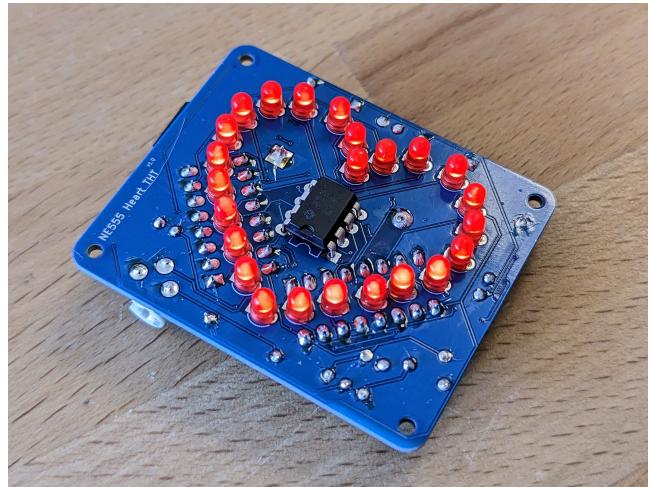


NE555 Heart (THT)



Quantity	Name	Description	Labelling/Colour code
2	U2,U3	CD4017 Counter	4017
1	U1	NE555 Timer	NE555
2	D1,D2	Diode	1N5817
1	RV1	200k Potentiometer	
1	C1	10 nF Ceramic Capacitor	103
2	C2,C3	100 nF Ceramic Capacitor	104
1	C4	1 µF Ceramic Capacitor	105
1	BT1	CR2032 Battery Holder	
24	D5-D28	LED red 3 mm	
1	R1	Resistor 1 kΩ	BR BK BK BR BR
1	R2	Resistor 100 kΩ	BR BK BK OR BR
1	R3	Resistor 47 Ω	BK YE VI BK BR
1	SW1	Push Button	
1	SW2	Switch	
1	Batterie CR2032 (optional)		
1	PCB		

Difficulty: ●●●○○ Build Time: 1-2 hours

Description v1.0 CC BY-SA 4.0 Binary Kitchen e.V.

Platine v1.1 CC BY-SA 4.0 Timo @ blinkyparts.com

Farblegende: SI = silber; GO = gold; BK = schwarz; BR = braun; RE = rot; OR = orange; YE = gelb; GR = grün; BL = blau;
VI = violett; GR = grau; WH = weiß

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.

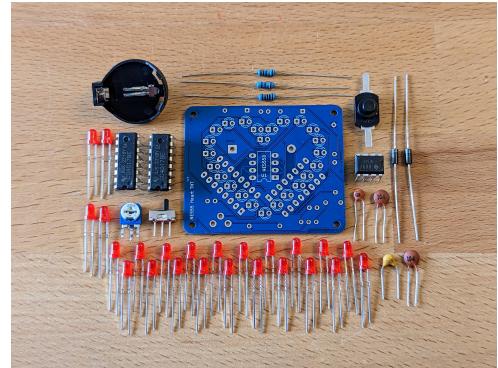
- **packaging:** The packaging is made of environmentally friendly materials and is therefore recyclable. Dispose of packaging materials that are no longer needed accordingly.
- **waste equipment:** Old appliances often still contain valuable materials. Therefore, hand in your old appliance to your retailer 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



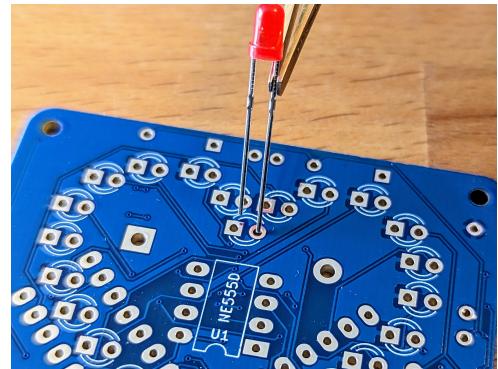
Step 1

- a) Check your components.
- b) Tip: The resistor value can be determined by colour coding.
- c) Orientation of resistors does not matter.
- d) LEDs have a flat side and a shorter leg. Both indicate the negative side.



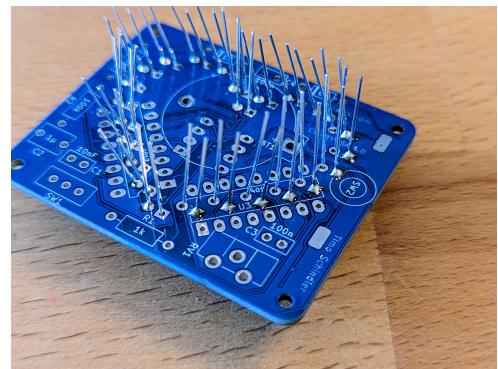
Step 2

- a) LEDs have a direction. The long leg is the anode (+). On the PCB, the anode is marked by a round solder pad
- b) insert all LEDs from the PCB front (in the middle you can read NE555D) into the holes marked with a circle. Attention: The long leg belongs into the hole with the round pad!



Step 3

- a) Take a business card or a piece of cardboard and hold the LEDs with it. Turn the board upside down and place the board on the LED heads.
- b) Now solder only one leg of each LED.



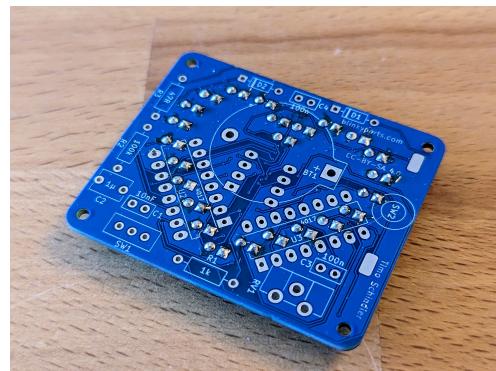
Step 4

- a) Correct any misaligned LEDs.
- b) You can warm up the soldering point again and use your finger to correct the position of the LEDs.



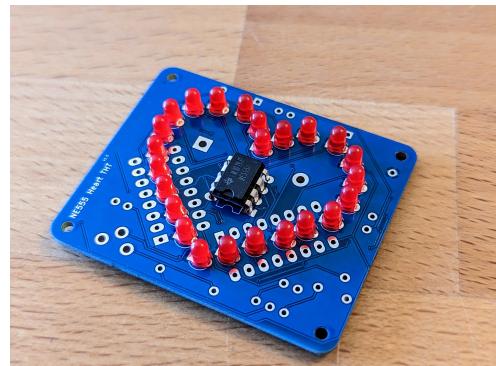
Step 5

- a) Now solder the remaining legs of each LED and cut off the excess wire.
- b) Make sure, that you cut off the excess wire relatively close to the PCB.



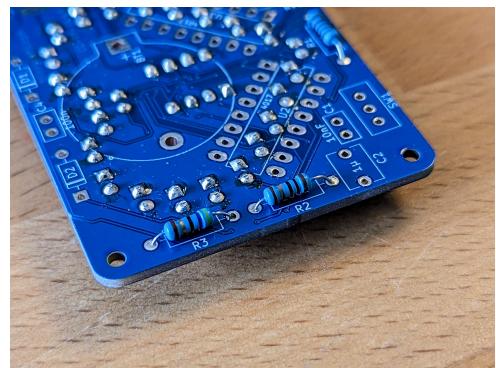
Step 6

- a) Push the NE555 through the board from the front. Attention! The NE555 has a orientation, which is marked by a nose on one side. The nose is also printed on the board.
- b) Now solder all the legs of the NE555 to the back.
- c) Tip: You can solder only one leg and correct the position afterwards.
- d) Cut off the excess wires very close to the PCB.



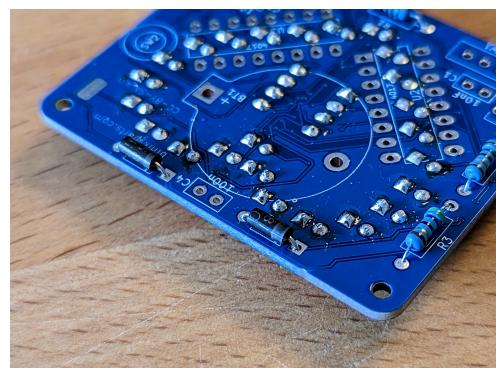
Step 7

- a) Now solder the resistors R1 (BR BK BK BR BR), R2 (BR BK BK OR BR) and R3 (BK YE VI BK BR). The resistors have different resistance values marked by coloured rings. Make sure, that you solder the right resistor to the right place
- b) cut off the excess wires.



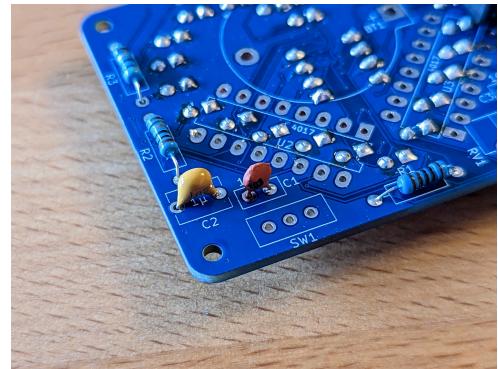
Step 8

- a) Now solder the diodes D1 and D2
- b) Diodes have a direction which is marked with a line. Make sure, that the line on the diode matches the line on the board.



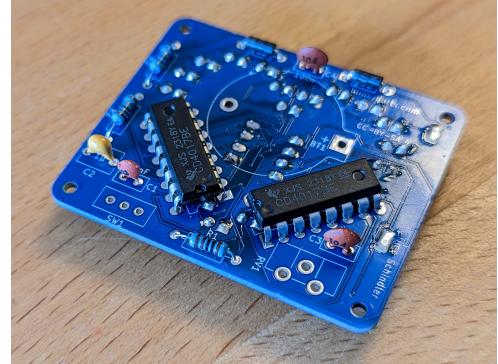
Step 9

- a) Capacitors have different values. These can be seen on the PCB and with a number code on the capacitors. The orientation of the capacitors does not matter.
- b) Now solder on the capacitors C1 (10nF, 103), C2 (1uF, 105), C3 (100nF, 104) and C4 (100nF, 104)
- c) Cut off excess wires.



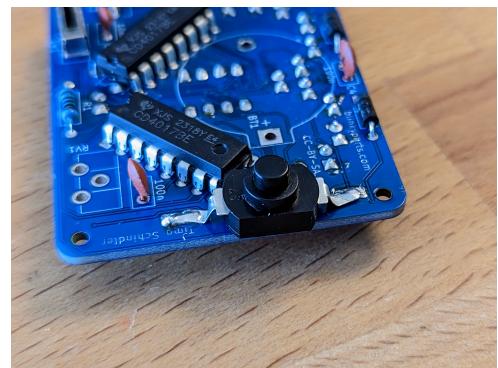
Step 10

- a) Now solder the two CD4017
- b) Again, make sure that the noses on the chip match the noses on the board (sometimes the noses on the board are hard to see. They are both near R1).



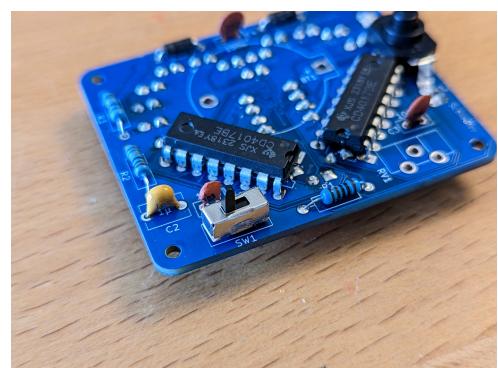
Step 11

- a) Now solder the switch SW2
- b) The switch has no direction. This time the switch is soldered on and not put through the PCB.
- c) Bend the solder tags a little bit downwards, so that the solder tags reach the PCB.
- d) You may have to bend the solder tags a little bit crooked, so that the switch lies cleanly (there is not much space).



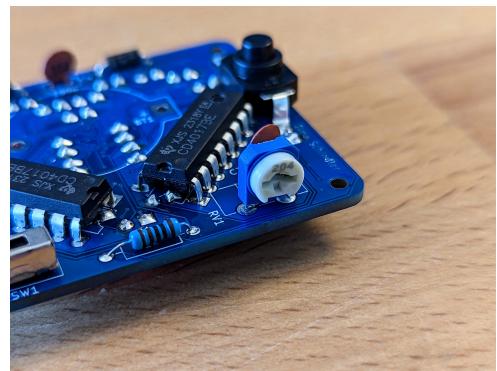
Step 12

- a) Solder switch SW1. This one has no direction
- b) Tip: Solder only one leg at first. This way you can correct the position as usual.



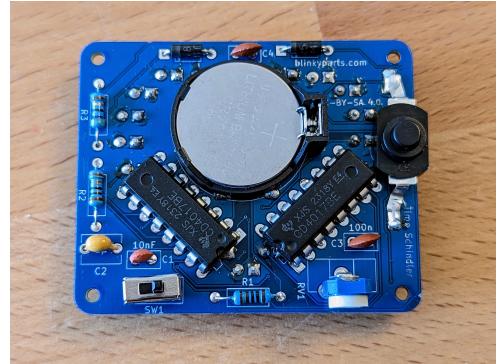
Step 13

- a) Now solder the potentiometer RV1
- b) Tip: Solder only one leg at first. This way you can correct the position as usual.



Step 14

- a) Finally solder on the battery holder. This again has one direction. The outlines are printed on the board. Make sure, that the outline matches the battery holder
- b) Tip: First solder only one leg. This way you can correct the position as usual
- c) then insert a CR2032 battery.



Step 15

- a) You are done!
- b) With the push button you can switch on your heart.
- c) With the slide switch you can switch between running light and permanent light.
- d) With a screwdriver you can adjust the speed of the running light
(Attention: At the maximum setting the running light does not work anymore. Stay a little below that).

