

MotörBörd



Quantity	Description	Labeling/color code
1	Electrolytic capacitor 470 µF	
2	Resistor 180 kΩ	BR GR BK OR GO
2	Ceramic capacitor 330 pF	331
1	Motör	
1	Diode	
1	CD4069	
1	Speaker	
1	MotörBörd sticker	
1	MotörBörd circuit board (PCB)	
1	Instructions with wing	

Difficulty: ●●○○○ Build-Time: 30 – 60 Minutes

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

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.

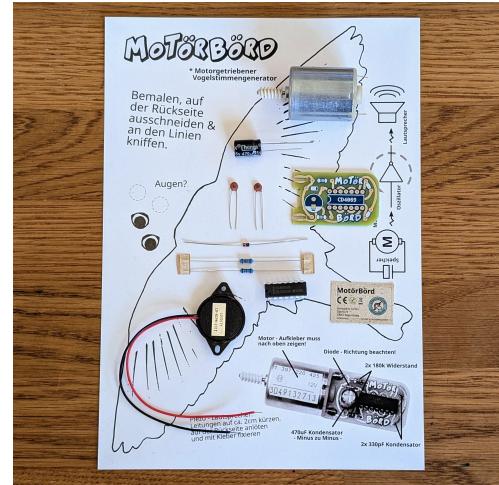
- **packaging:** The packaging is made of environmentally friendly materials and is therefore recyclable. Dispose of packaging materials that are no longer needed accordingly.
- **waste equipment:** Old appliances often still contain valuable materials. Therefore, hand in your old appliance to your retailer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

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Step 1

- a) Check your components
- b) Don't throw away the instructions. We will need them later!
- c) The board has a front and a back. MotörBörd and CD4069 are printed on the front.



Step 2

- a) First solder on the resistors R1 and R2.
- b) Resistors have no direction.
- c) R1 and R2 have the color code: BR GR BK OR GO.
- d) Insert the resistors through the holes from the front and solder them on from the back.
- e) Now solder in the diode. Attention! The diode has one direction: there is a black line on the diode. The same line is also printed on the circuit board. Both lines must be on the same side.
- f) Cut off the protruding wires.



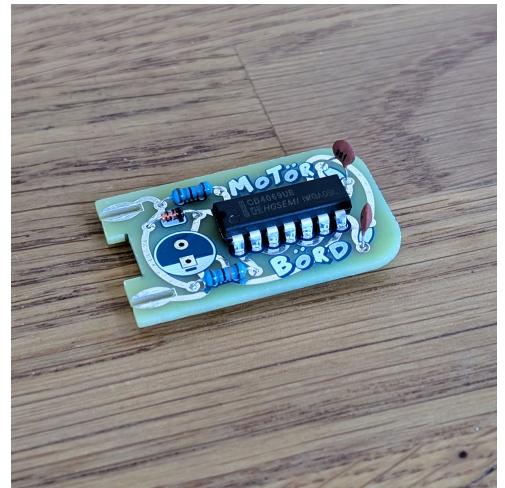
Step 3

- a) Solder on the ceramic capacitors (labeled 331).
- b) The ceramic capacitor also has no direction.
- c) Cut off the excess wires.



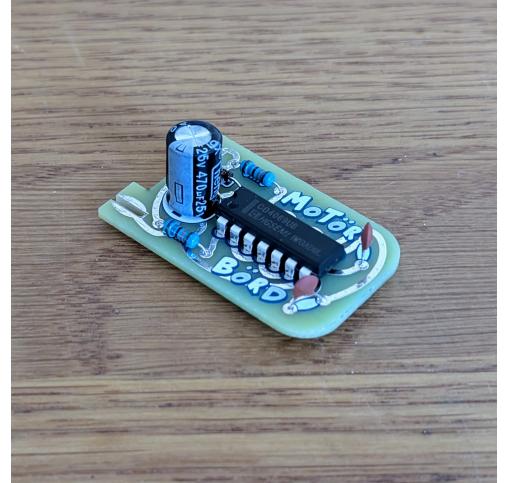
Step 4

- a) Now take the CD4069 chip. The chip has a small notch on one short side. This notch is also printed on the circuit board. This shows you the correct direction
- b) insert the chip correctly from the front and solder all the legs from the back. Make sure that you do not accidentally connect any legs with solder (solder bridges).



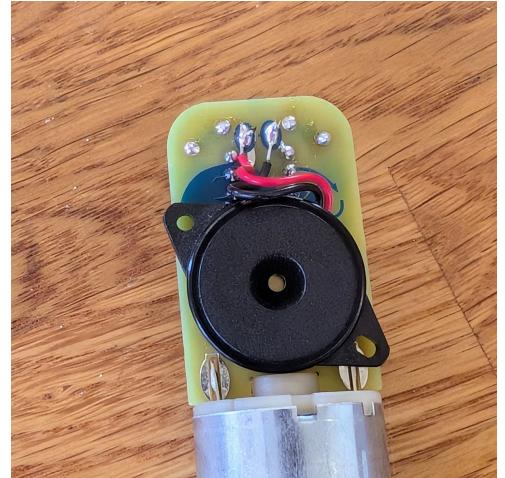
Step 5

- a) Now take the large electrolytic capacitor. Attention! This has one direction!
- b) The short leg of the electrolytic capacitor is minus (-). The minus (-) is also printed on the circuit board. Insert the capacitor so that the short leg ends up in the hole with the minus. Solder the electrolytic capacitor from the back and cut off the protruding legs.



Step 6

- a) Now turn the circuit board onto its back and place it in front of you so that the two notches are facing you. Cut the wires of the speaker to about 3cm.
- b) Take about 2-3mm of the insulation off each end of the remaining wire and tin the wire.
- c) Now solder the wires to the circuit board
- d) the red one on the left and the black one on the right.
- e) Glue the speaker with the opening facing upwards in the middle of the back of the circuit board. But leave space for the motor (see next step).



Step 7

- a) Turn the circuit board back to the front
- b) Insert the motor into the notches in the circuit board. The white sticker on the motor should be facing you
- c) Take something to put on the board so that it is slightly higher. The circuit board should be positioned exactly in the middle of the motor.
- d) Solder everything in place.
- e) Stick the motor sticker over the white sticker on the motor.



Step 8

- a) Take the printed instructions and paint the bird with your favorite colors. Cut out the outline of the bird and stick it to the motor as shown in the picture.



Step 9

- a) You're done!
- b) If you now turn the motor quickly, it will act as a generator and your bird will chirp!
- c) You have to turn clockwise.

