



**FUTURE KIT**  
HIGH QUALITY ELECTRONIC KITS

### CHASING LIGHT 3 LED

CODE 110

LEVEL 1

This circuit is the chasing light circuit. It is different from other normal chasing light circuit because LED will shut down one by one and another one will display accordingly. This circuit is consist of 3 LEDs. Idea as light-shows for model construction etc.

#### Technical specifications:

- power supply: 9-12VDC.
- consumption: 16-22mA max.
- dimensions of PCB : 1.32 x 1.59 inch.

#### How to works:

TR1, TR2 and TR3 are configured as a frequency generator. With the both transistor is working together and the rest of the transistor is not working. This frequency is depending on C1 to C3, R1, R3 and R5.

Step1 : when TR1 and TR2 are working, LED1 and LED2 are light on and TR3 is not working, causing LED3 is light off.

Step2 : When TR2 and TR3 are working, LED2 and LED3 are light on and TR1 is not working, causing LED1 is light off.

Step3 : When TR1 and TR3 are working, LED1 and LED3 are light on and TR2 is not working, causing LED2 is light off.

#### PCB assembly:

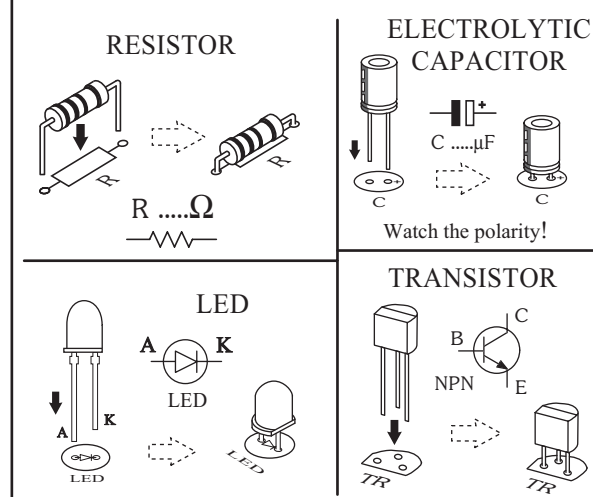
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully 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 will alternately display between 2 LEDs are light on and the rest LED is light off. If you want to change the speed of LED can be adjusted by altering the value of capacitor C1, C2 and C3. Increasing the capacitor, LED is a longer light on.

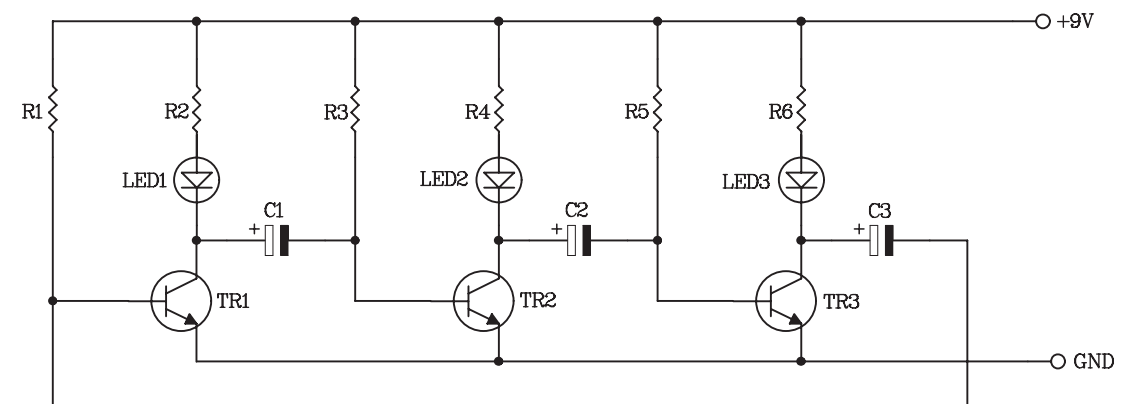
Figure 1. Installing the components



#### 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. Chasing light 3 LED circuit



FK110-1

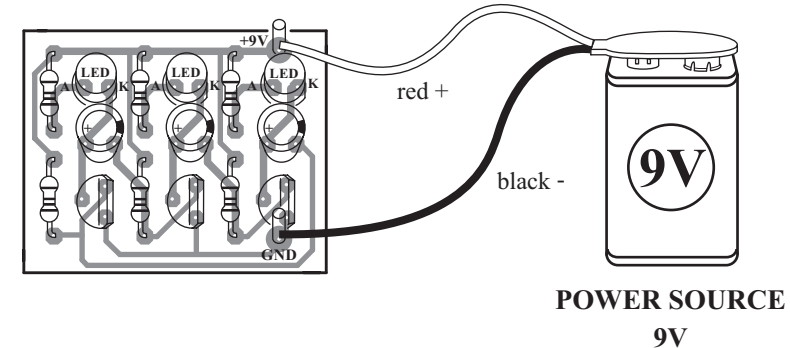
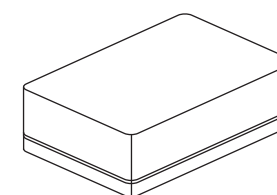
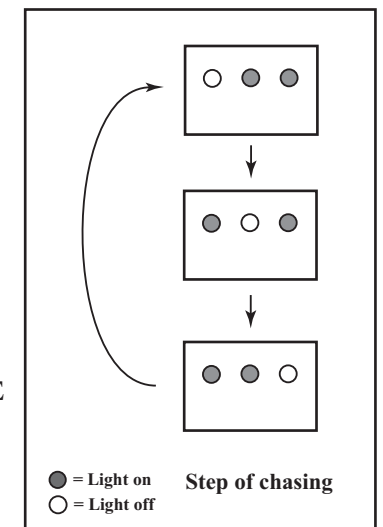


Figure 3. Connections



#### NOTE:

FUTURE BOX FB03 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