

TWO WAY CHASING LIGHT
TWO COLOUR 10LED
CODE 157

LEVEL 1

This circuit is the chasing light circuit. The light is chasing separate from the center (red colour) and return to center (green colour). This circuit is consist of 3 LEDs of 5 mm. tri-LED. Idea as light-shows for model construction etc.

Technical specifications:

- power supply: 9-12VDC.
- consumption: 24mA max.
- LED : 5 mm. (tri-LED, red and green)
- chasing speed : adjustable
- dimensions of PCB : 2.90 x 1.82 in.

How to works:

The circuit diagram shown in figure 2 can be divided into two parts. The simplest part is used to multi-vibrator (TR1 and TR2) of frequency generator. TR1 and TR2 will alternately working one by one. Speed of LEDs chasing is depending on VR100K, R2, R3, C2 and C3. The pulsating output at the collector of TR1 is fed to pin14 of IC1. This output is used to clock a decade counter IC1. This counter has 10 outputs and therefore counts up from 0-10. Each of these 10 outputs is connected to an LED. R5 and R6 is voltage drop for each LED.

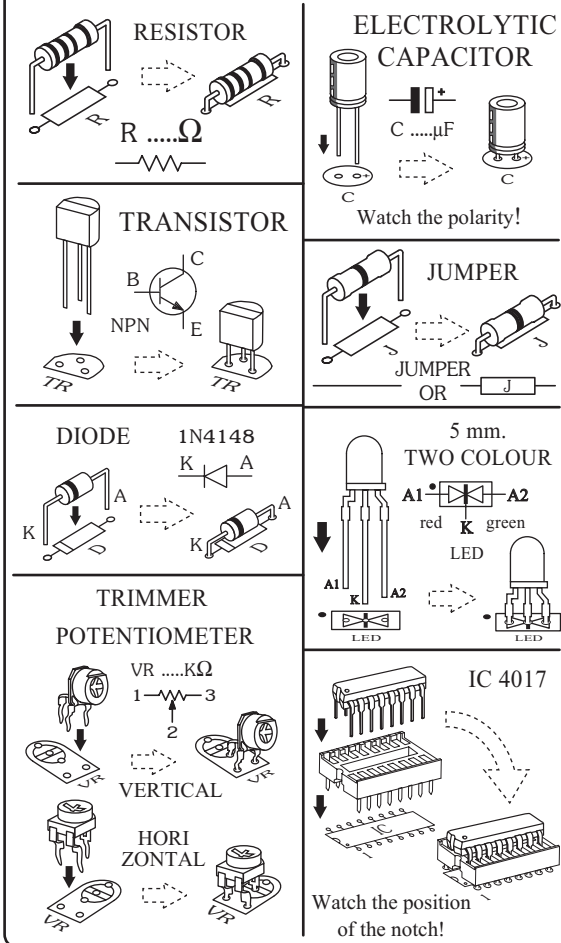
PCB assembly:

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:

This kit has an operating voltage range of 9-12 VDC. Connect the power supply to the circuit. All LEDs is chasing to separate two ways and all LEDs is red colour. After that all LEDs will return to the center and all LEDs is red colour. Adjust VR100K, all LEDs will be chasing fast or slow follow the value of VR100K.

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.

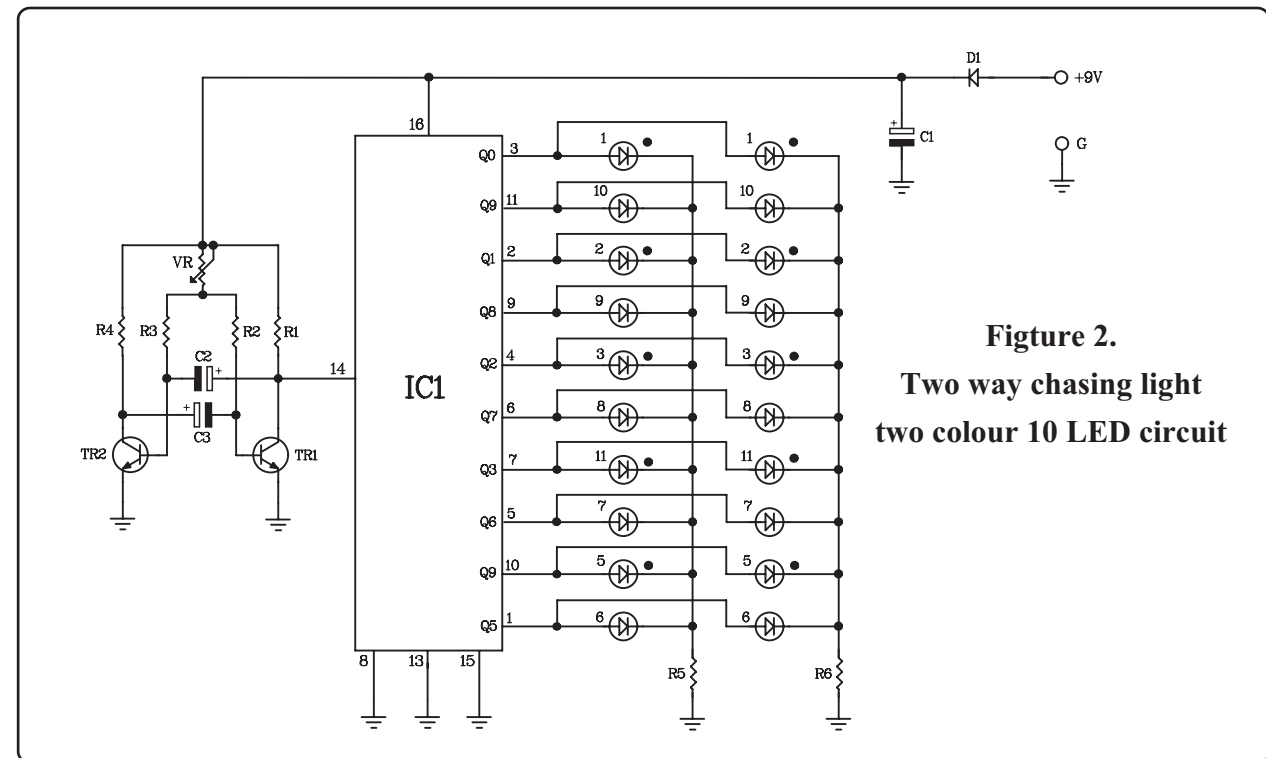


Figure 2.
Two way chasing light
two colour 10 LED circuit

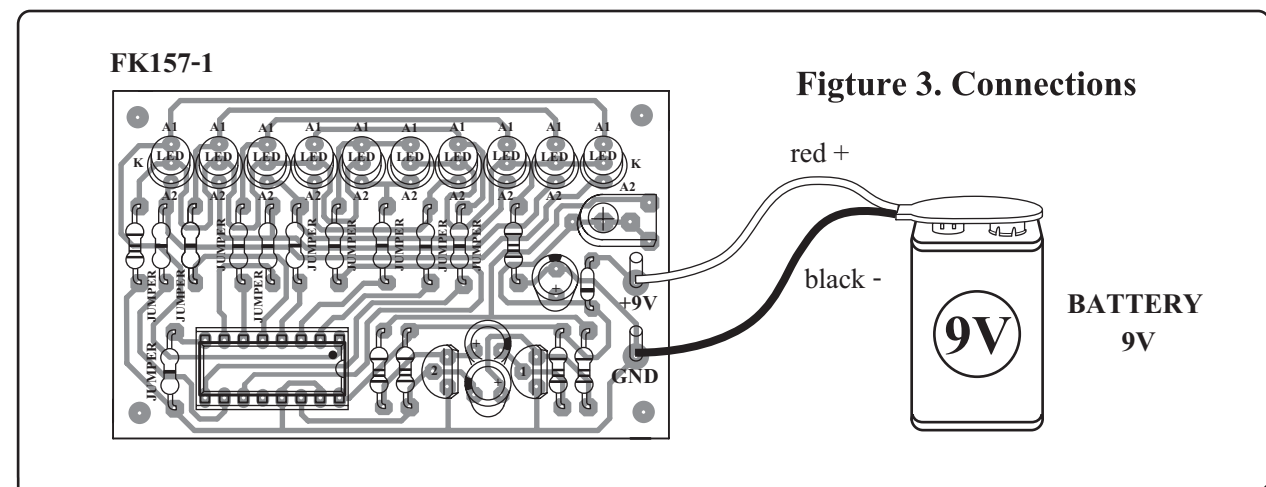
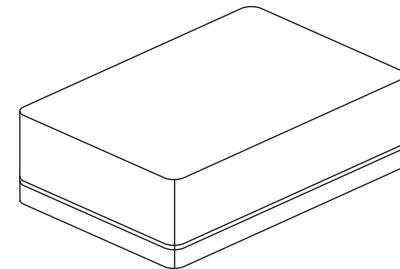


Figure 3. Connections



NOTE:

FUTURE BOX FB04 is suitable for this kit.

NEW KIT SET **NEW**

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