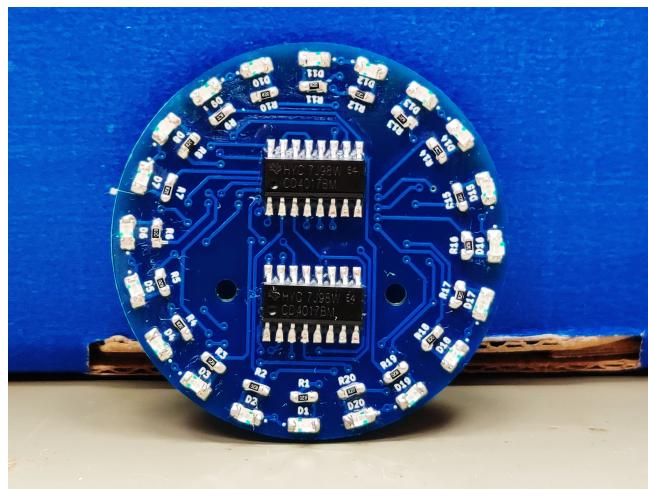


SMD Ring Light



Quantity	Description	Value
2	C1, C2	100 nF (marked red)
1	C3	1 µF (marked blue)
20	R1 – R20	82 Ω
2	R21, R22	100 kΩ
2	R23, R24	1 kΩ
20	D1-D20	0805 SMD-LED red
1	U1	NE555 SOIC-8
2	U2,U3	CD4017
1	SW1	Switch
2	Q1, Q2	BC847C or BC846A Transistor
1	BT1	Battery Holder
1	Battery	CR2032 (not included)
1	PCB	

Difficulty: ●●●○ Build-Time: 1 – 2 Hours

Manual v2.0 CC BY-SA 4.0 Binary Kitchen e.V.
Board v1.0 CC BY-SA 4.0 Taxxizz

Safety Information

- ATTENTION: Not suitable for children under 3 years, choking hazard due to small parts that may be swallowed.
- We recommend: Supervision of the assembly and soldering process by an adult.
- Keep these operating instructions in a safe place for later use! It contains important information.
- If the battery is empty, replace it only with a new battery with the same values.
- When soldering, the soldering iron, the solder and also the components being soldered become very hot.
- Always wear safety glasses when soldering and assembling the kit.
- Always use a fire proof soldering pad when soldering! This prevents the components from slipping away.
- To keep the soldering iron safe during assembly, always use a suitable soldering stand.
- The kit is designed for battery operation only.
- CAUTION: Never connect the kit to 230 V mains voltage! There is an absolute danger to life!
- Please take the device to appropriately certified disposal companies at the end of its service life. This is good for the environment and ensures correct disposal.
- Subject to changes and errors.

Disposal

This appliance is labelled in accordance with the European Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). The directive provides the legal framework for the take-back and recycling of waste equipment throughout the EU.

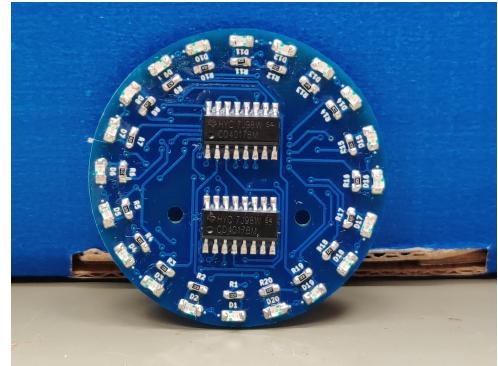
- **packaging:** The packaging is made of environmentally friendly materials and is therefore recyclable. Dispose of packaging materials that are no longer needed accordingly.
- **waste equipment:** Old appliances often still contain valuable materials. Therefore, hand in your old appliance to your retailer or a recycling centre for reuse. Please ask your retailer or your local authority for the current disposal routes.

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93057 Regensburg
GERMANY



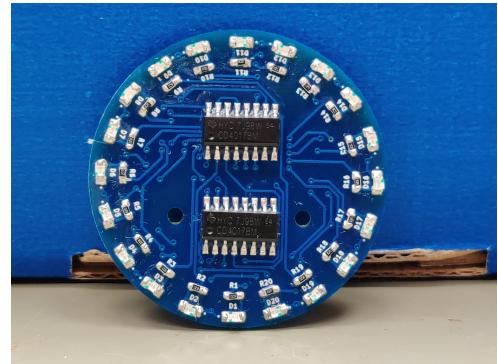
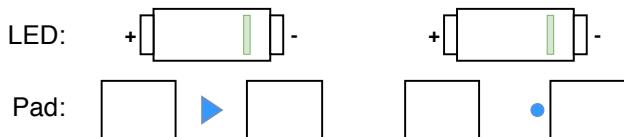
Step 1

- a) Start with the resistors
- b) Resistors have no direction
- c) Solder on resistors R1-R20. For this, tin a pad
- d) Then heat up tin and feed the resistor to the side with tweezers
- e) Then solder the second side



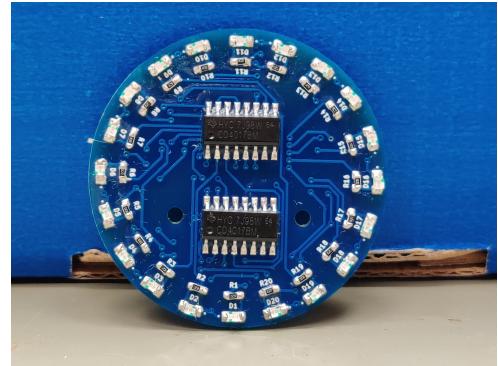
Step 2

- a) Be Careful! Alignment of the LEDs is important! First read all the points of this step
- b) Solder the LEDs in the same way as the resistors
- c) The LEDs have a small green line on the top
- d) There are small arrows or dots printed on the board
- e) The arrows or dots on the board show the side, where the small green line has to be



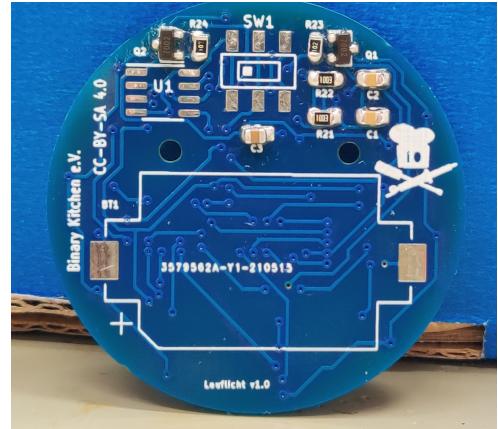
Step 3

- a) Now solder on the two shift registers U2 and U3
- b) pick up IC1 with an adhesive tape. Tape should only cover half of the IC
- c) Then the IC can be aligned and fixed with tape
- d) Alignment important: Small dot on IC must match dot on PCB top left
- e) Solder all legs on PCB
- f) Then tape can be removed and the other side can be fixed



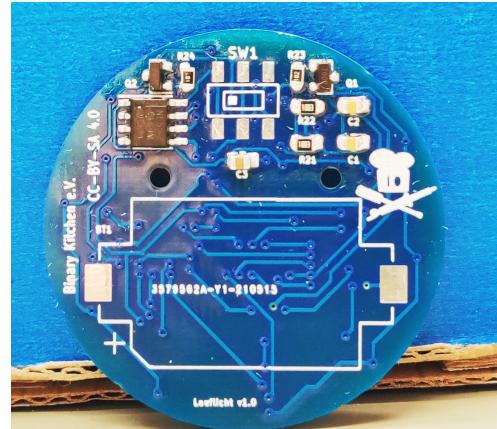
Step 4

- a) Now turn the board over and solder the two transistors Q1 and Q2 first, then the resistors R21-R24 and the capacitors C21-C24. Capacitors also have no direction.



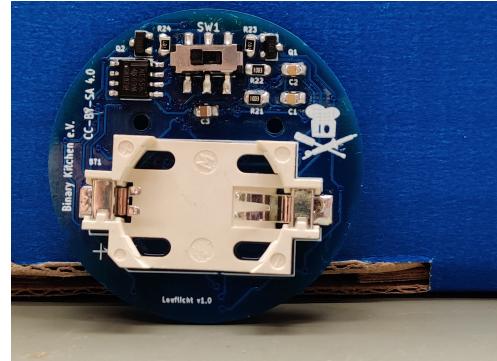
Step 5

- Then solder the NE555 clock U1 in the right orientation.



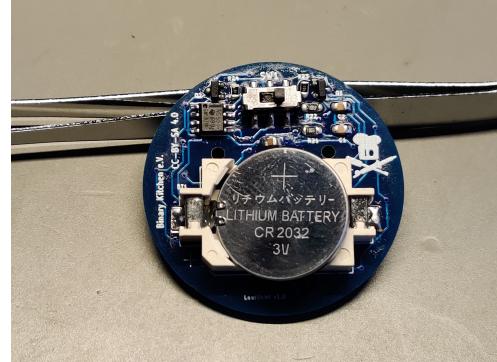
Step 6

- The last part is the on-off switch SW1 and the battery holder. The battery holder and the circuit board have plus and minus symbols printed on them. These must match



Step 7

- Insert the battery as shown
- the pick-ups on the positive side must touch the top of the battery.
Slide the battery into the battery holder from the left and press only the left side down.



Step 8

- Now press the battery in place and you're done :)

