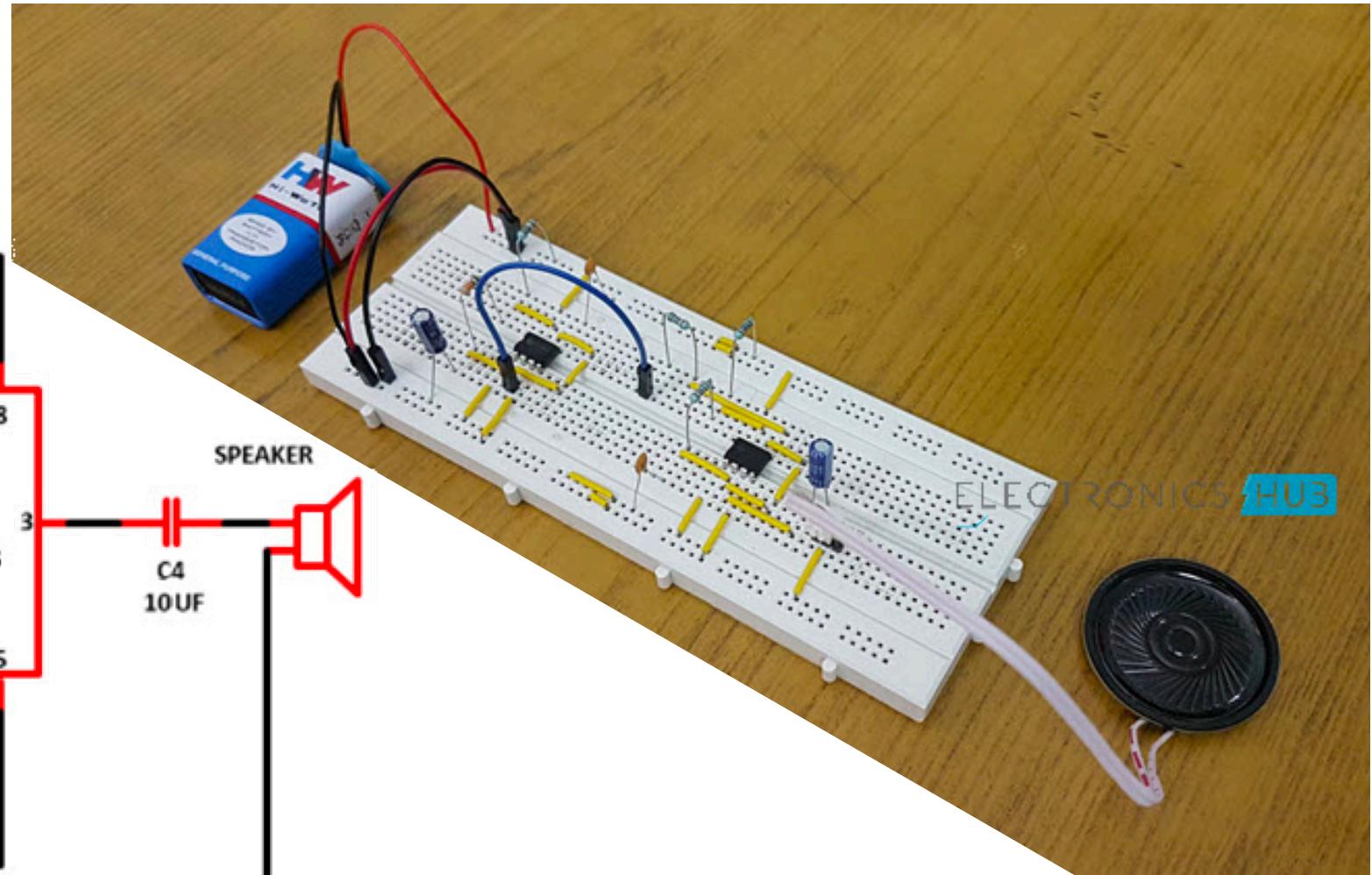
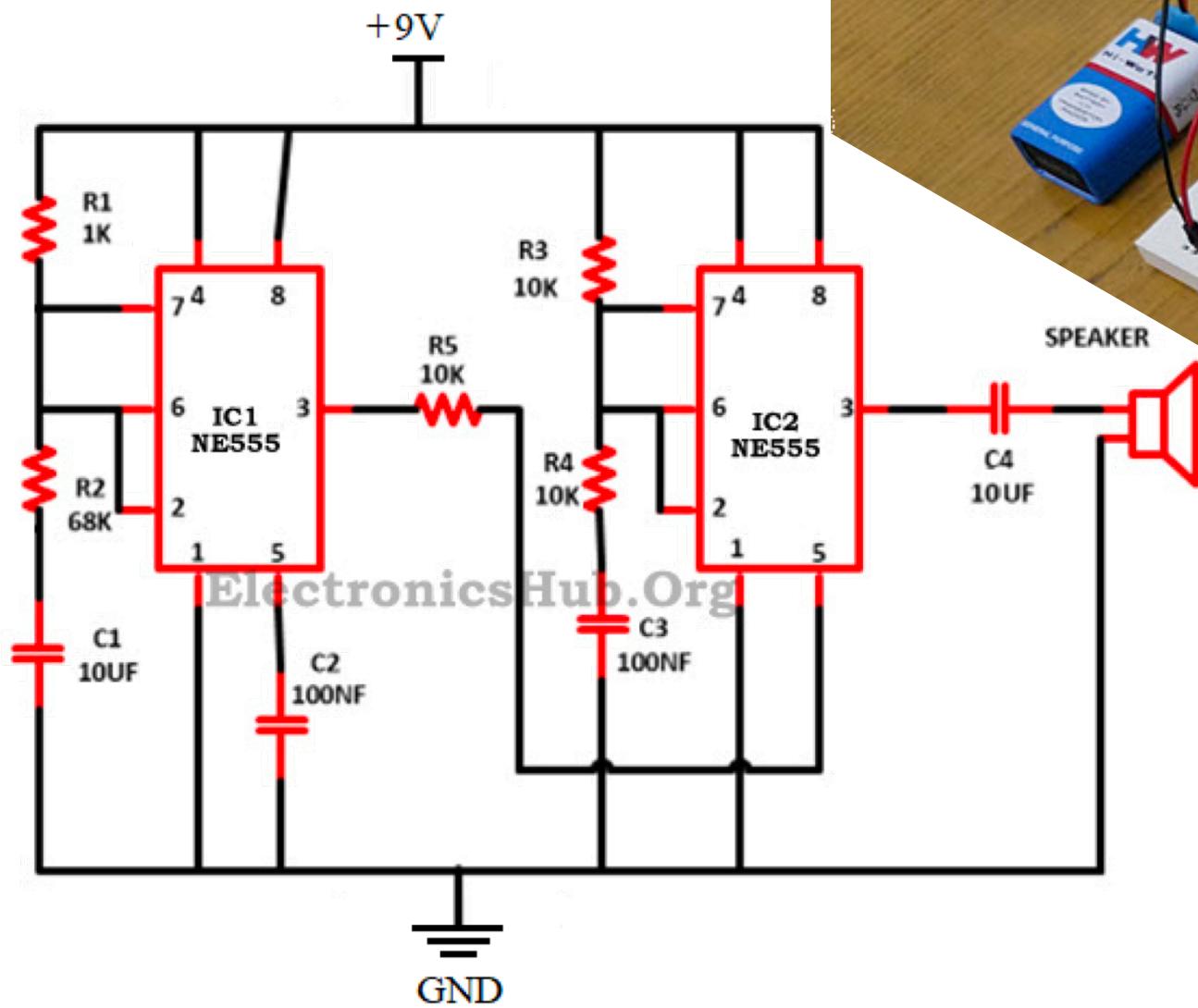
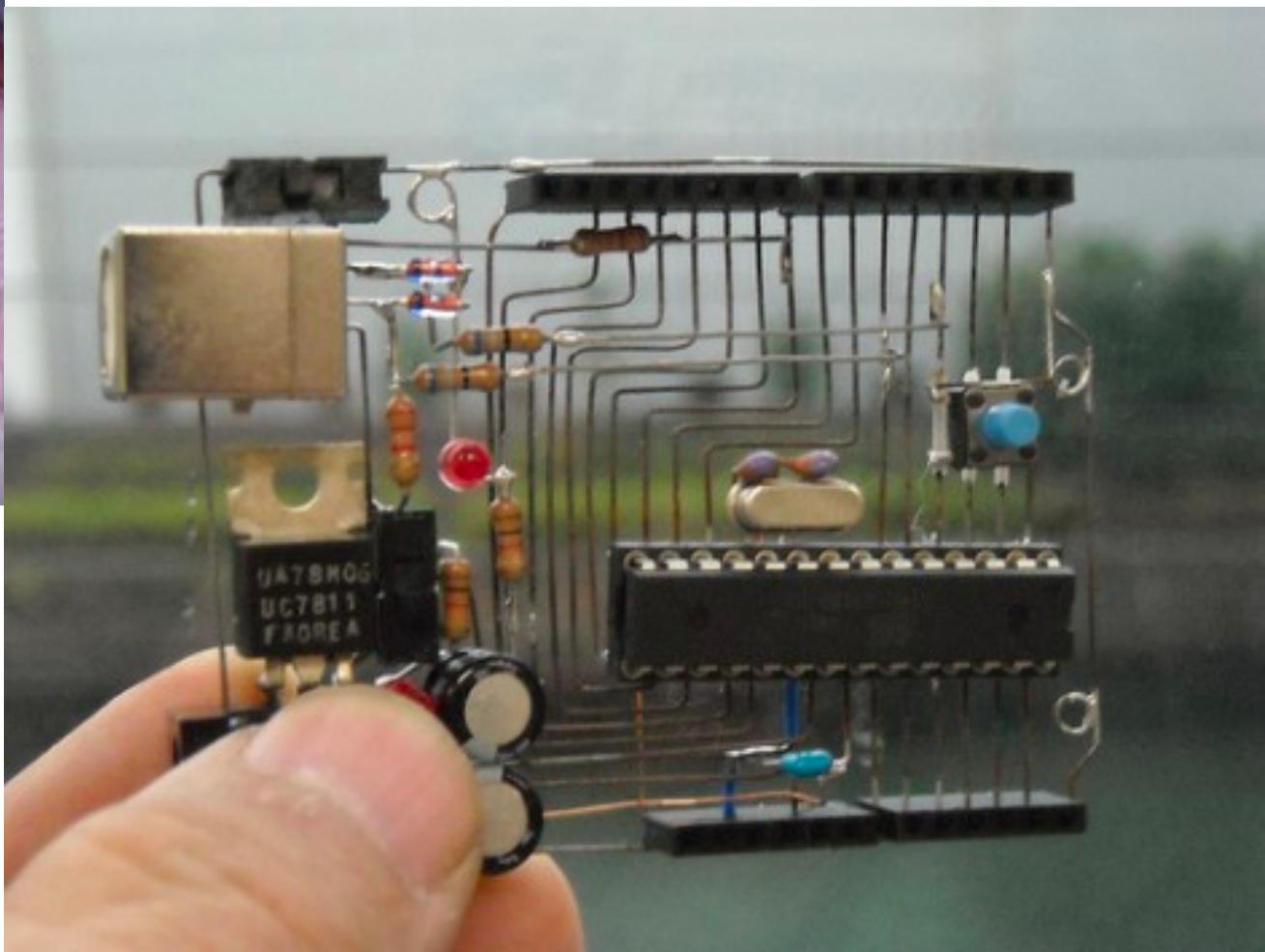
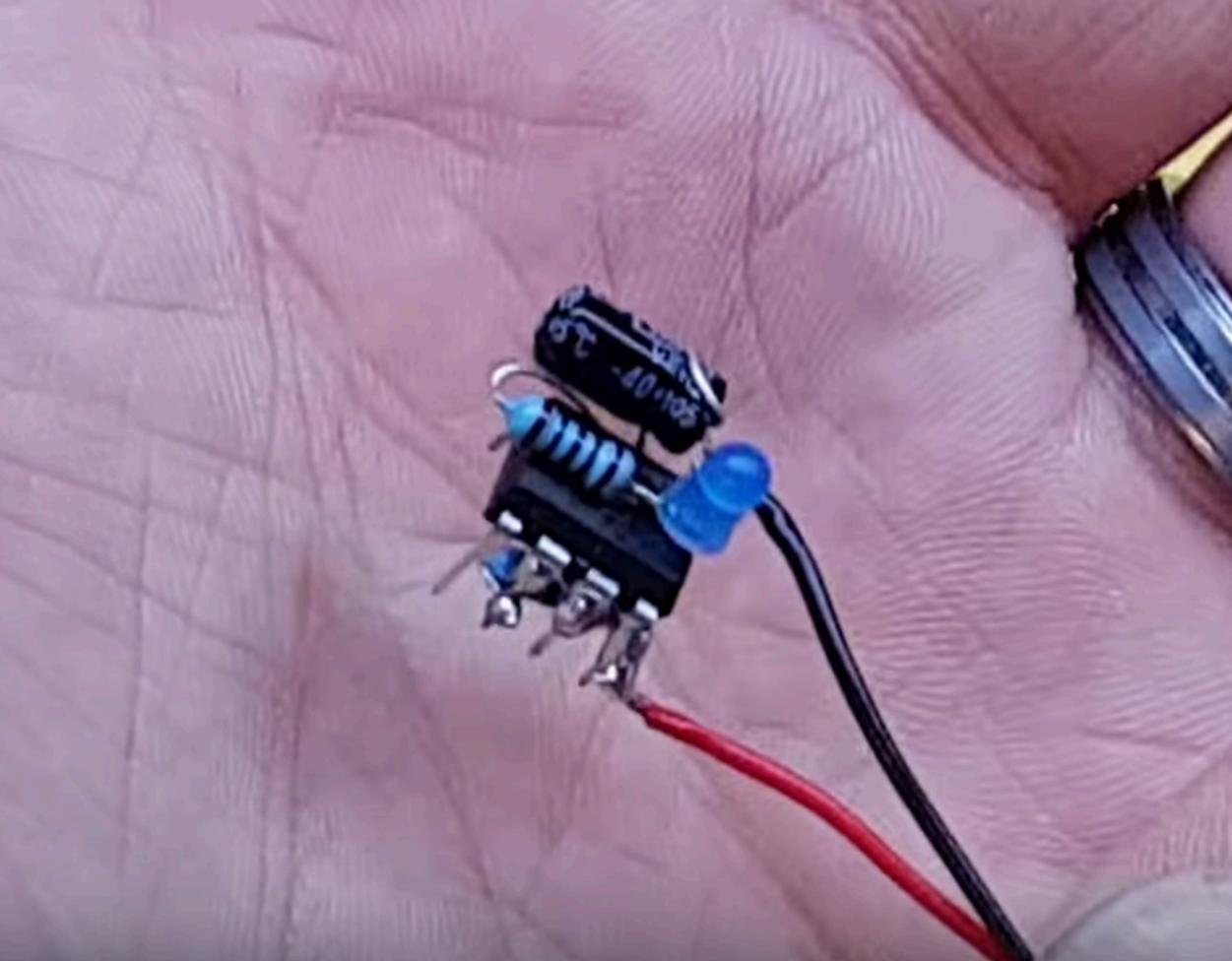


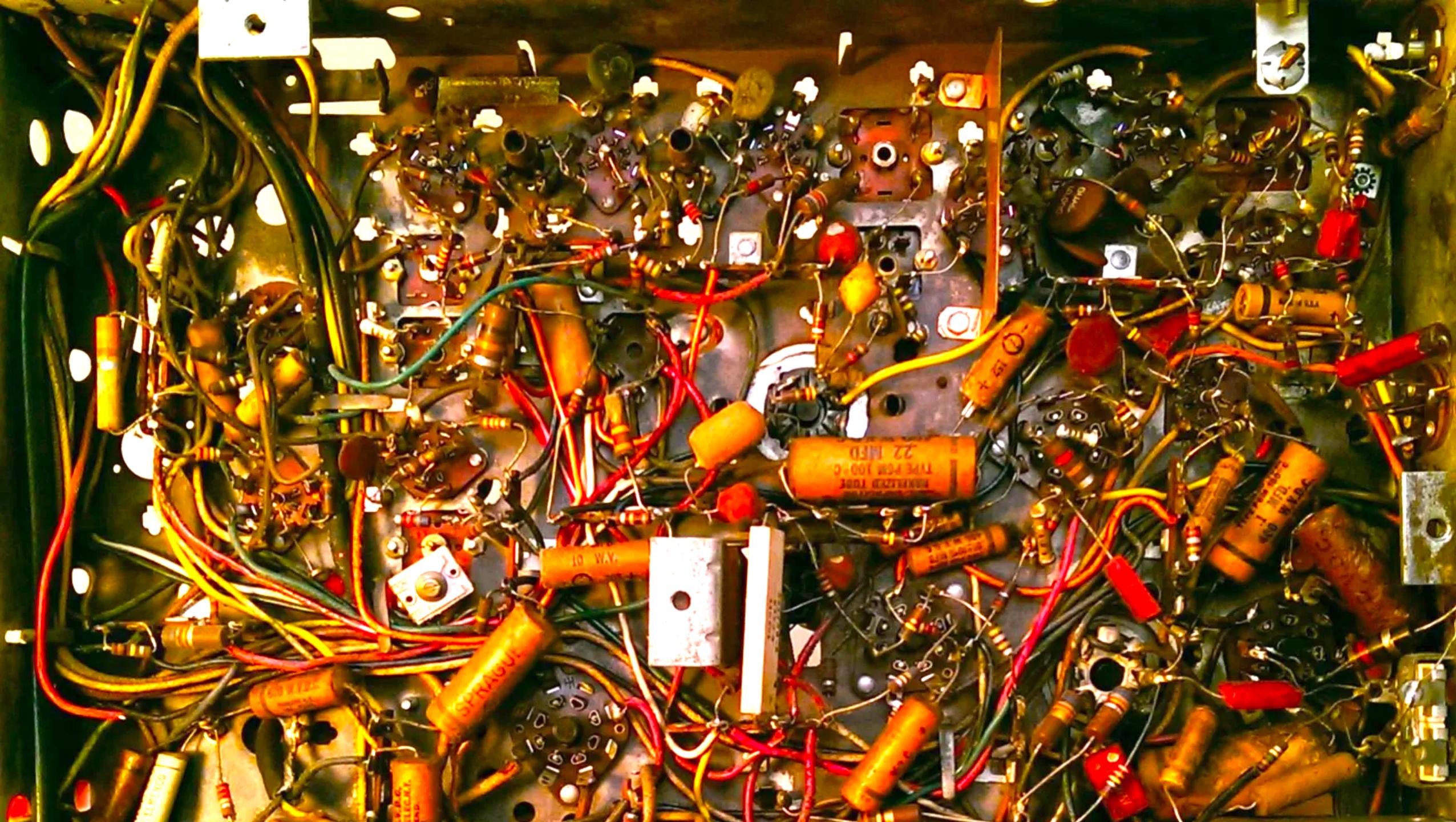
# DIY: Jednoduchý plošný spoj

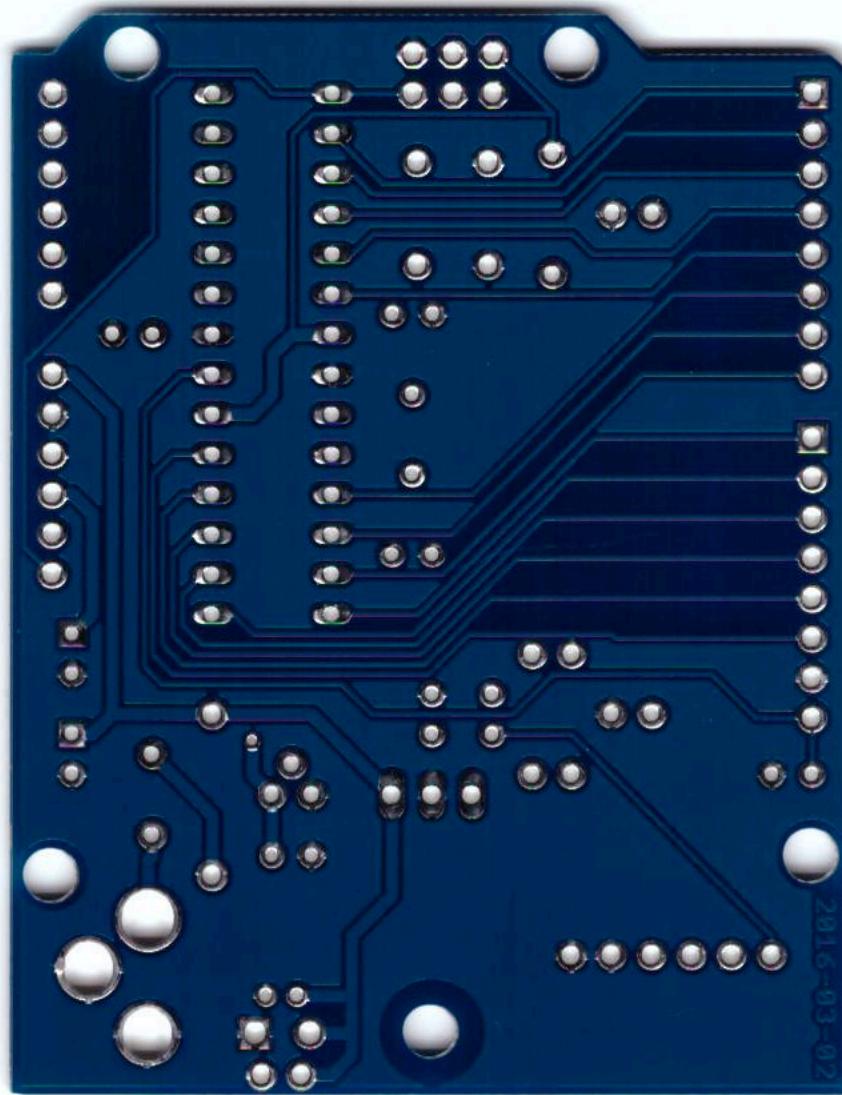
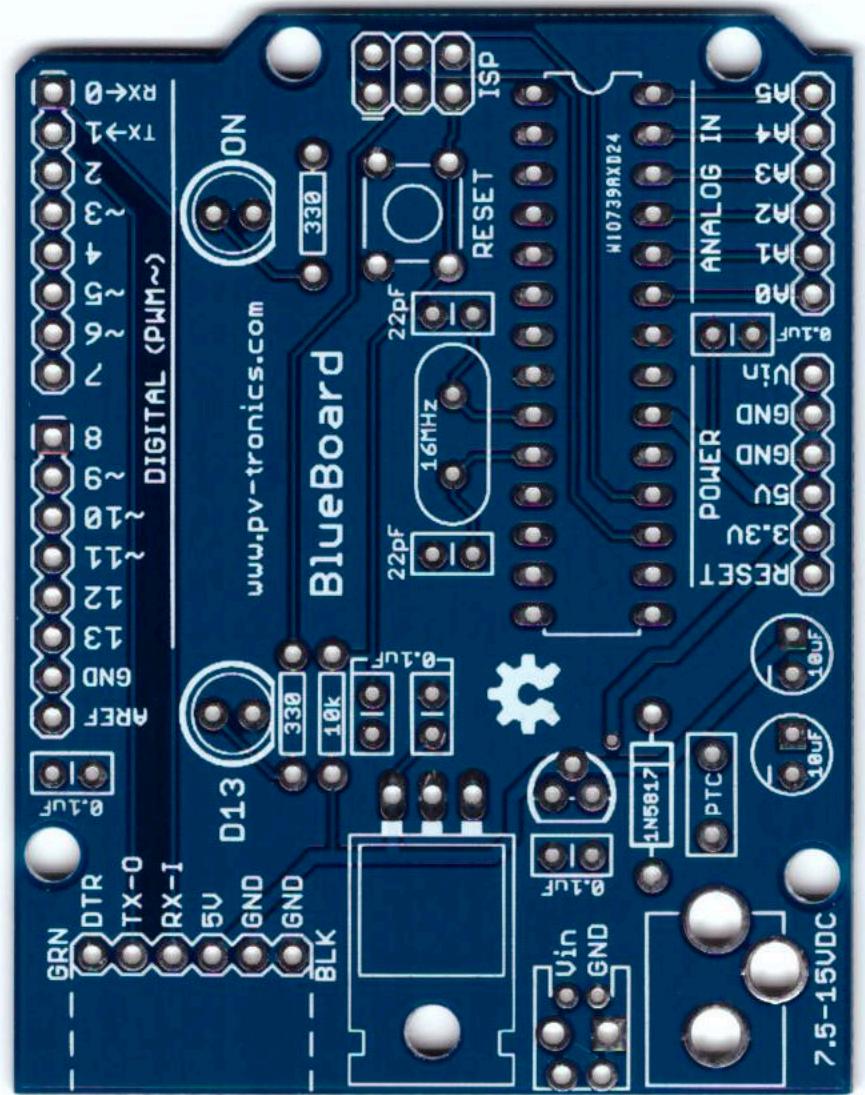
Ing. Gabriel Války, PhD.

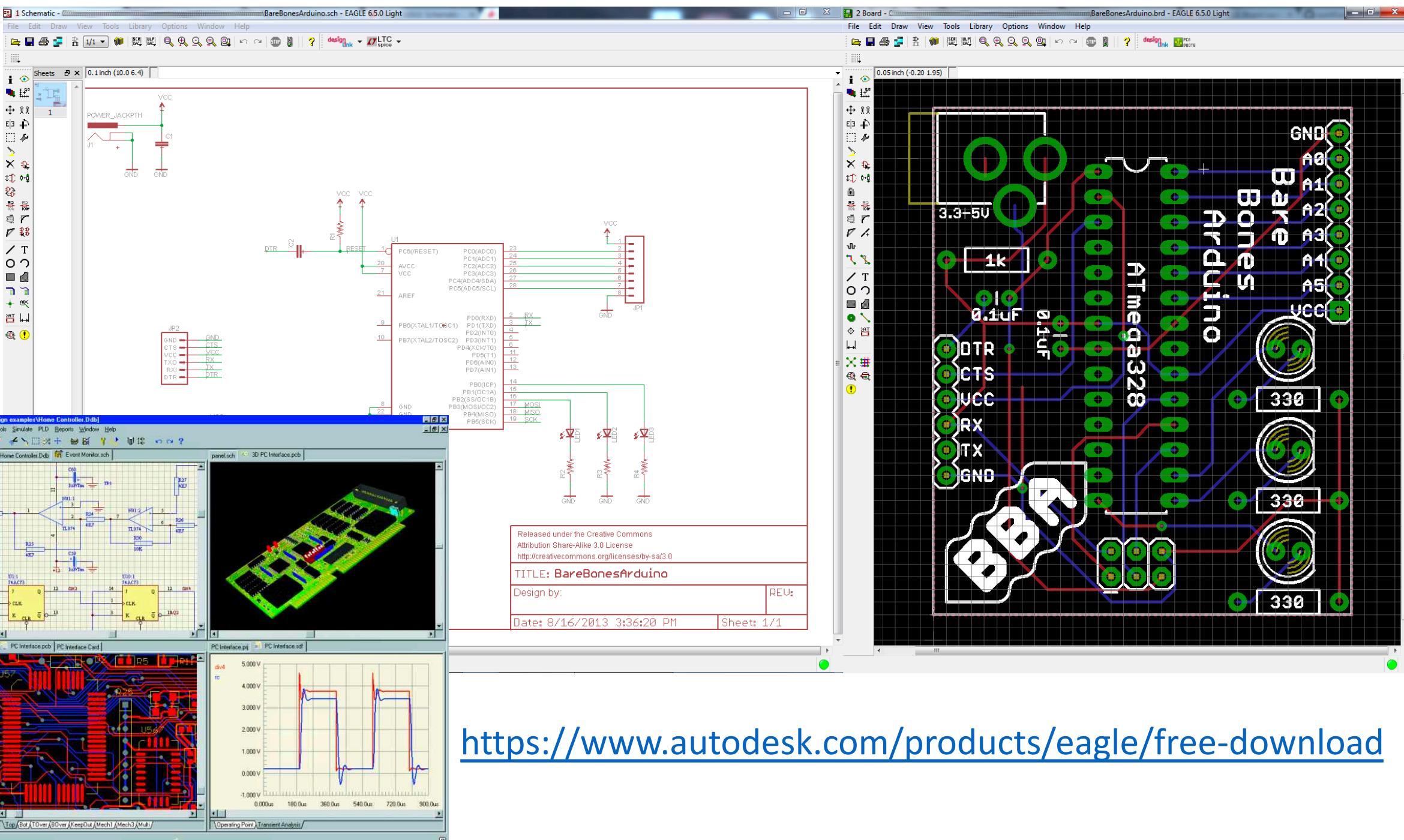
<http://L.valky.eu/dps>





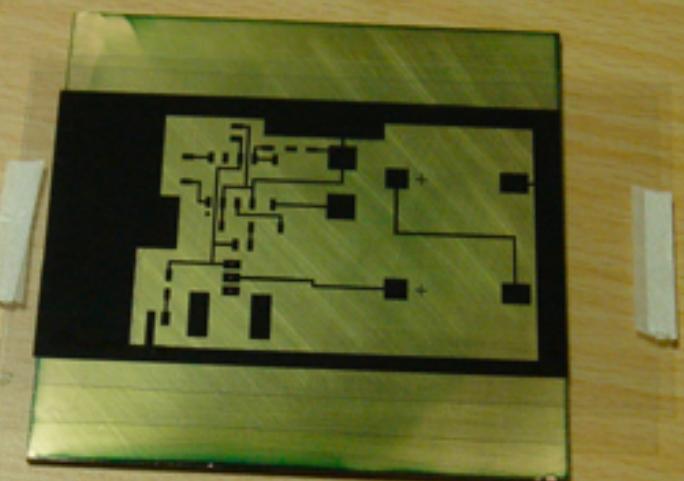




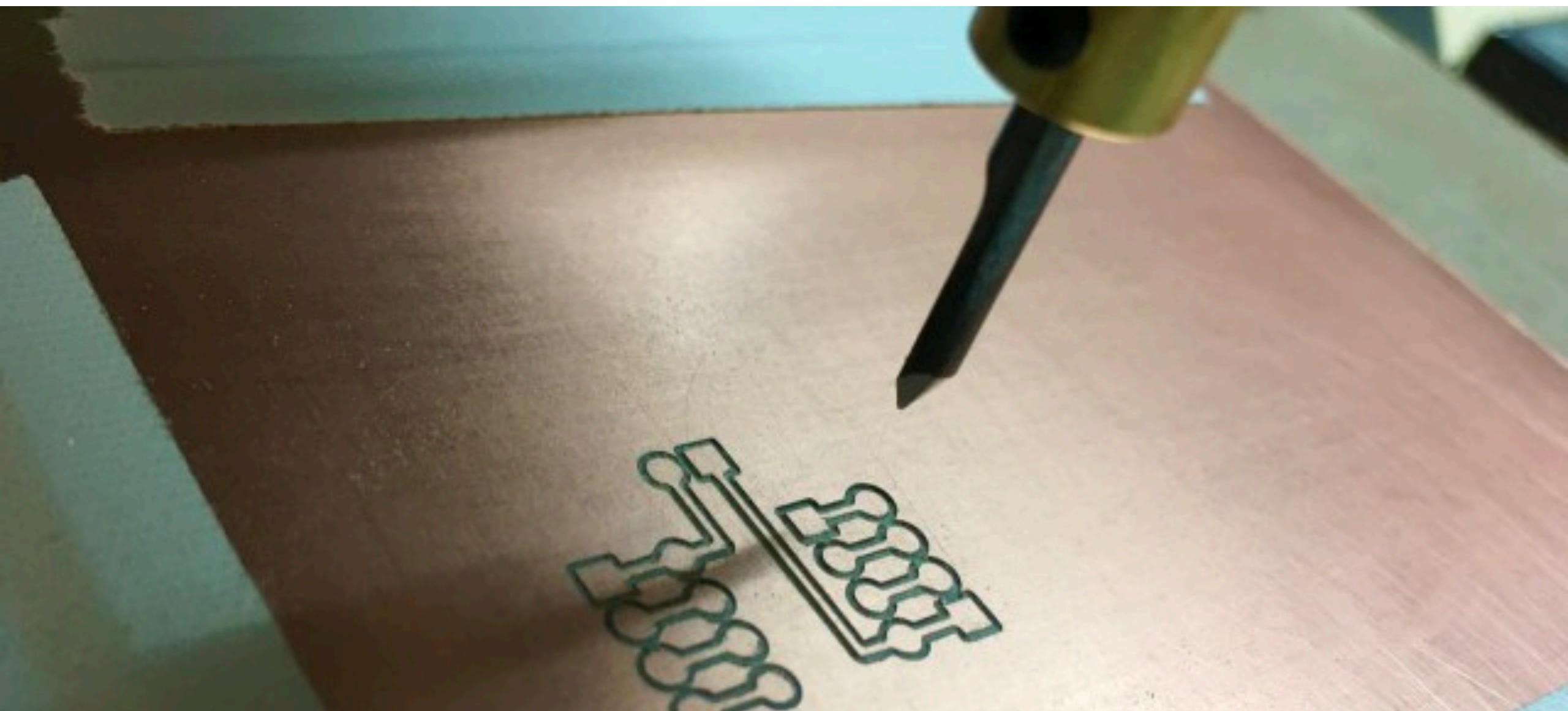


# Výroba DPS

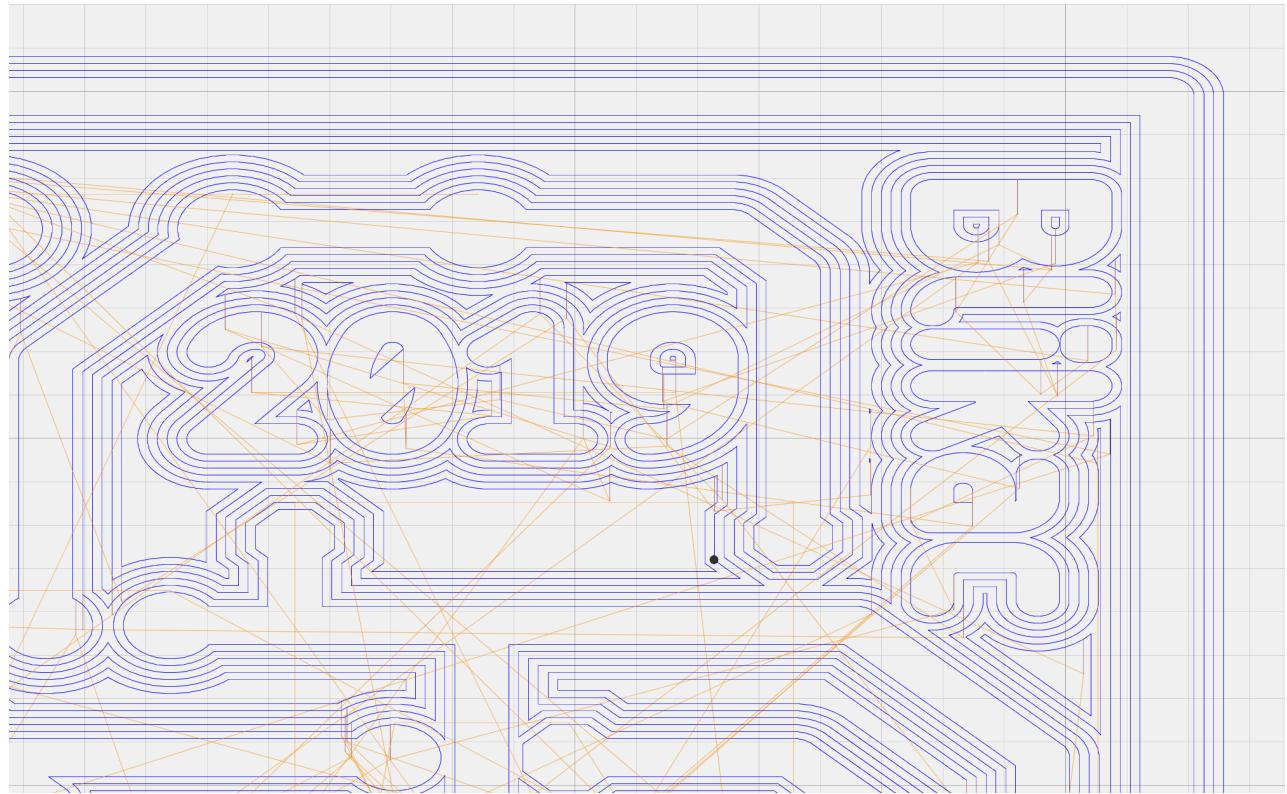
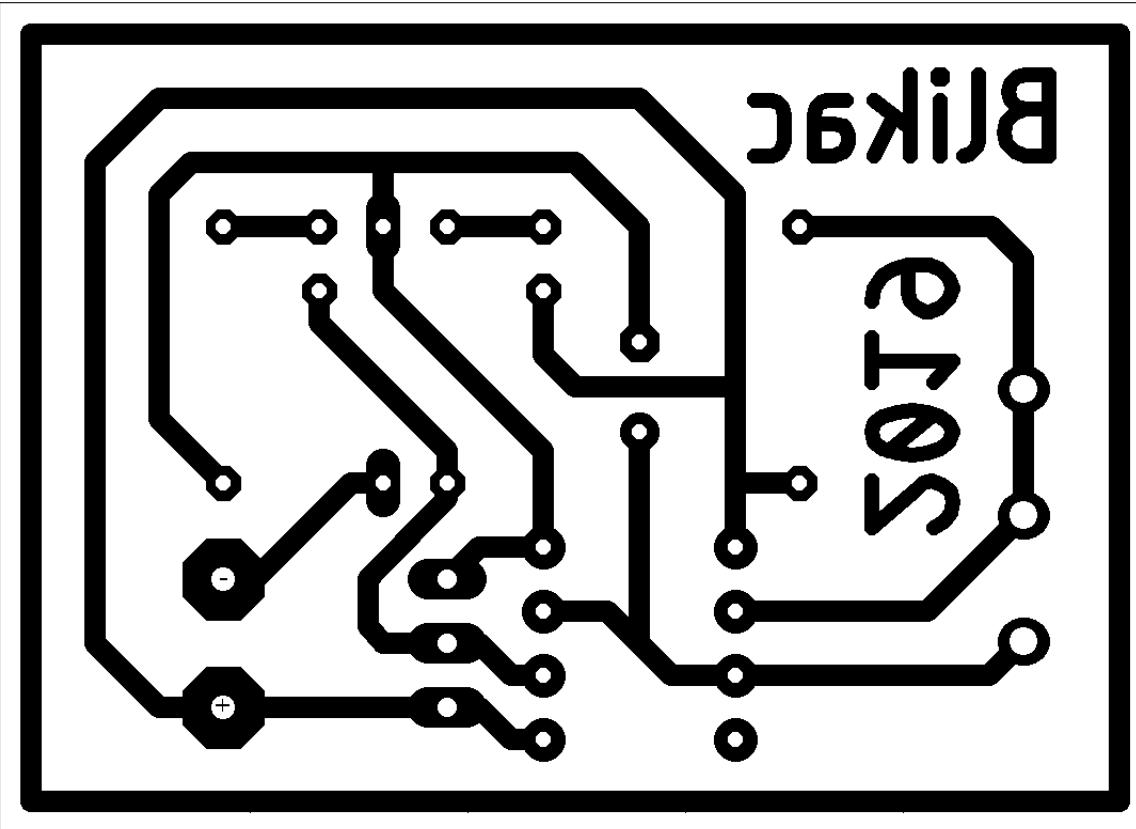
**PCB TONER  
TRANSFER  
METHOD**



# Výroba DPS – Isolation milling



# G-Code



# Blikač s časovacom NE555

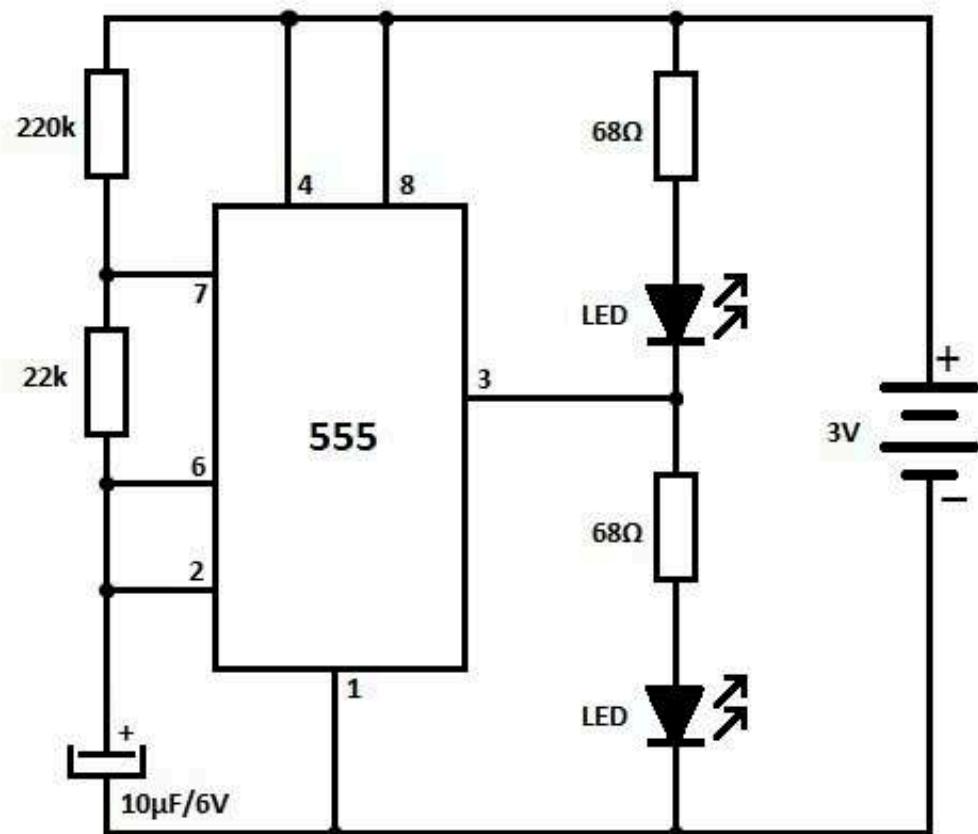
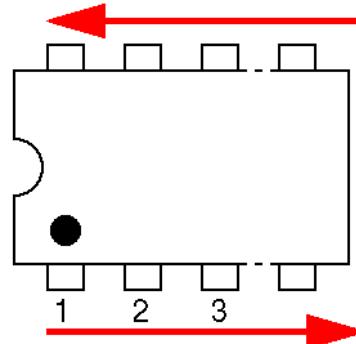


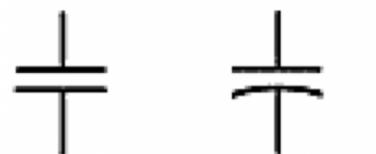
figure 3



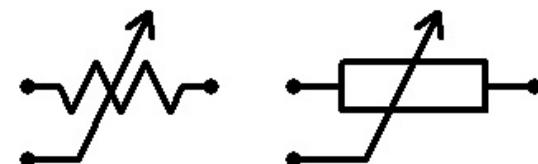




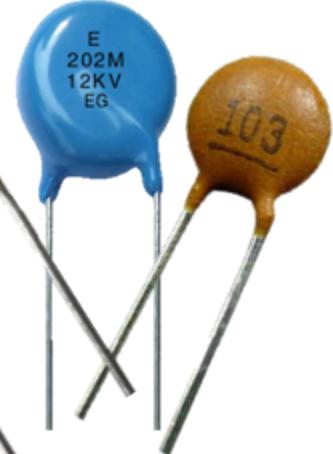
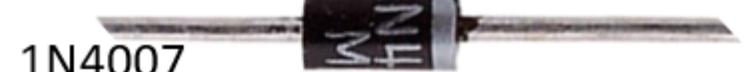
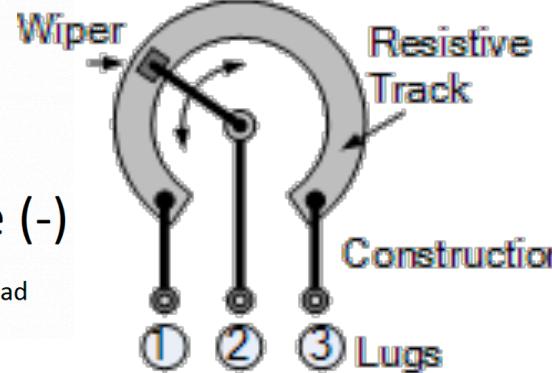
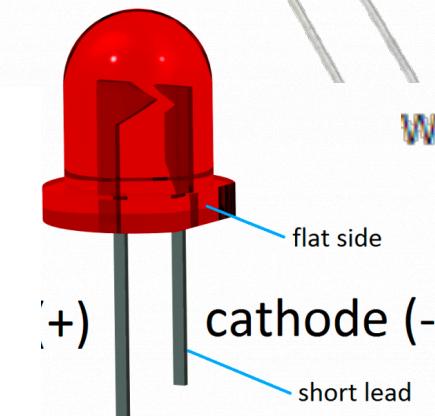
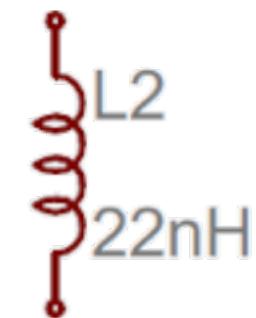
**R1**  
100 $\Omega$



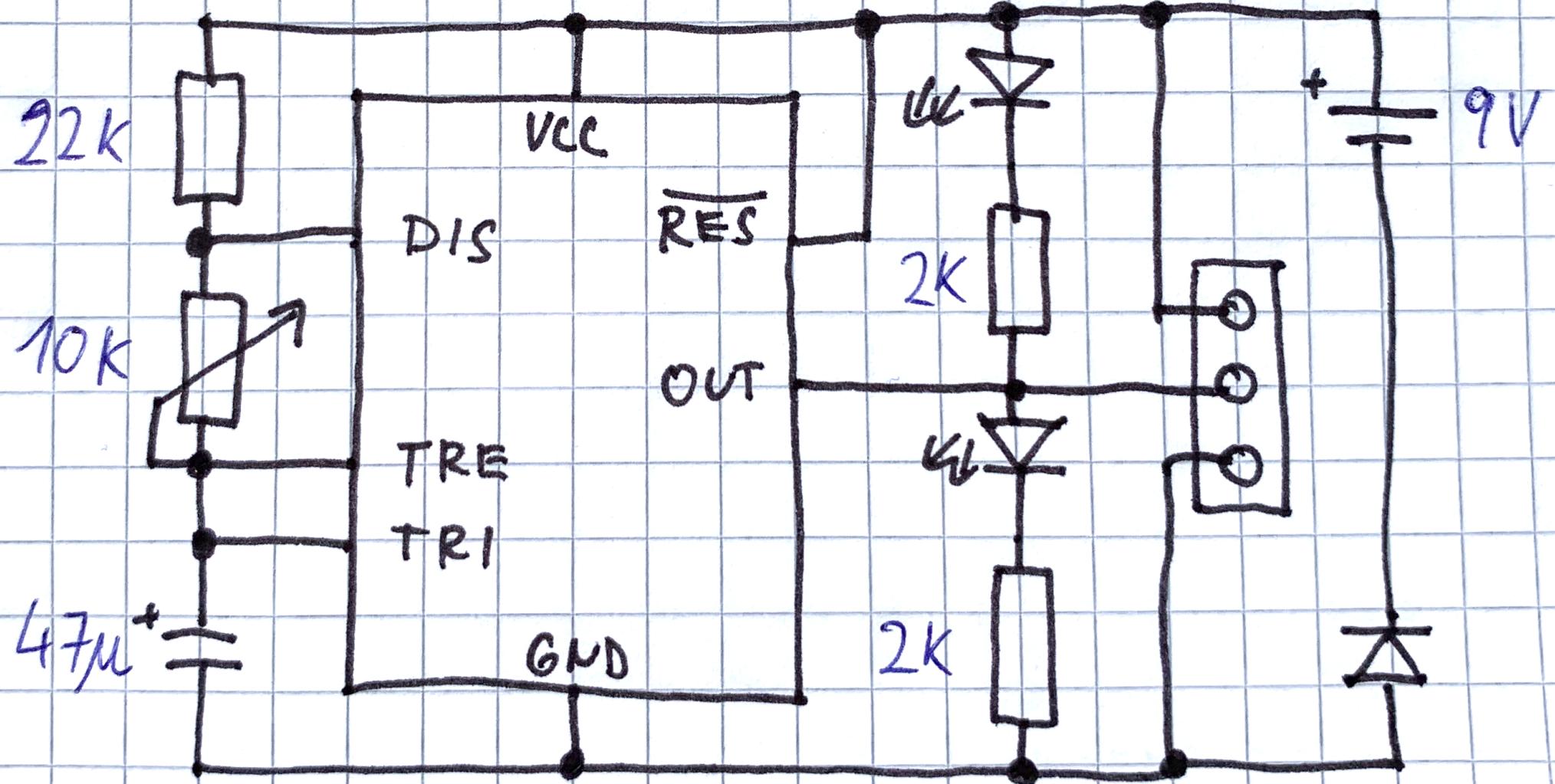
Anode  
Cathode



**R2**  
1k $\Omega$

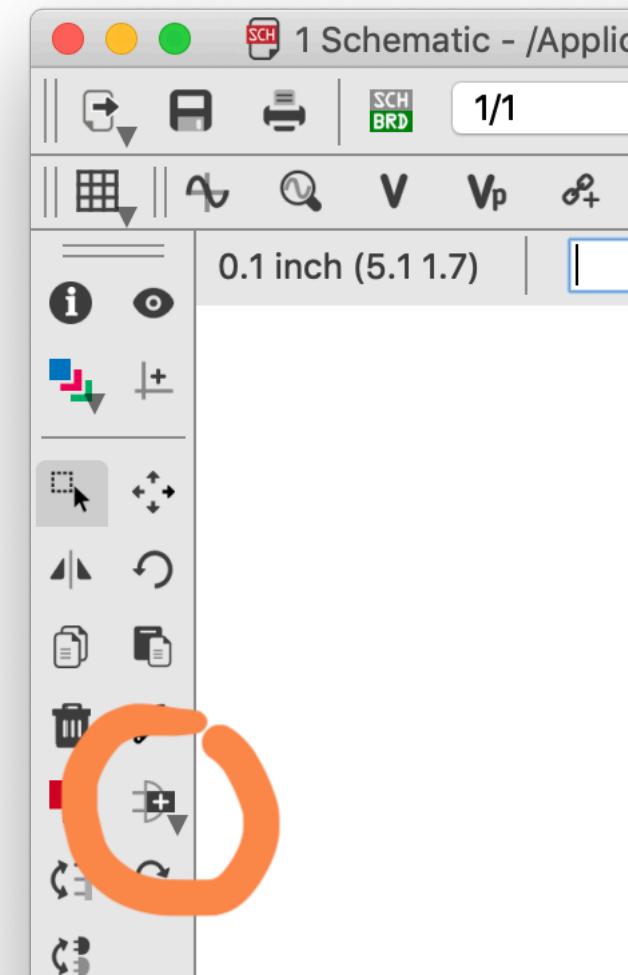
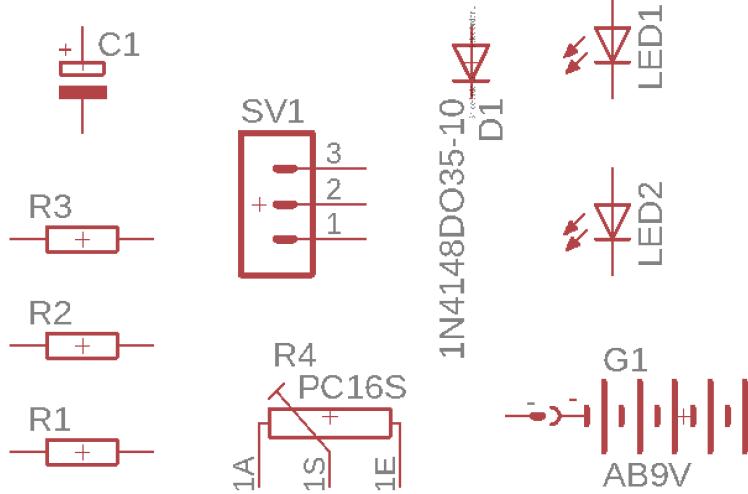


<http://L.valky.eu/dps1>



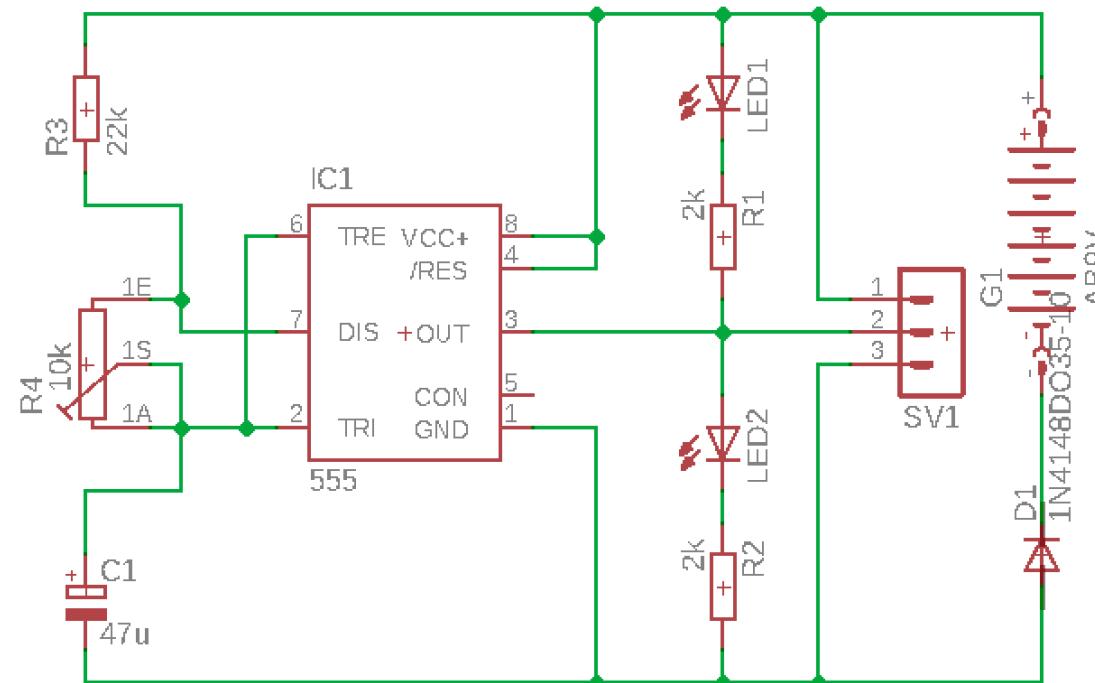
# Modelujeme

- Prázdna Schéma – EAGLE -> File -> New -> Schematic
- **U1: Pridanie súčiastok**
  - <https://github.com/sparkfun/SparkFun-Eagle-Libraries>
- U2: Zapojenie schémy
- U3: Návrh dosky
- U4: Optimalizácia
- U5: Export



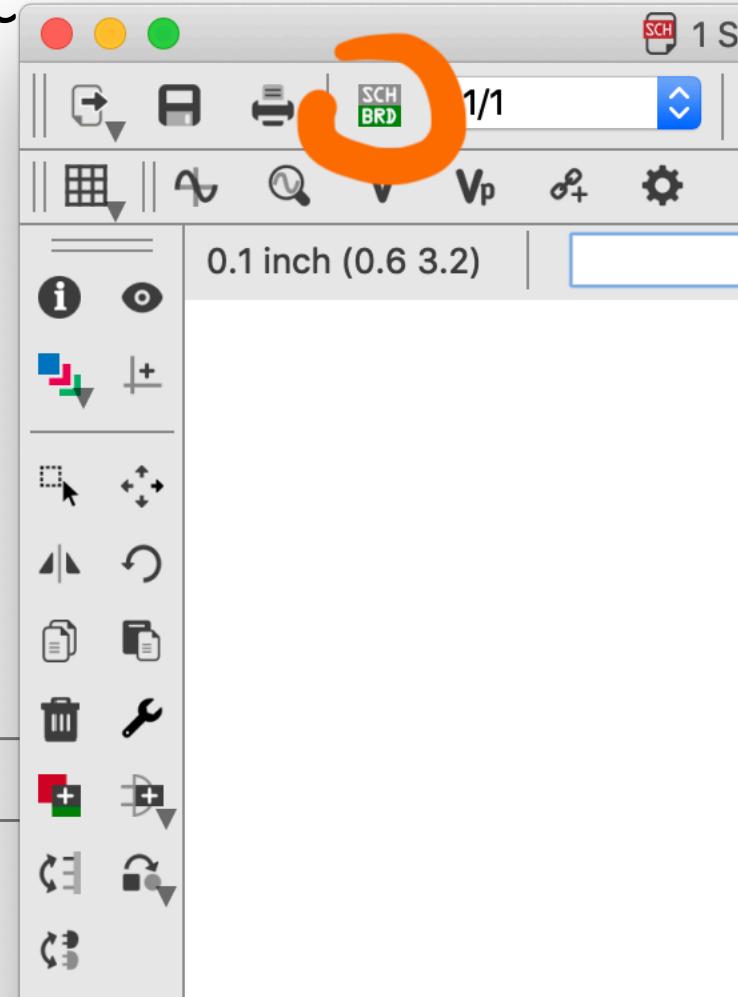
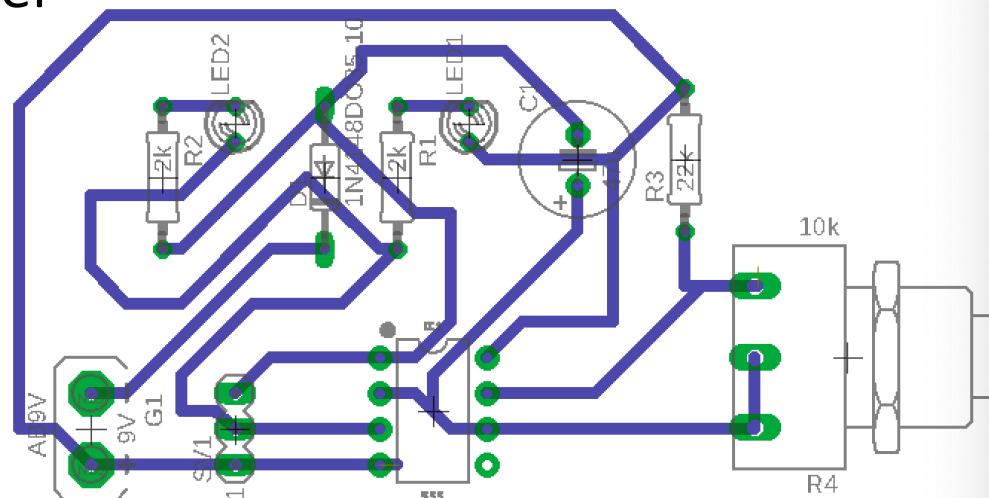
# Modelujeme

- Prázdna Schéma – EAGLE -> File -> New -> Schematic
- U1: Pridanie súčiastok
- **U2: Zapojenie schémy**
- U3: Návrh dosky
- U4: Optimalizácia
- U5: Export



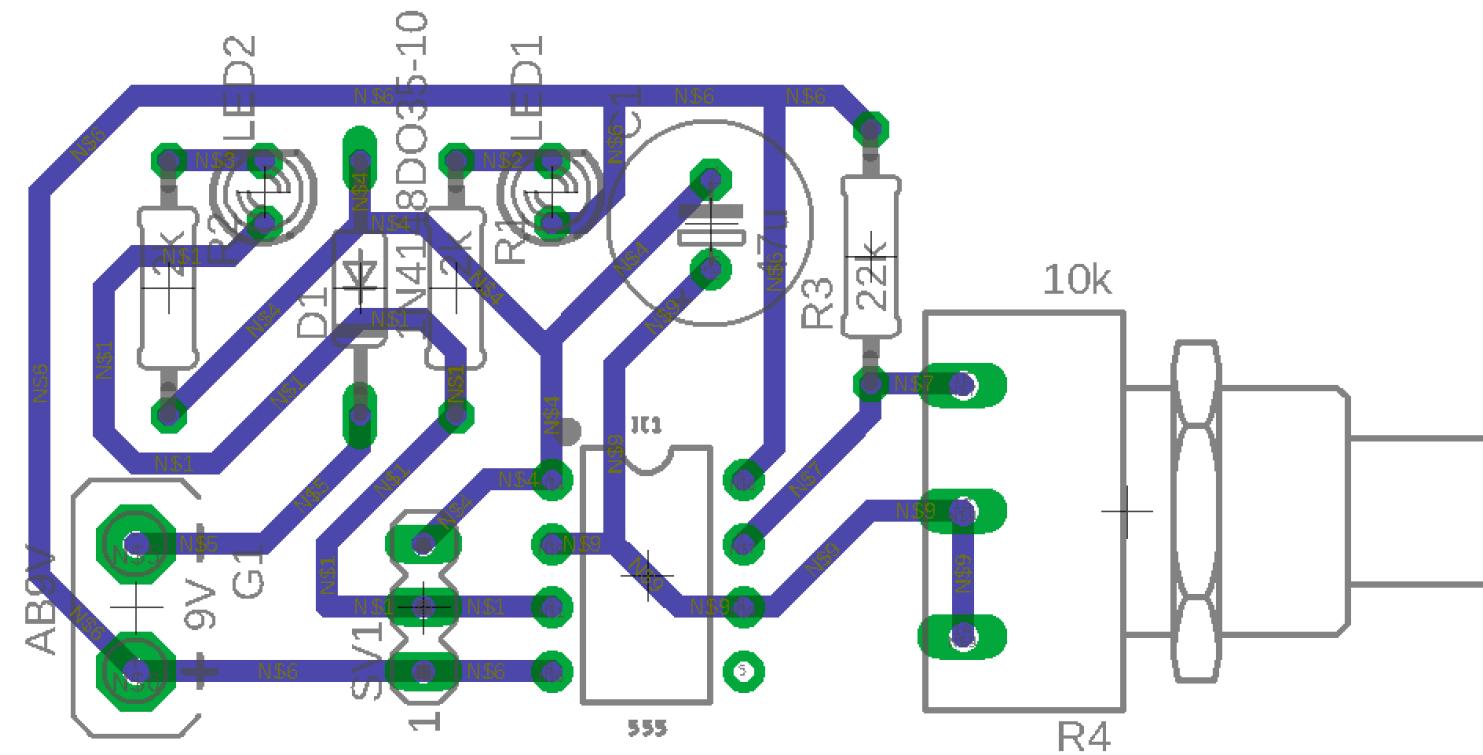
# Modelujeme

- Prázdna Schéma – EAGLE -> File -> New -> Schematic
- U1: Pridanie súčiastok
- U2: Zapojenie schémy
- **U3: Návrh dosky**
  - 32 mil/bottom layer
- U4: Optimalizácia
- U5: Export



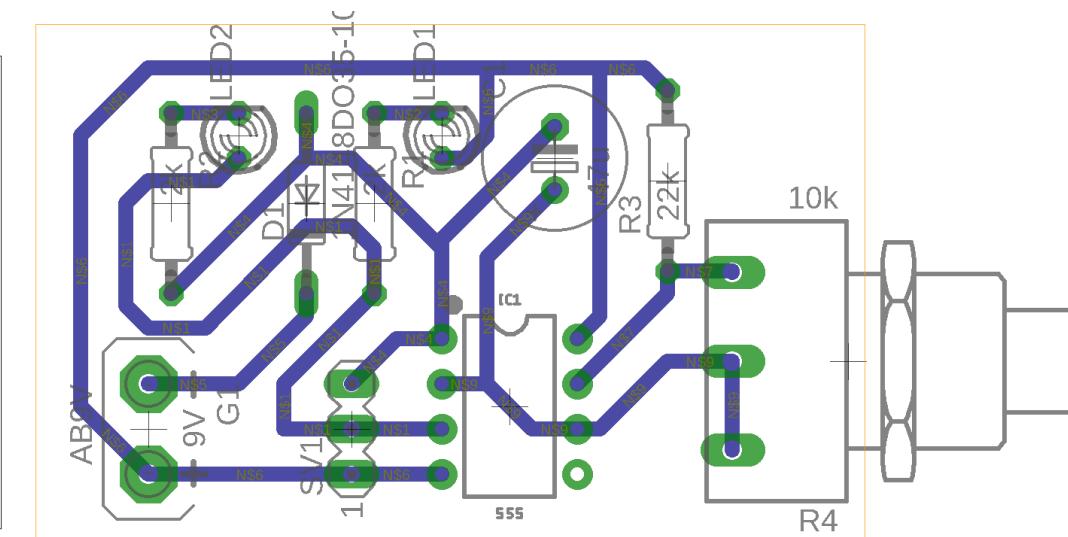
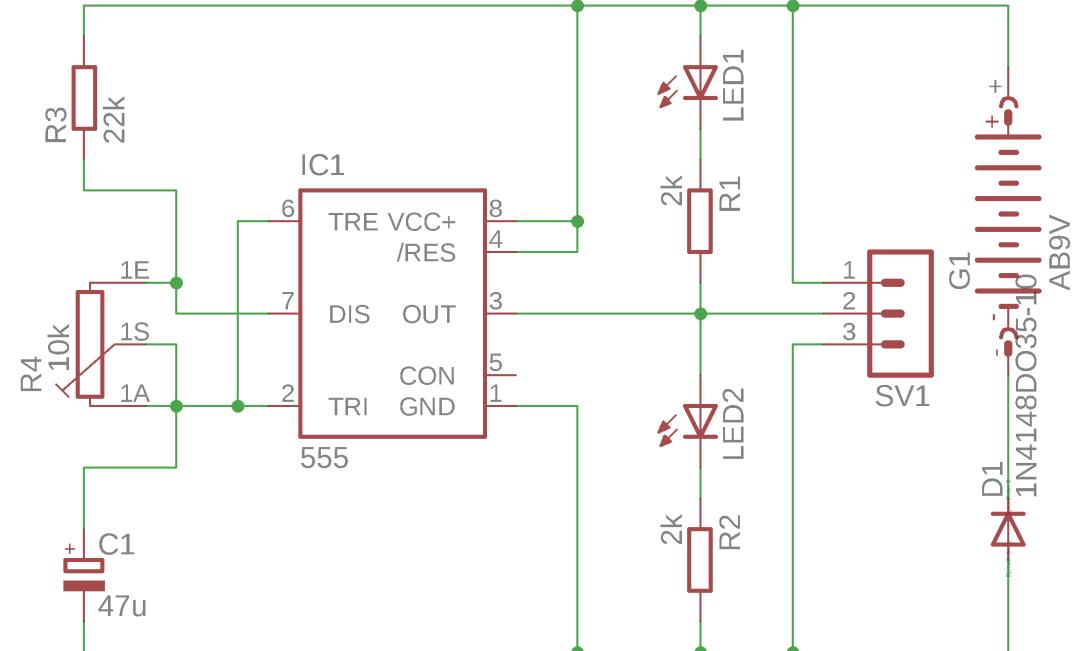
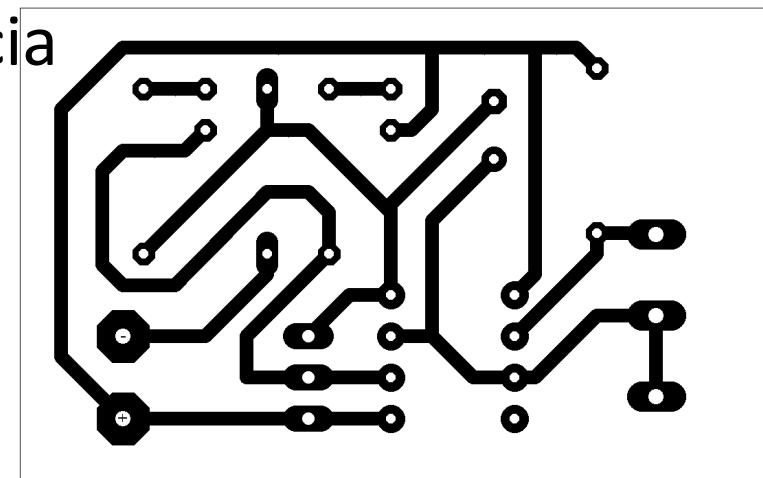
# Modelujeme

- Prázdna Schéma – EAGLE -> File -> New -> Schematic
- U1: Pridanie súčiastok
- U2: Zapojenie schémy
- U3: Návrh dosky
- **U4: Optimalizácia**
- U5: Export



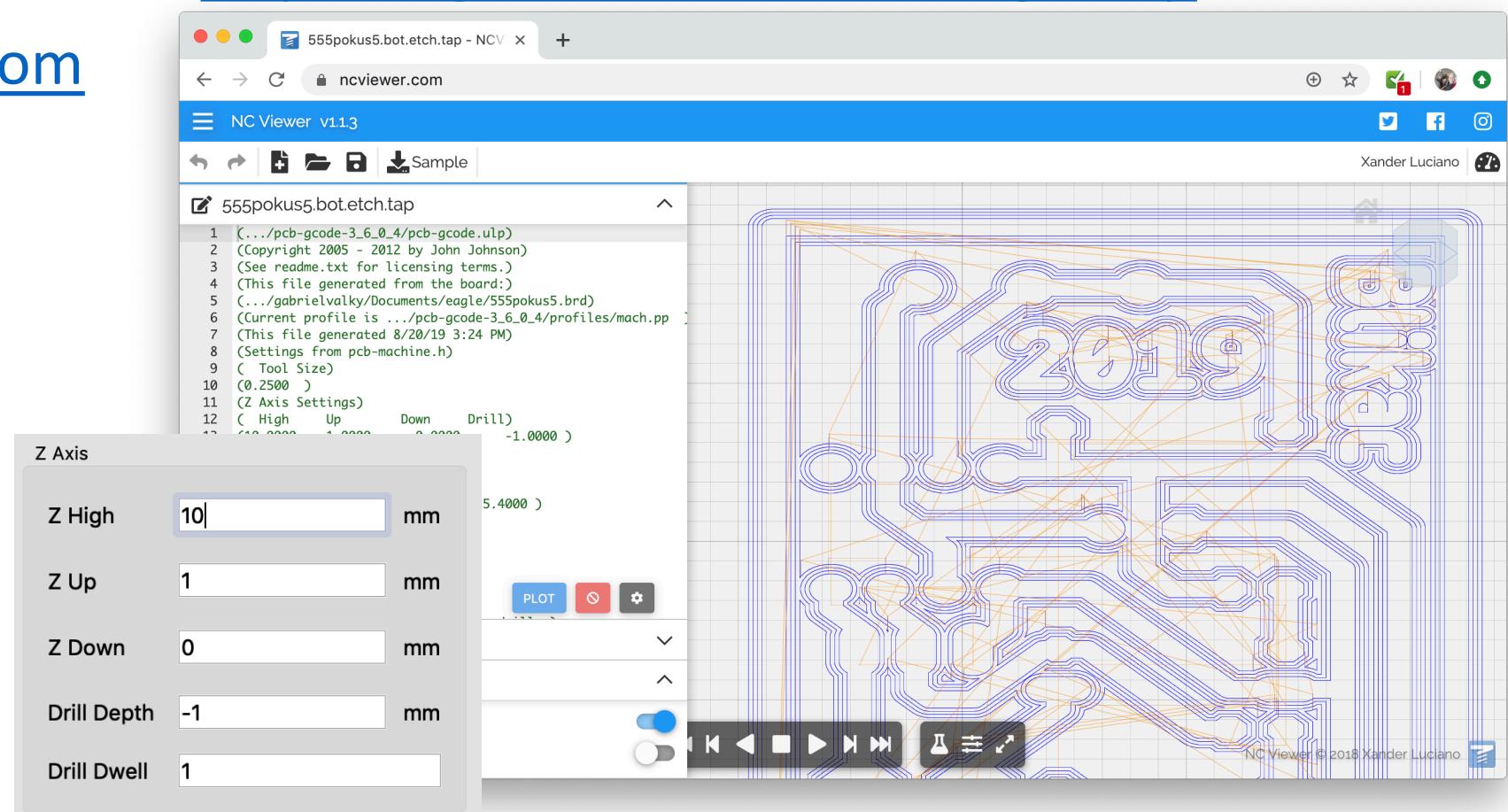
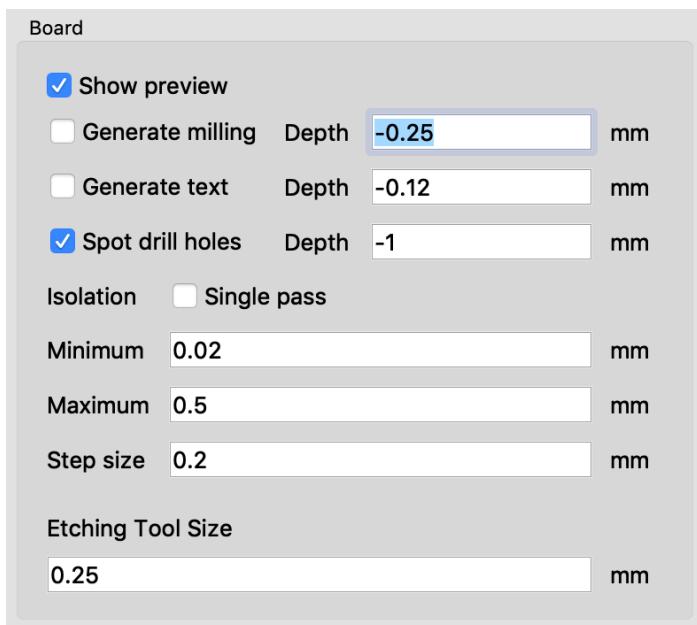
# Modelujeme

- Prázdna Schéma
- U1: Pridanie súčiastok
- U2: Zapojenie schémy
- U3: Návrh dosky
- U4: Optimalizácia
- **U5: Export**

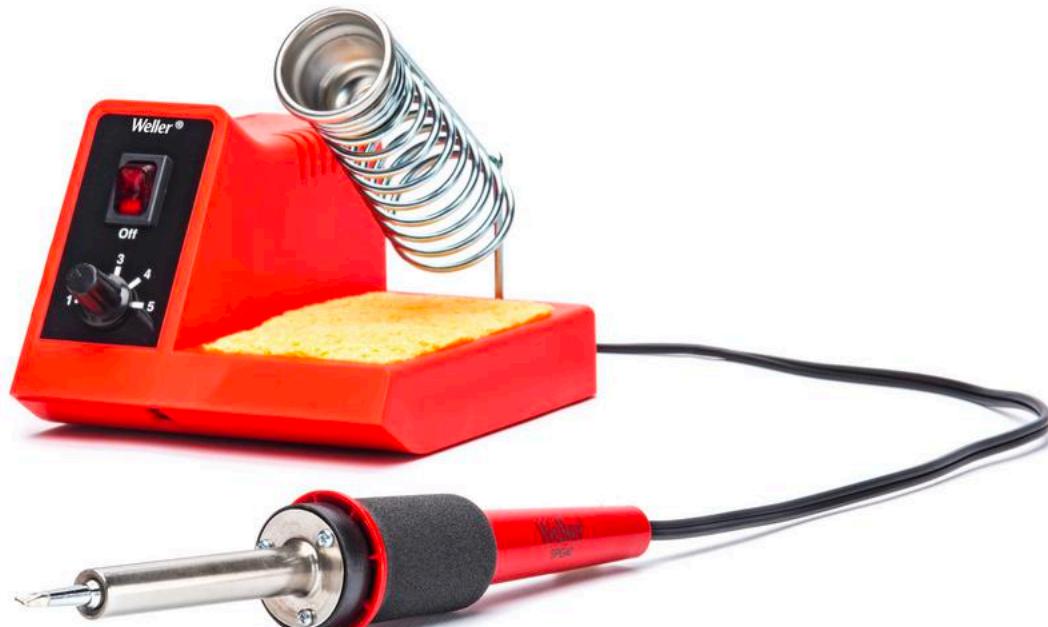


# Export do G-Code

- Hlédáme "pcb-gcode" na <http://eagle.autodesk.com/eagle/ulp>
- <https://ncviewer.com>



# Osadzujeme

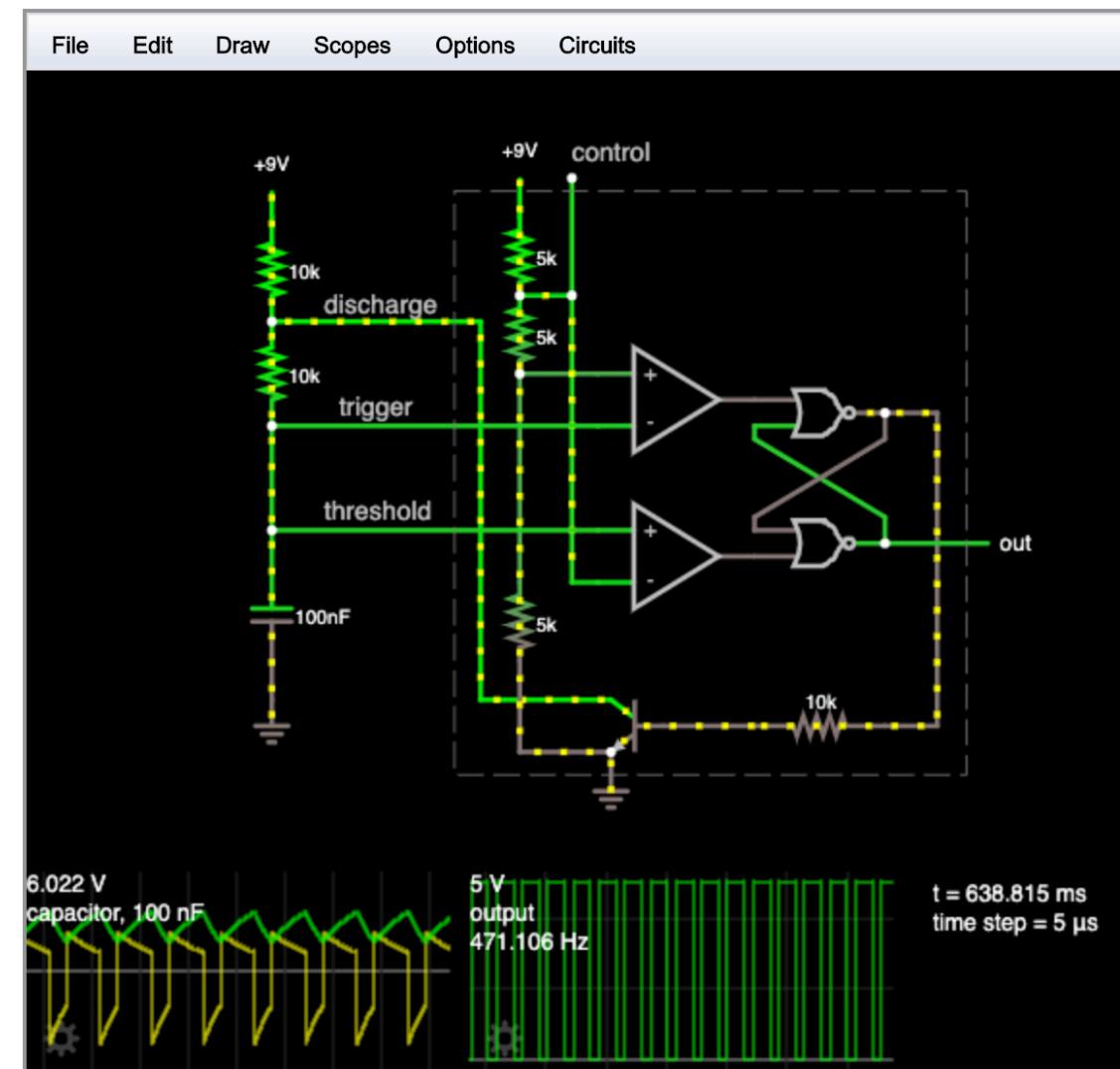


# Testujeme

- Vizuálna kontrola
- Osciloskop

# Bonus: Simulator elektrických obvodov

- <https://www.falstad.com/circuit/>
- Circuits -> 555 Timer chip -> Internals



# Hotovo!

<http://L.valky.eu/dps>