

**DC CHASING LIGHT 6 PROGRAM**  
4CH. 12V. 100W.  
CODE 144

LEVEL 3

This circuit requires 12 VDC. Its function can be switched for 6 types which are firstly, light runs from 1st to 4th ranking and then return from 4th to 1st again after all lamp is light on. Secondly, light runs from 1st to 4th after all lamp is light on. Thirdly, flash light between 1st, 3rd and 2nd, 4th. Fourth, light runs from 1st to 4th and then return from 4th to 1st again. Fifth, light runs from 1st to 4th ranking and then return from 4th to 1st again after all lamp is light off. Sixth, light runs from 1st to 4th ranking and restarts at 1st ranking again. This circuit can connect 25 watts bulb for 4 channels, totally at 100 watts maximum.

Technical specification:

- power supply: 12VDC.
- consumption: 10A. max. (all lamp is light on).
- total load: 100W. bulb
- load per channel: max. 25W. bulb
- 6 programs of chasing light.
- running speed: adjustable.
- PCB dimensions : 3.44 x 2.60 inches.

How to works:

IC2 555 configured as a frequency generator which is depending on VR1, R9, R10 and C2. The frequency will be transferred through pin 3 of IC2 to pin 14 of IC1 4017 that is one digit IC.

1.Slide SW1 to position "1", SW2 to position "1" and SW3 to position "1", output will run from Q0 to Q3 and then backward from Q4 to Q6. When output run to Q7, the all lamp is light on. After IC1 4017 will restart the process again.

2.Slide SW1 to position "2", SW2 to position "2" and SW3 to position "1", output will run from Q0 to Q3. When output run to Q4, all lamp is light on. After IC1 4017 will restart the process again.

3.Slide SW1 to position "3", SW2 to position "3" and SW3 to position "1", output will run from Q0 to Q1. When output run to Q2, IC1 4017 will restart the process again.

4.Slide SW1 to position "2", SW2 to position "1" and SW3 to position "2", output will run from Q0 to Q3 and then backward from Q4 to Q5. After IC1 4017 will restart the process again.

5.Slide SW1 to position "1", SW2 to position "1" and SW3 to position "2", output will run from Q0 to Q3 and then backward from Q4 to Q6. When output run to Q7, all lamp is light off. After IC1 4017 will restart the process again.

6.Slide SW1 to position "3", SW2 to position "1" and SW3 to position "2", output will run from Q0 to Q3 and IC1 4017 will restart the process again.

The output of IC1 4017 is fed to the gate of TR1 to TR4 through R1, R3, R5 and R7 for drive the 12-volt lamp bulb with has 4 LEDs is indicator of light runs.

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!

\*\*\* For Q1-Q4, when you use the bulb over 13 watts, it may require a heatsink.

testing:

Connecting as per figure 3 shown. It is suggested no more than 25-watt light bulb.

1.Slide SW1 to position "1", SW2 to position "1" and SW3 to position "1", giving voltage to the circuit. LEDs and LAMP will run from 1st to 4th and then backward from 4th to 1st. After all LEDs and LAMP is light on and restart the process again.

2.Slide SW1 to position "2", SW2 to position "2" and SW3 to position "1", giving voltage to the circuit. LEDs and LAMP will run from 1st to 4th and all LEDs and LAMP is light on and restart the process again.

3.Slide SW1 to position "3", SW2 to position "3" and SW3 to position "1", giving voltage to the circuit. LEDs and LAMP will run alternating between 1st, 3rd and 2nd, 4th.

4.Slide SW1 to position "2", SW2 to position "1" and SW3 to position "2", giving voltage to the circuit. LEDs and LAMP will run from 1st to 4th and then backward from 3rd to 2nd. After the circuit will restart the process again.

5.Slide SW1 to position "1", SW2 to position "1" and SW3 to position "2", giving voltage to the circuit. LEDs and LAMP will run from 1st to 4th and then backward from 3rd to 1st. After all LEDs and LAMP is light off and the circuit will restart the process again.

6.Slide SW1 to position "3", SW2 to position "1" and SW3 to position "2", giving voltage to the circuit. LEDs and LAMP will run from 1st to 4th and the circuit will restart the process again.

NOTE: If you slide SW3 to position "3", all LEDs and LAMP is light on.

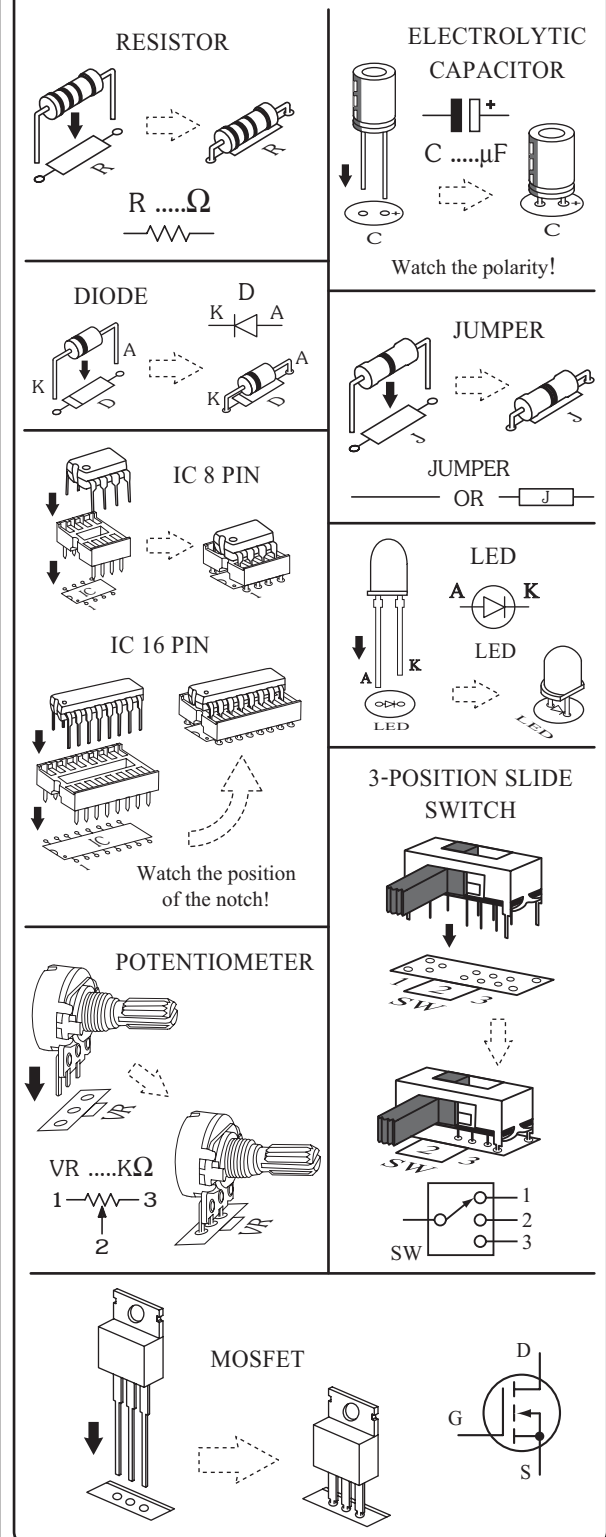
Application:

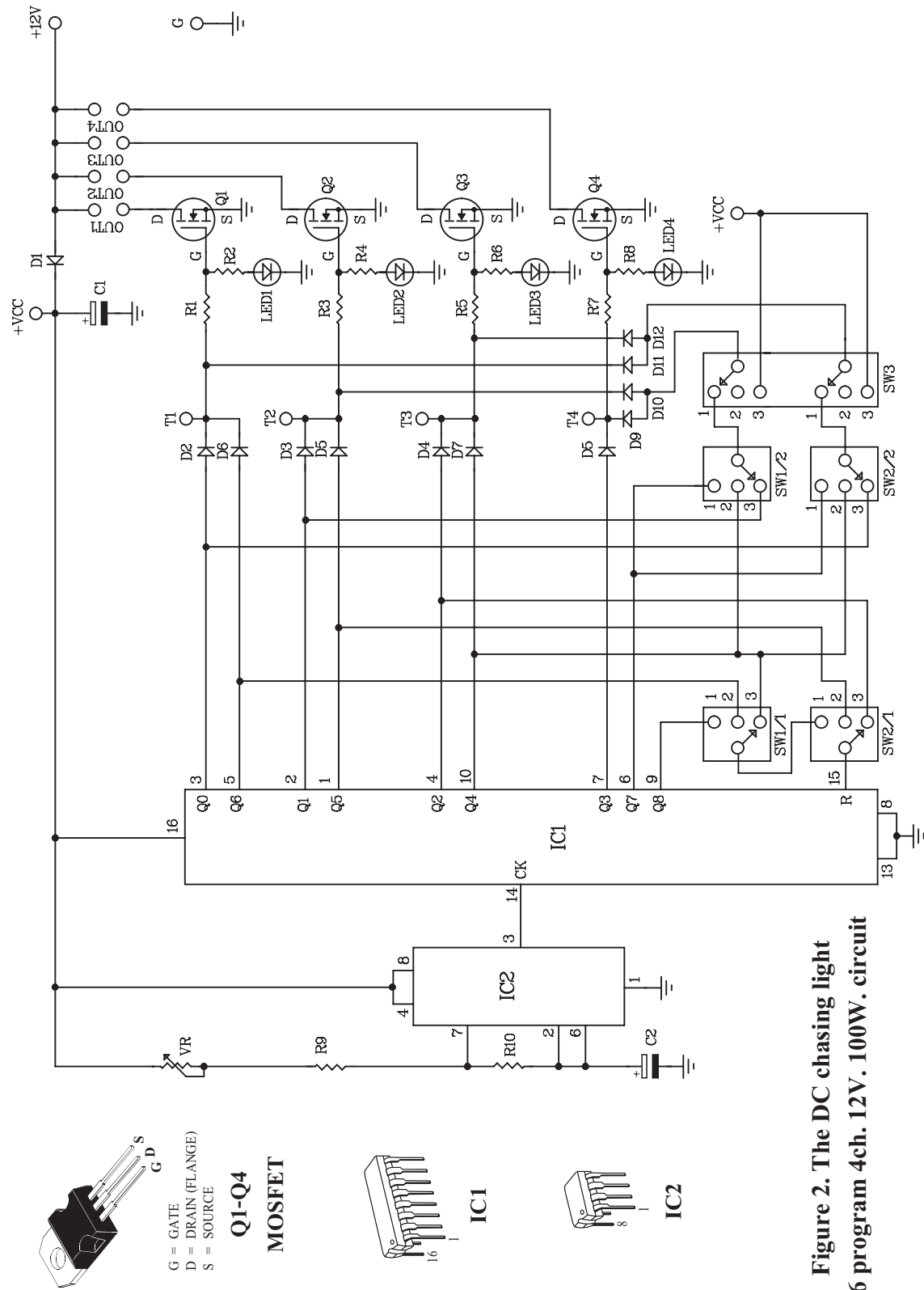
For electric wire at "12V" position, you should use the diameter of electric wire more than 12 mm. If connected with bulb lamp needs 25-watt per channel. 4 channel totally 100-watt. VR10K is used for adjust output speed. Using plastic handhold screw for adjusting VR10K and SW to prevent shorted current.

Troubleshooting:

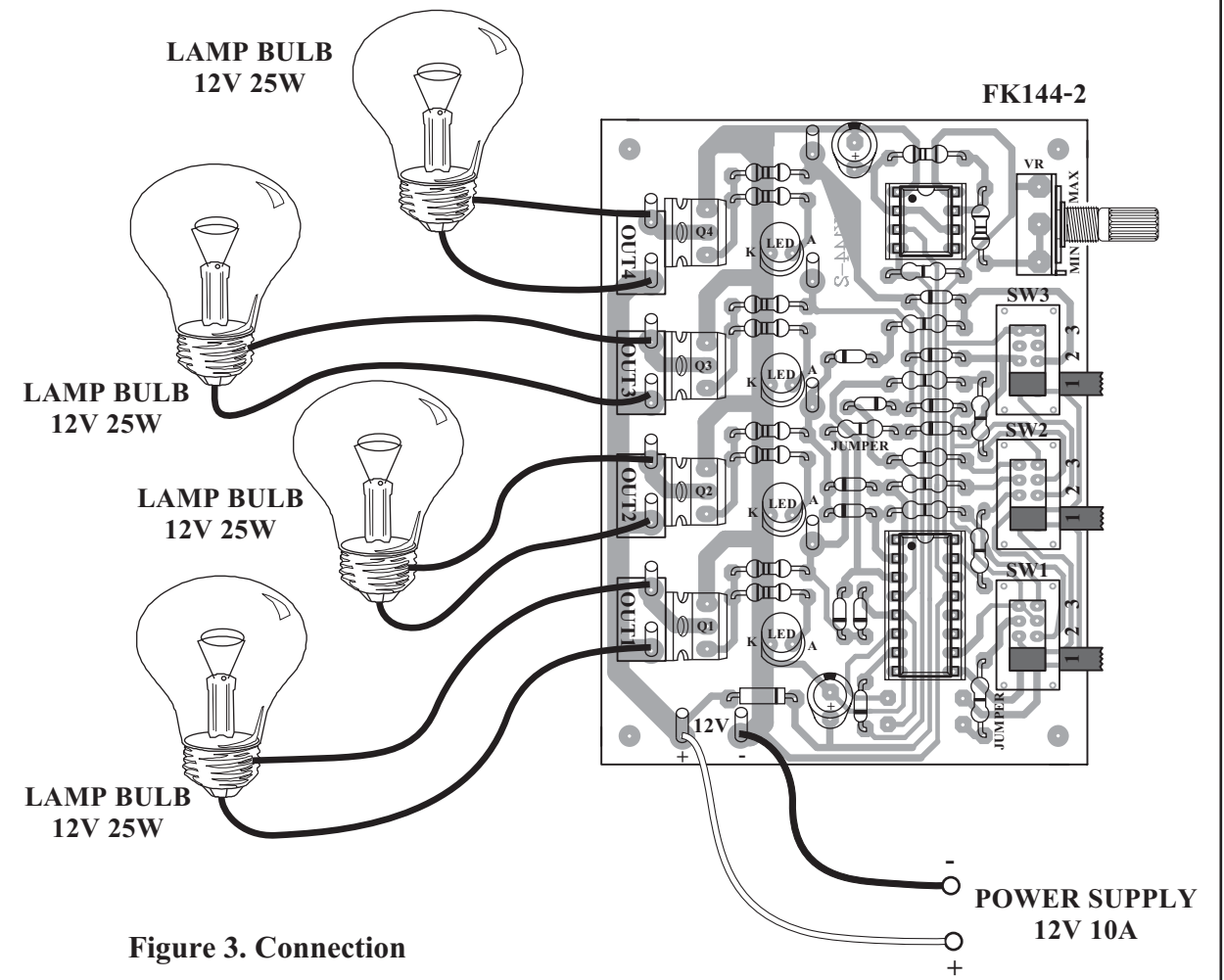
The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted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

**Figure 1. Installing the components**

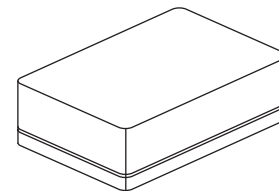




**Figure 2. The DC chasing light program 4ch. 12V. 100W. circuit**



**Figure 3. Connection**



**NOTE:**  
**FUTURE BOX FB03 is suitable for this kit.**

NEW KIT SET NEW

CODE FK	DESCRIPTION	POWER
167	FIREFLY LIGHT (NIGHT ACTIVATE)	3VDC.
275	THREE TRAIN SOUNDS IC DIGITAL	3VDC.
276	OWL VOICE IC DIGITAL	3VDC.
326	DUAL STATION INTERCOM&DOOR BELL WITH 2 SPEAKER	6-12VDC.
436	UHF REMOTE CONTROL 1 CH.	TX. 9VDC. RX. 12VDC.
673	MINI POWER AMP 1+1W. STEREO	3-12VDC.