

Figure 2. Position of the elements on the circuit board

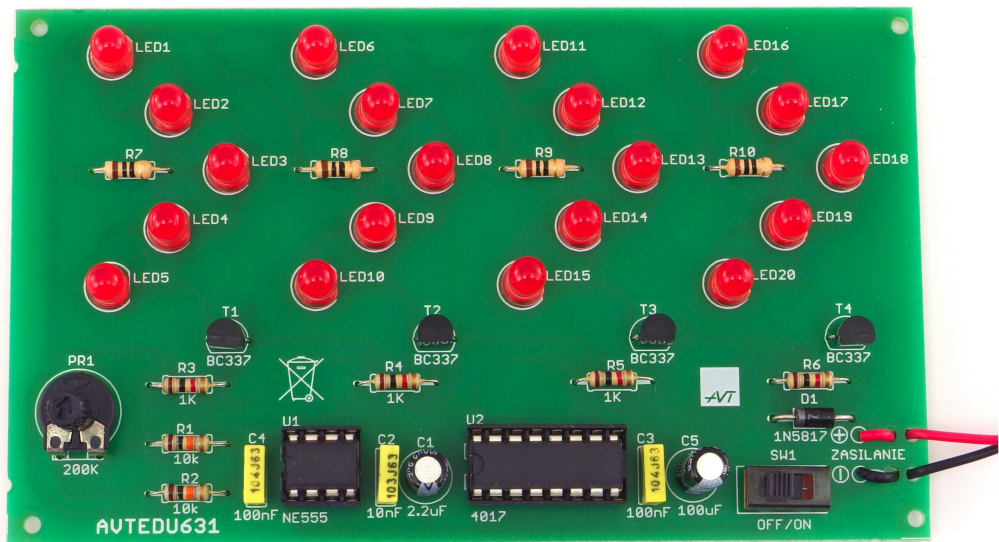
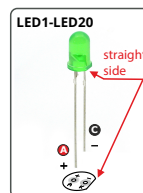
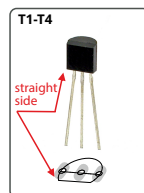
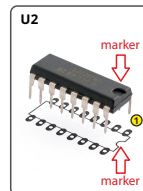
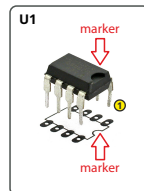
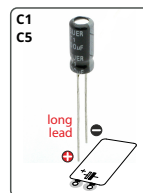
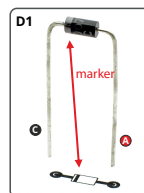


Photo 1. View of the assembled circuit board (Click to view)

Suggested order of assembly:

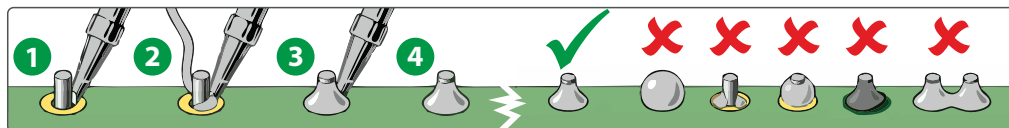
R1, R2:.....resistor 10k Ω (brown-black-orange-gold)
 R3-R6:.....resistor 1k Ω (brown-black-red-gold)
 R7-R10:.....resistor 10 Ω (brown-black-black-gold)
 D1:.....diode 1N5817 !
 C3, C4:.....capacitor 100nF (can be marked as 104 or 0.1)
 C2:.....capacitor 10nF (can be marked as 103)
 C1:.....capacitor 2,2 μ F !
 C5:.....capacitor 100 μ F !
 U1:.....integrated circuit NE555 + IC socket !
 U1:.....integrated circuit 4017 + IC socket !
 T1-T4:.....BC337
 PR1:.....potentiometer 200k Ω
 LED1-LED20:.....5mm red LED diode !
 SW1:.....switch
 battery connector: red-positive , black-negative \ominus



Begin by soldering the elements onto the circuit board in order from smallest to largest. When assembling the elements marked with "!" pay attention to their polarity and placing of the notch.

You may find the frames with symbols of these elements on the circuit board, as well as photos of the assembled kit helpful.

Assembly instructions




- 1 Touch the tip of the soldering iron to the end of the element near the soldering field
- 2 Next, apply tin solder
- 3 After the cone forms, remove tin solder first, and then the soldering iron
- 4 The whole process should take approx. 2-3 seconds.

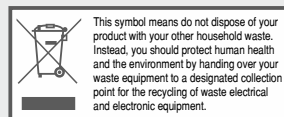
The cleanliness of the soldered surfaces, right amount of flux in the solder, adequately high temperature (320-360°C), and sufficient amount of solder are necessary to complete a correct bonding.

Too much tin solder can result in forming a ball instead of a cone or joining of two adjacent soldering points.

Inadequate temperature, amount of tin solder or impurities can lead to so called "cold solder joints, i.e. solder and the flux can't moisten the two surfaces and the resulting solder point is fragile and in time will oxidize, break, and stop working.

 Educational Electronics Kits are intended for educational and demonstration purposes only. They are not intended for use in commercial applications. If they are used in such applications the purchaser assumes all responsibility for ensuring compliance with all local laws. In addition, they cannot be used as a part of life support systems, or systems that for use as or as a part of life support systems, or systems that might create a hazardous situation of any kind.

- Failures in modern electronic component are very rare as 95% of non-working kits are due to poor soldering or components placed in the wrong location or orientation so please check your work carefully.



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