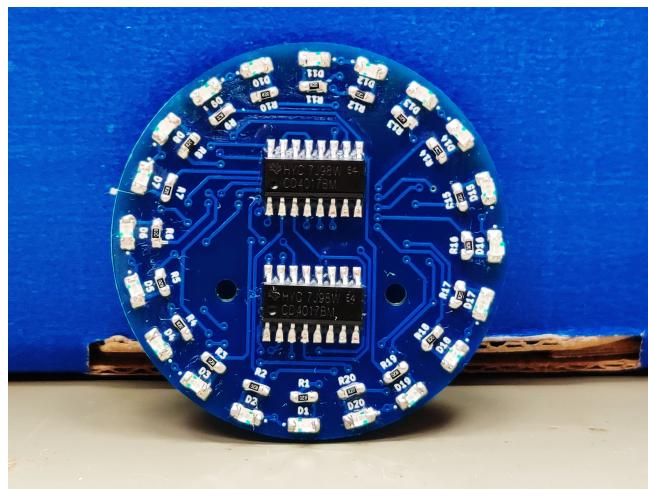


SMD Ring Light



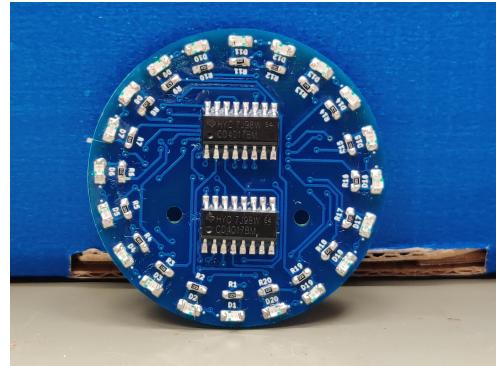
Quantity	Description	Value
2	C1, C2	100 nF
1	C3	1 µF
20	R1 – R20	82 Ω
2	R21, R22	100 kΩ
2	R23, R24	1 kΩ
20	D1-D20	0805 SMD-LED
1	U1	NE555 SOIC-8
2	U2,U3	TI4017
1	SW1	Switch
2	Q1, Q2	BC850 Transistor
1	BT1	Battery Holder
1	Battery	CR2032 (not included)
1	PCB	

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

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

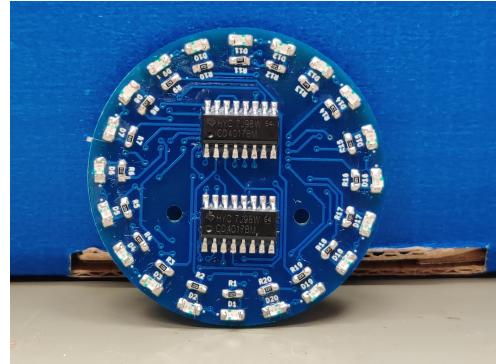
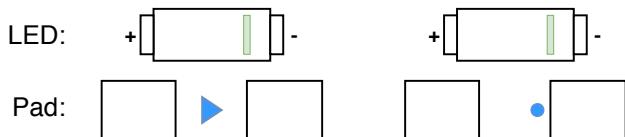
Step 1

- 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



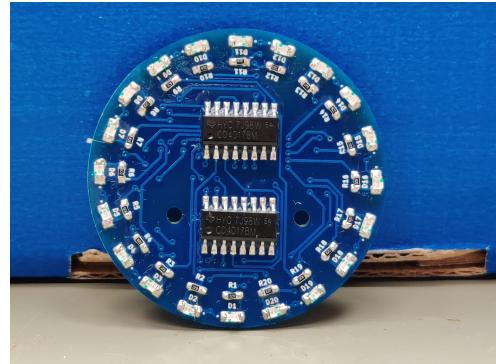
Step 2

- 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



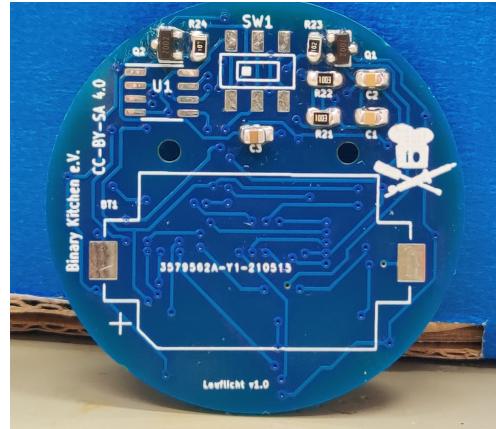
Step 3

- 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



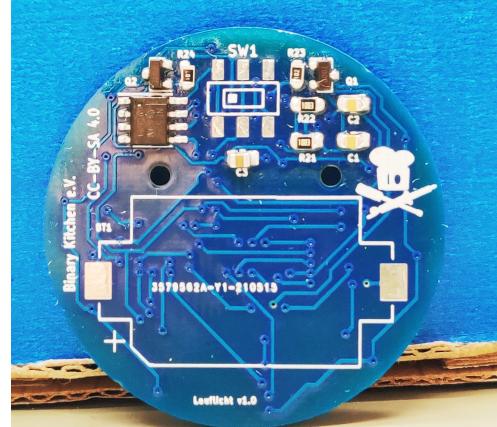
Step 4

- 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.



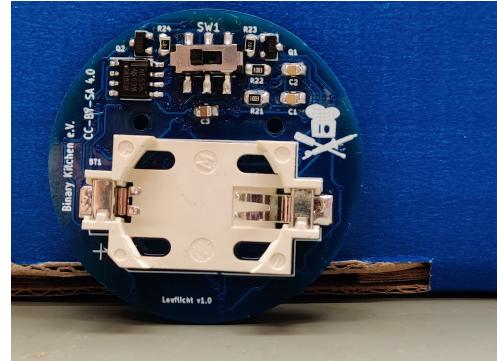
Step 5

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



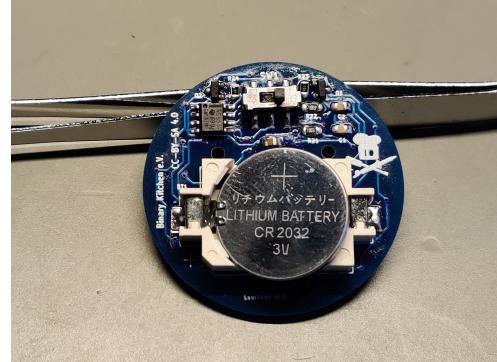
Step 6

- 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 :)

