



FUTURE KIT
HIGH QUALITY ELECTRONIC KITS

ELECTRONIC RULET 10 DOT
CODE 127

LEVEL 1

Rulet circuit is an electronic game that can play alone or with many persons by only set digit to each LEDs from 0-9. Once we press switch on, LED will be displayed one by one with sound at SP. LED will slowly run till stop at either one LED before shut down.

Technical specifications:

- power supply: 9-12VDC.
- consumption: 30mA max. @ 9VDC.
- PCB dimensions : 3.22 x 2.45 inches.

How to works:

When we pressing switch SW, C1 is fully charged. IC1/2 generates high frequency to make IC4017 transferred voltage to each output, so that LED will display one by one. The cathode of all LEDs is connected with IC1/1 through R5 to ground. The high frequency from IC1/2 will control IC1/3 and IC1/4 (frequency generator) to working and drive the frequency to speaker SP according to LED display. When we pressing switch SW off, C1 discharged voltage through R1, IC1/2 will generate low frequency according to decreasing voltage. LED will slowly run till stop at either one LED. IC1/1 acts as timer. After LED stops running, output pin13 of IC1/1 will have voltage as high as supply, so does not connect output of IC4017 to ground, LED will be stopped. When we switch on again, function will be above process but previous LED will not display.

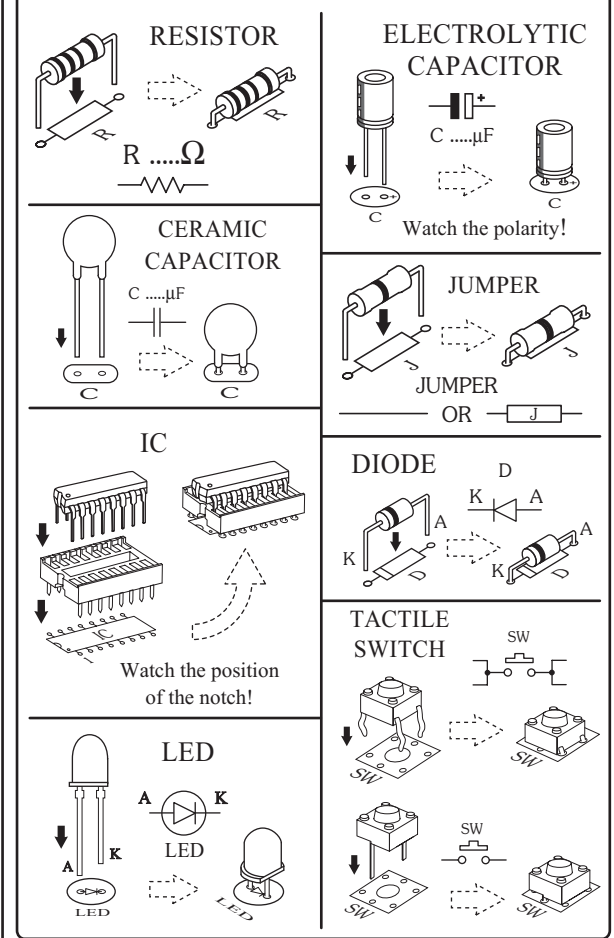
PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. The LED has a flat spot on the body which lines up with the line on the overlay. Now check that you really did mount them all the right way round!

Testing:

Connect the power supply 9 to 12V to circuit. With the positive pole is connected to "+9V" point and the negative pole is connected to "G" point. Now LED does not display. Pressing switch on, LED will start running all around while there is a sound at SP. Pressing switch off, LED will slow down running, as well as SP and will be stopped at either one LED, then shut down.

Figure 1. Installing the components



Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.

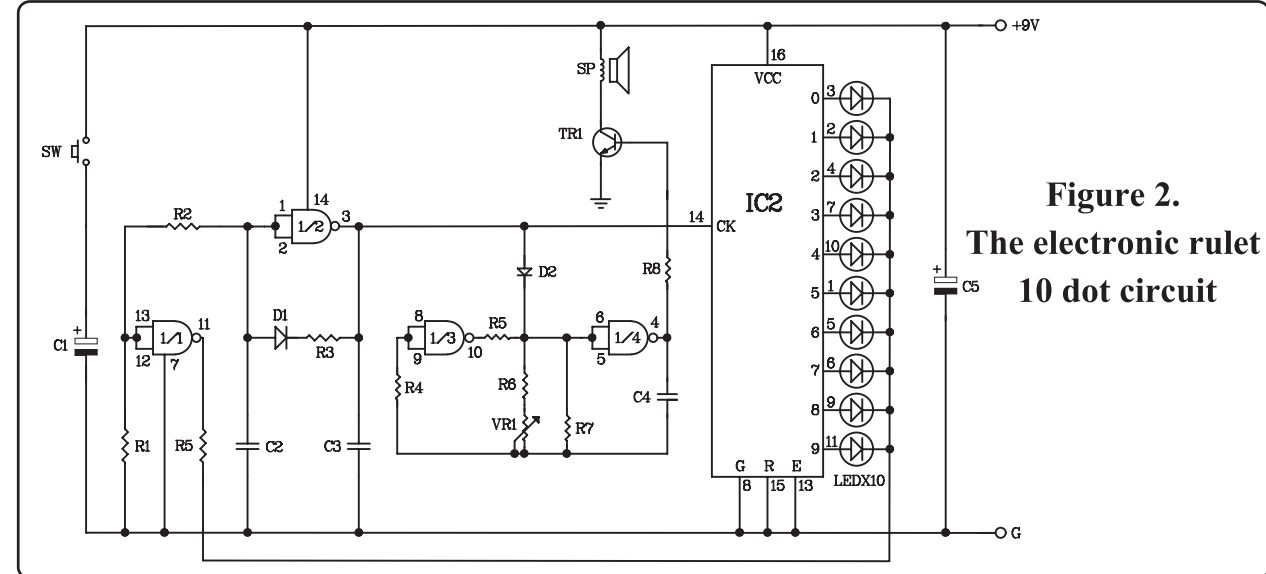
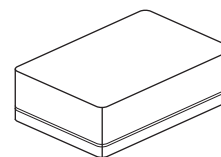
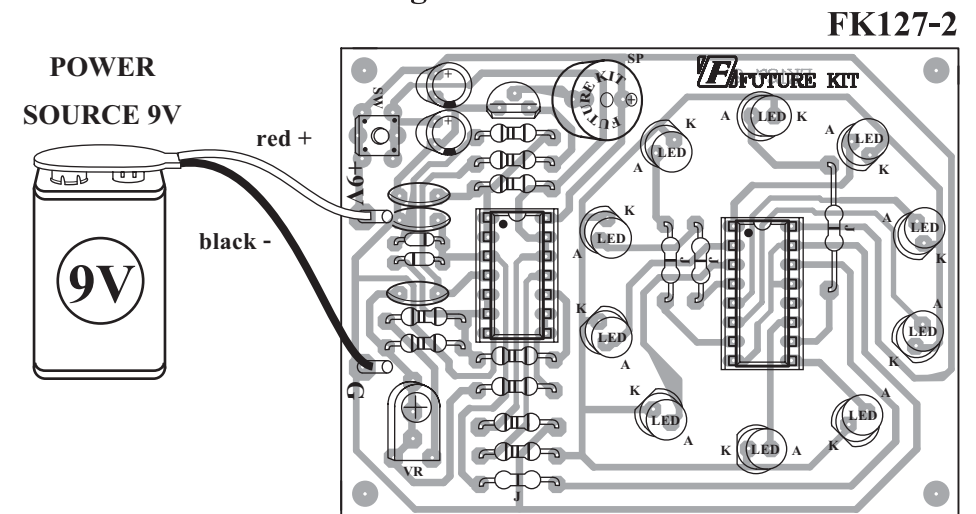


Figure 2.
The electronic rulet 10 dot circuit

Figure 3. Connections



NOTE:

FUTURE BOX FB04 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC.
169	DANCING ROBOT FLASHER 33 LED	9-12VDC.
170	DANGER FLASHER 42 LED	9-12VDC.
171	TWO LAMP FLASHER	3VDC.
172	THREE STEP FLASHER 19 LED	9-12VDC.
173	HALLOWEEN PUMPKIN FLASHER 23 LED	9-12VDC.
174	ANIMATED LED SIGNBOARD (5x7 DOT MATRIX)	3-5VDC.
816	VARIABLE REGULATOR 0-50V. 3A.	50VDC.
817	TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA	220-240VAC.