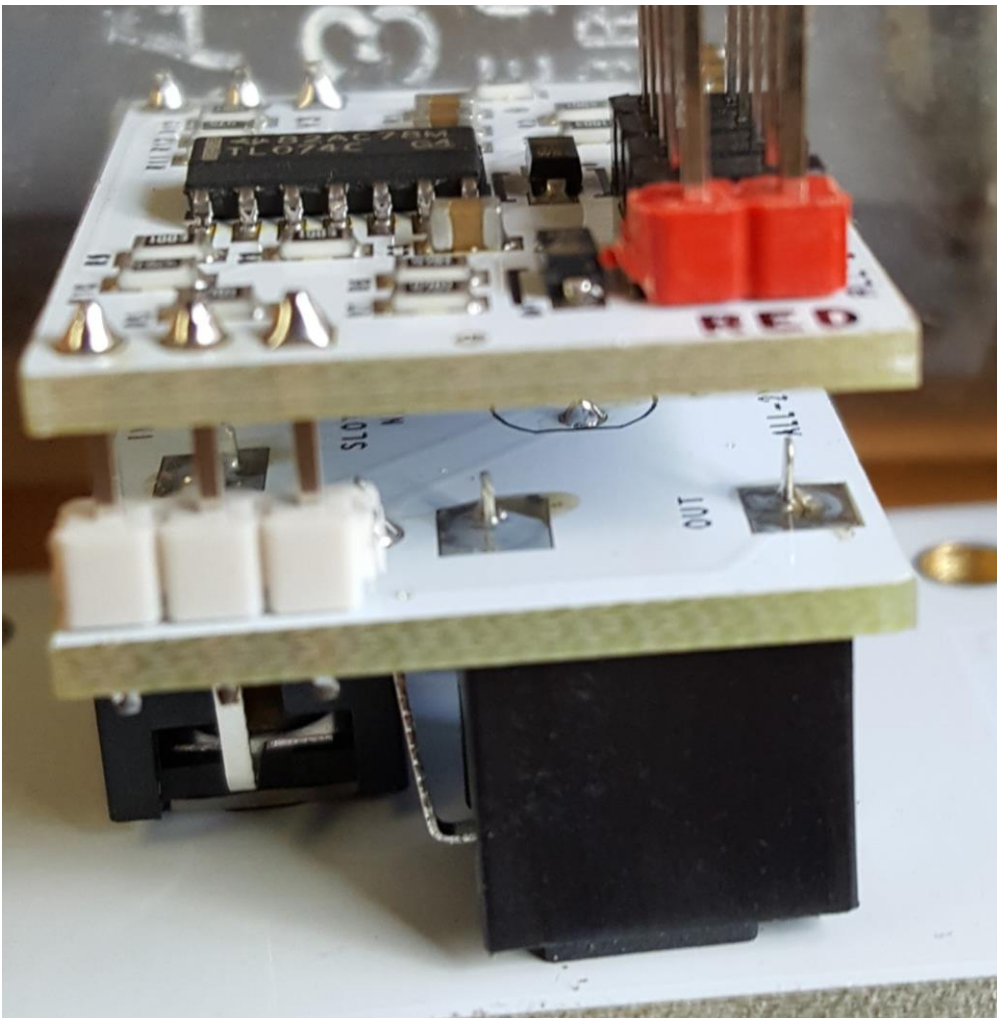
The CV signals are injected onto the chaotic signals but depending upon conditions may cause windows of periodicity or voltage jumps. Generally the results are good.

The outputs for each Sloth are taken from different stages of the circuit and are different to each other.

#### Building

1<sup>st</sup> thing to mention is version 1 (V1) of the bottom PCB has the printing on the wrong side. Install the jacks and LED on the blank/unprinted side of the PCB.

See pic below as an example on how to connect the PCBs



## BOM

### Resistors and capacitors for each version

#### **ALL 0805**

Component	torpor	apathy	inertia
C1	1u	1u	1u
C2	1u	1u	1u
C3	1u	1u	1u
C4	10u	10u	10u
C5	10u	10u	10u
C6	10u	10u	10u
C7	10u	10u	10u
C8	10u	10u	Nothing!
R1	100k	1M	10M
R2	100k	1M	10M
R3	100k	1M	10M
R4	1k	1k	1k
R5	4k7 (RL)	4k7 (RL)	4k7 (RL)
R6	4k7	4k7	4k7
R7	4k7	4k7	4k7
R8	100k	100k	100k
R9	100k	100k	330k
R10	470k	470k	470k
R11	1M	6M8	68M
R12	4M7	10M	100M
R13	1k	4M7	1k

#### For all versions:

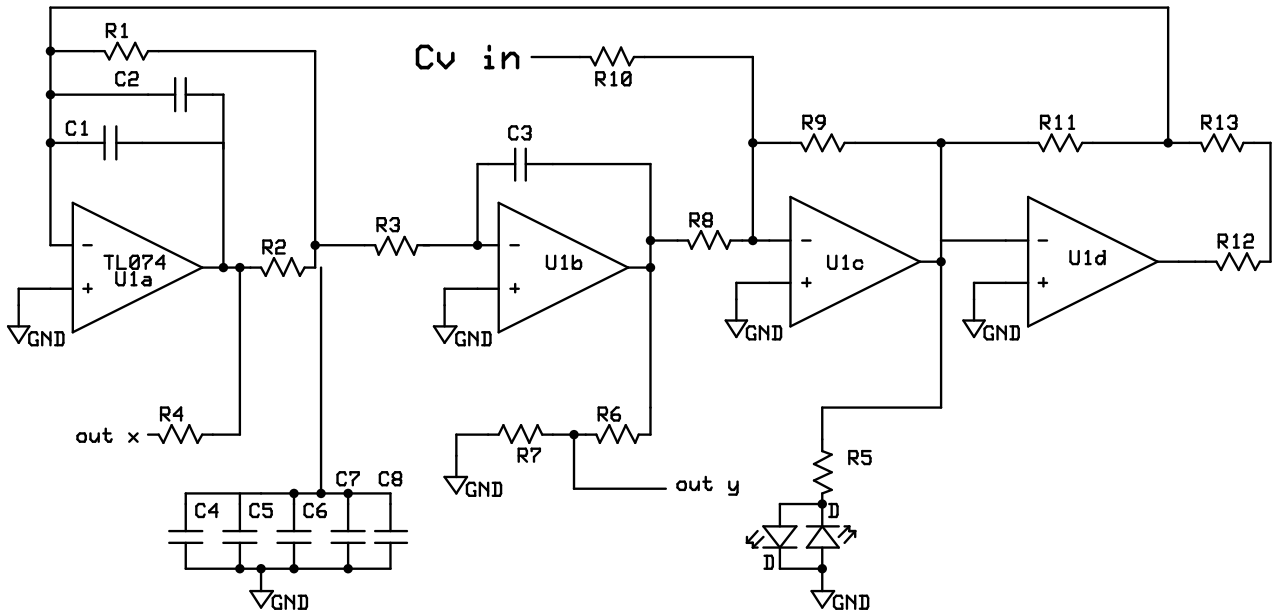
TL074 or TL084	1	Soic Tayda: A-1137 or A-1140
Eurorack 10 pin power connector	1	Tayda: A-198 cut to size
Schottky, power rectifier or 10R, optional - for reverse voltage protection...or not. BAT54GWX	2	SMD, Schottky <b>dot on PCB indicates CATHODE (stripe on component)</b> Mouser: 841-BAT54GWX
3.5MM SOCKET Kobiconn style	3	Tayda: A-2563
2.54mm single row pin header strip	2x 3 pins	Tayda: A-197 cut to size
3mm bipolar LED	1	2 pin. See notes

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

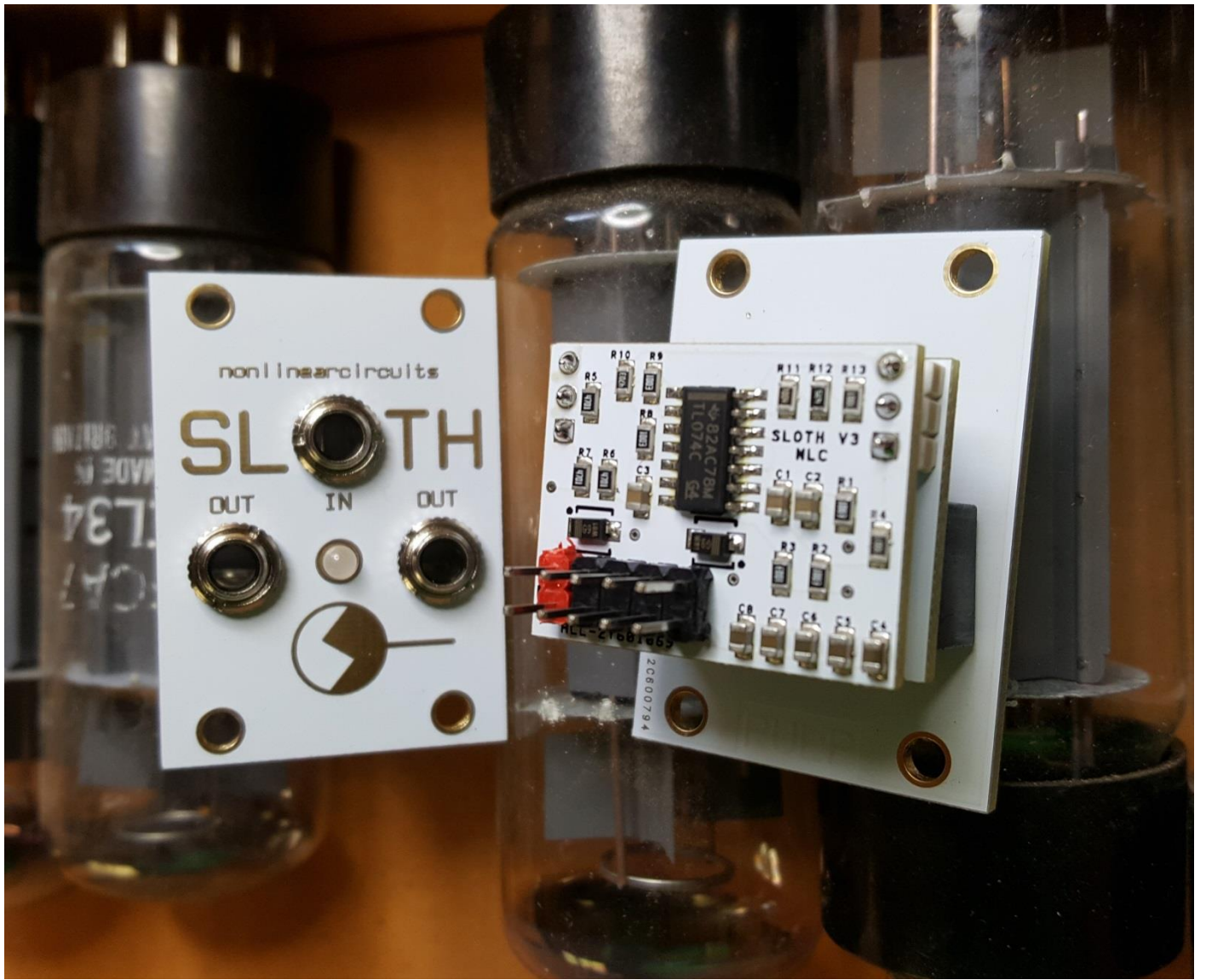
#### **Additional shopping notes:**

1. Capacitors should have at least a 25V rating.
2. Tayda sell a red/green bipolar 3mm LED but it may be a bit dim, feel free to try it and let me know ☺ . It is best to have RL as high as possible, so I use red/blue LEDs off ebay/aliexpress which are happy with RL = 4k7.

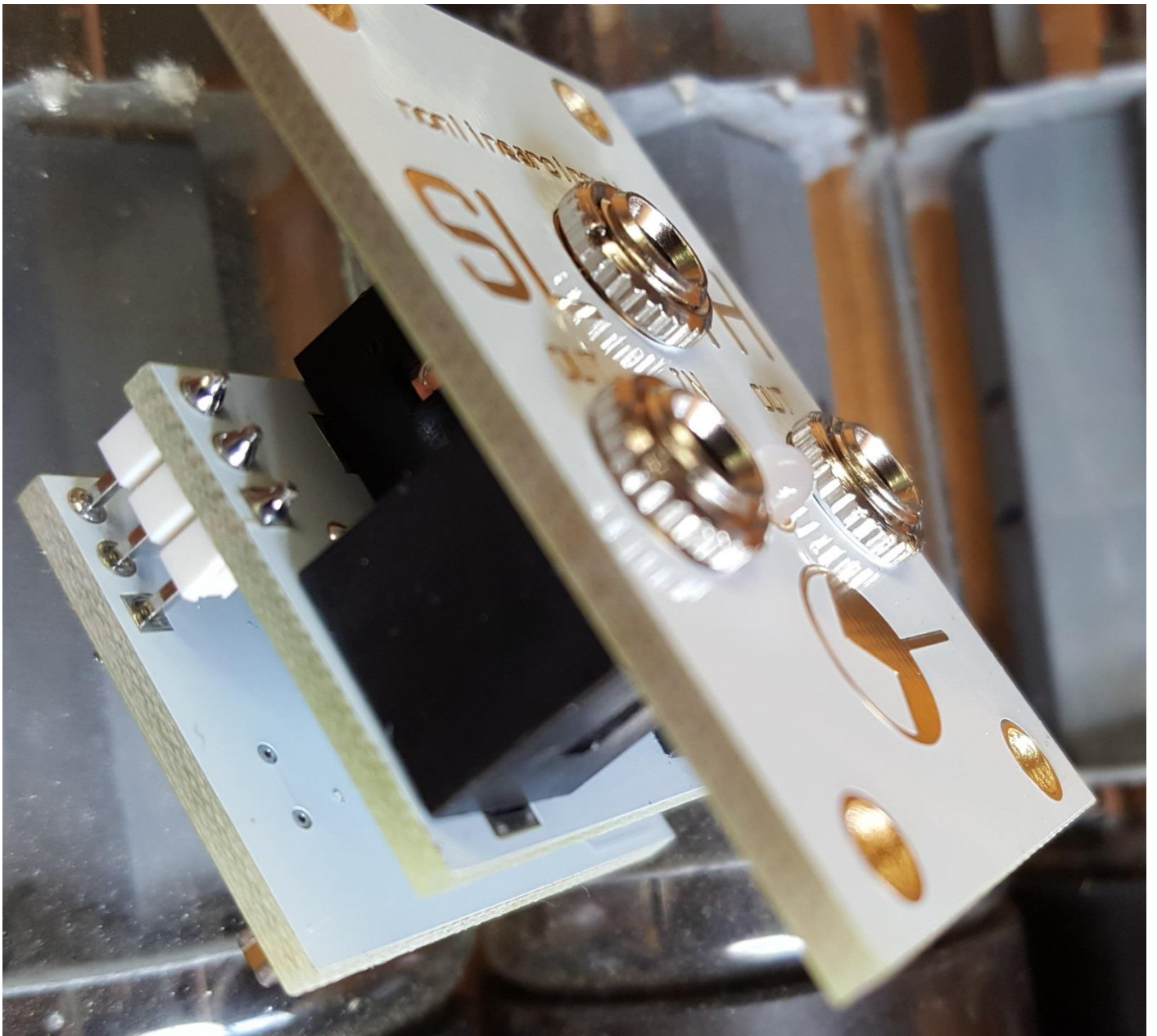
- Feel free to reduce R10 to a lower value than 470k, this will enable the incoming CV to have a much greater effect. Probably best to keep it 100k or higher.

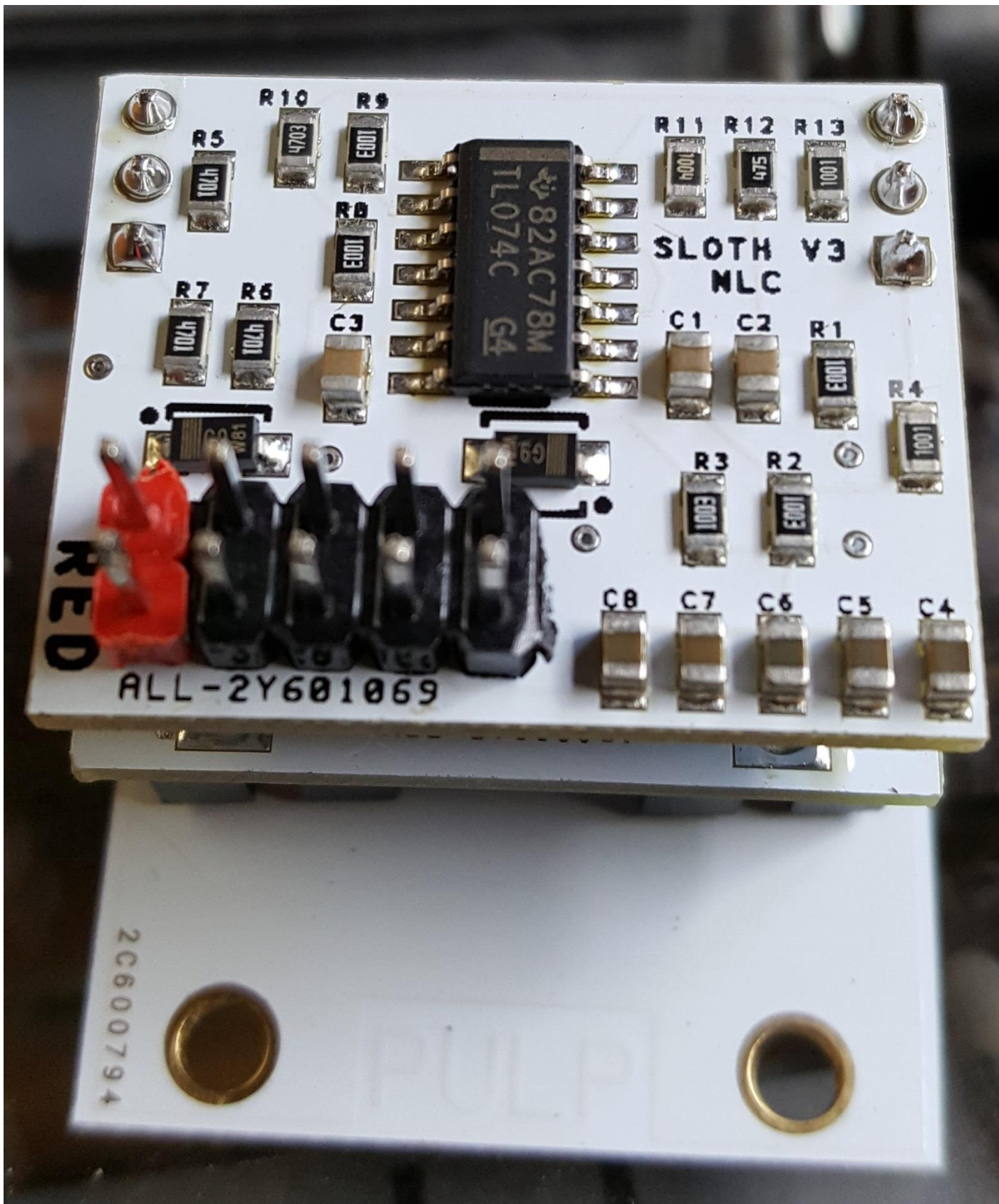


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R10

R9

R5

R11

R12

R13

82AC78M  
TL074C  
G4

SLOTH  
NLC

V3

R7

R6

R8

C3

C1

C2

R1

R4

R3

R2

RED

ALL-2Y601069

C8

C7

C6

C5

C4

2C600794

PULP