

**ROTATION CHASING LIGHT 16 LED**  
CODE 118 **LEVEL 1**

This circuit is the running light circuit. It is best for decoration. This circuit is consist of 16 LEDs. Idea as light-shows for model construction etc.

**Technical specifications:**

- power supply: 9-12VDC.
- consumption: 18-30mA max.
- adjustable speed with potentiometer.
- dimensions of PCB : 3.09 x 2.08 in.

**How to works:**

This circuit require 2 ICs. IC 555 will connect as frequency generator and is adjusted at trimmer resistor 10K. The output of IC3 will fed to the frequency to pin 14 of IC 4017 that is 1 digit IC. Output will move down one by one from 1st output, which is pin 3, 2, 4 and 7. When reaching pin 10, output will then move to pin 3 and further as per IC 555 connection. When output is moving to 4th position and return backward to upper row, so that LED can run back.

**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 "+" point and the negative pole is connected to "-" point. ALL LED will display chasing. Adjusting variable resistance 10K, All LED will display according to adjusted speed.

**Figure 1. Installing the componants**

**RESISTOR**  
R ..... $\Omega$

**ELECTROLYTIC CAPACITOR**  
C ..... $\mu$ F  
Watch the polarity!

**IC 555**  
**IC 4017**  
Watch the position of the notch!

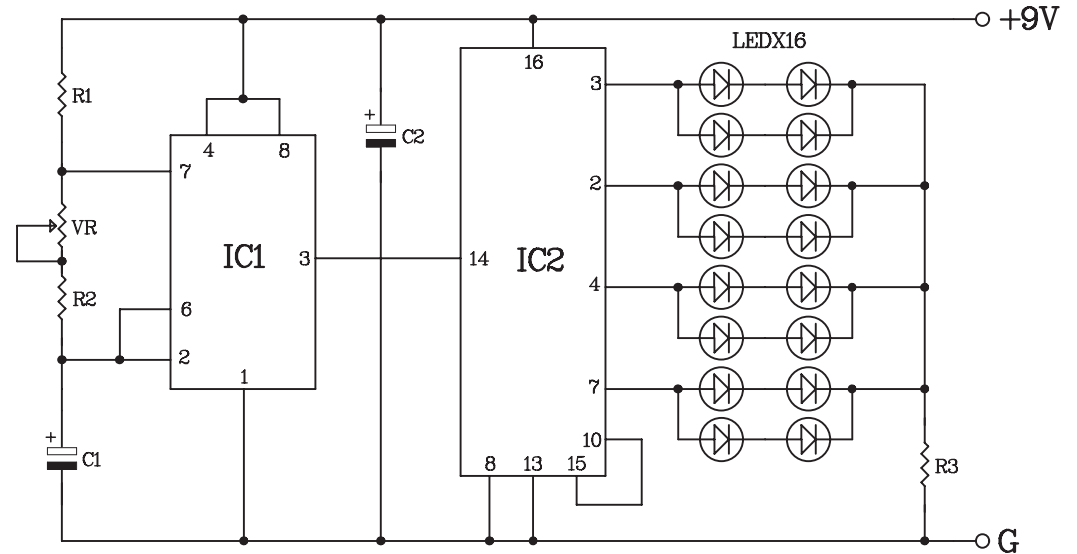
**JUMPER**  
OR — J —

**LED**  
A K  
Watch the position of the notch!

**TRIMMER POTENTIOMETER**  
VR .....K $\Omega$   
1 — 3  
2  
VERTICAL  
HORIZONTAL

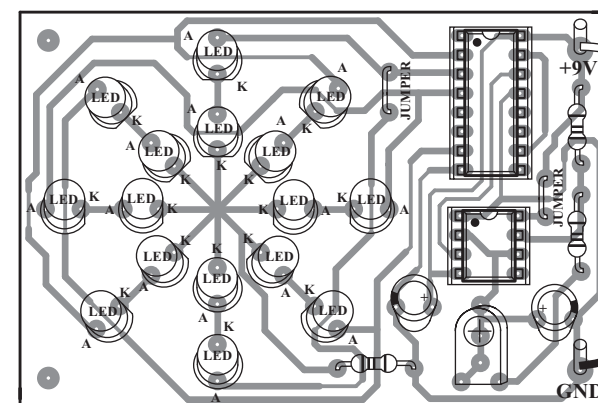
**Troubleshooting:**

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.



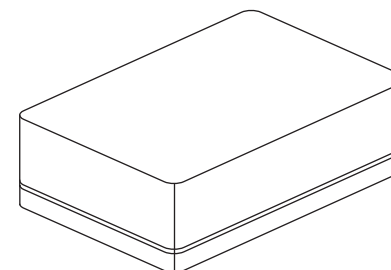
**Figure 2. The rotation chasing light 16 LED circuit**

**FK118-1**



**Figure 3. Connections**

**POWER SOURCE**  
9V



**NOTE:**

FUTURE BOX FB04 is suitable for this kit.

**NEW KIT SET**

CODE FK	DESCRIPTION	POWER
271	LIGHT ACTIVATE ALARM (COCK VOICE) WITH SPEAKER	3VDC
272	SPACE GUN 3 TONE WITH SPEAKER	9VDC