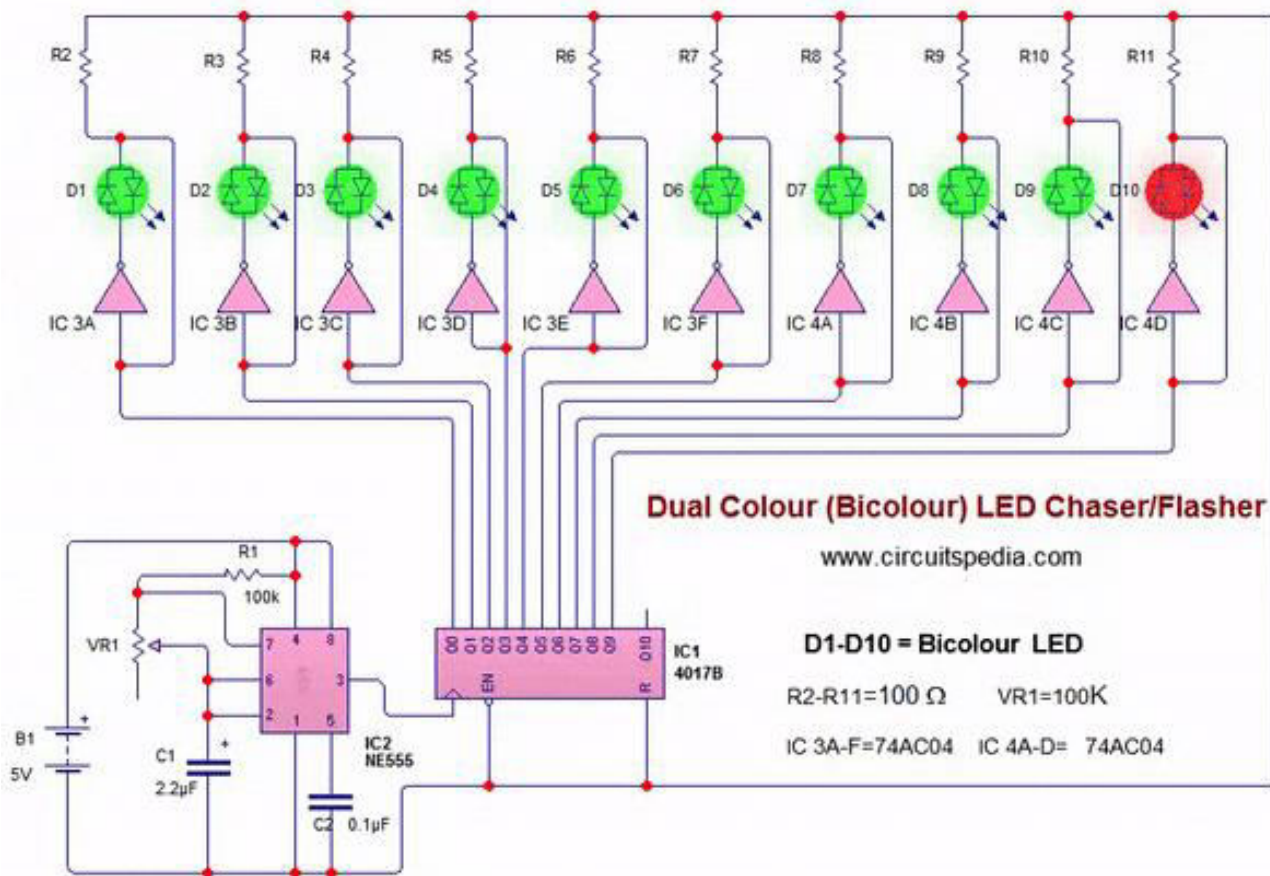# Colour Changing LED chaser circuit using Bicolour LED

Here i am presenting a circuit of 10 dual colour LED flasher (Not using Flashing LED) which blinks one by one in sequence. This circuit is based on popular counter circuit using **4017** and **555**.

One colour of all LED remain fix and second colour of all LEDs in running mode one by one. This gives a very cool and interesting visual lighting effect. circuit is simple and no used any microcontroller .

In this **LED blinker circuit** 1 ic and 1 **CD4017** used to produce counting output. 2 **NOT GATE inverter** IC used to Change the supply alternate For changing colour of LED by inverting the input supply on LED.

555 timer ic is used to create random clocked pulse signal for the changing the output through counter ic 4017. As you know that when the pulse signal at input pin 14 of ic 4017 get then according to each clock pulse changing , the output is on (High)one by one . The output of 4017 is starting from pin 3 (output 0), pin 2 (output 1), pin 4(output 2), pin 7 (output 3) and so on upto pin 11 (output 9).
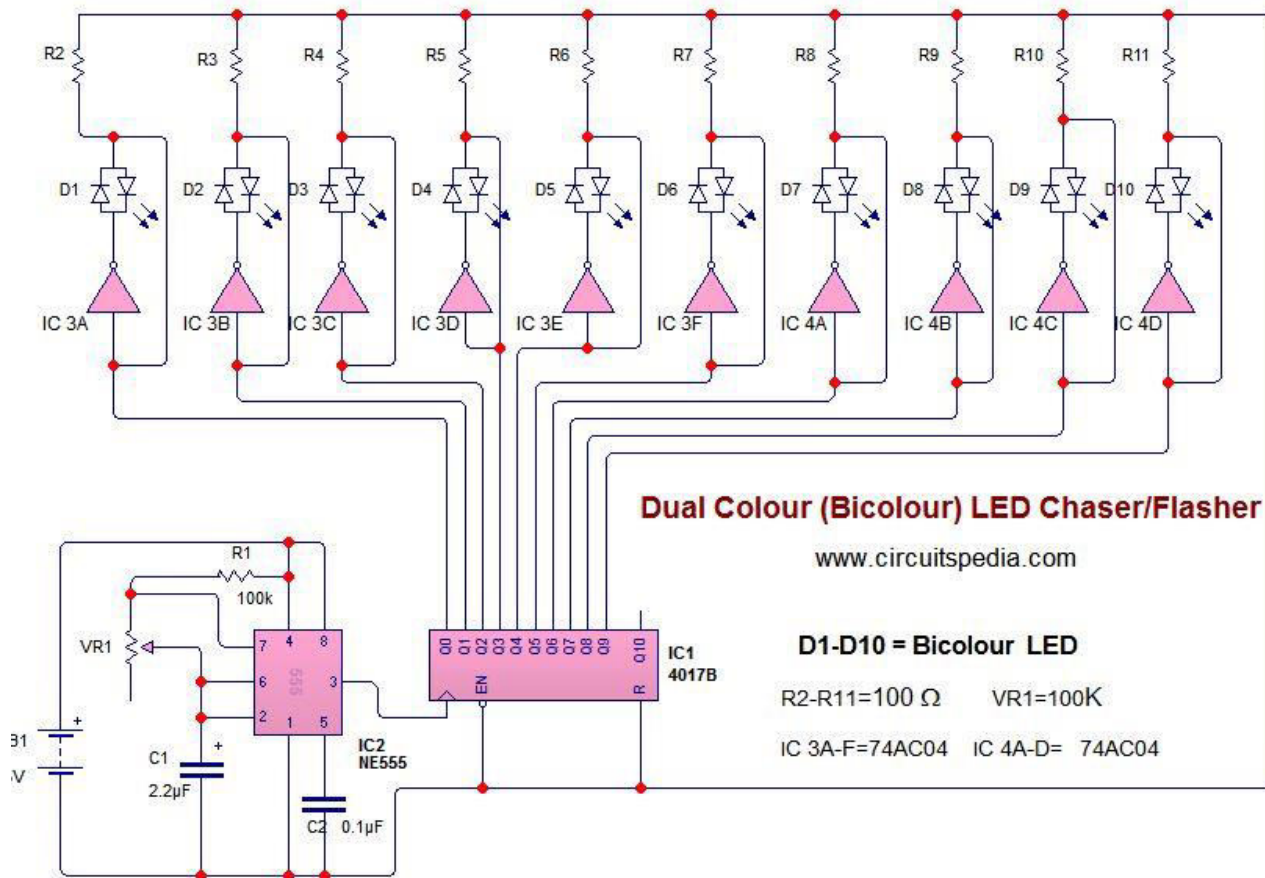
All output of 4017 ic connected with **NOT GATE inverter** input and output of all **inverter** input is also connected with second pin of bicolour led. Not gate inverter is the logic that changed the signal from High to Low or Low to High.
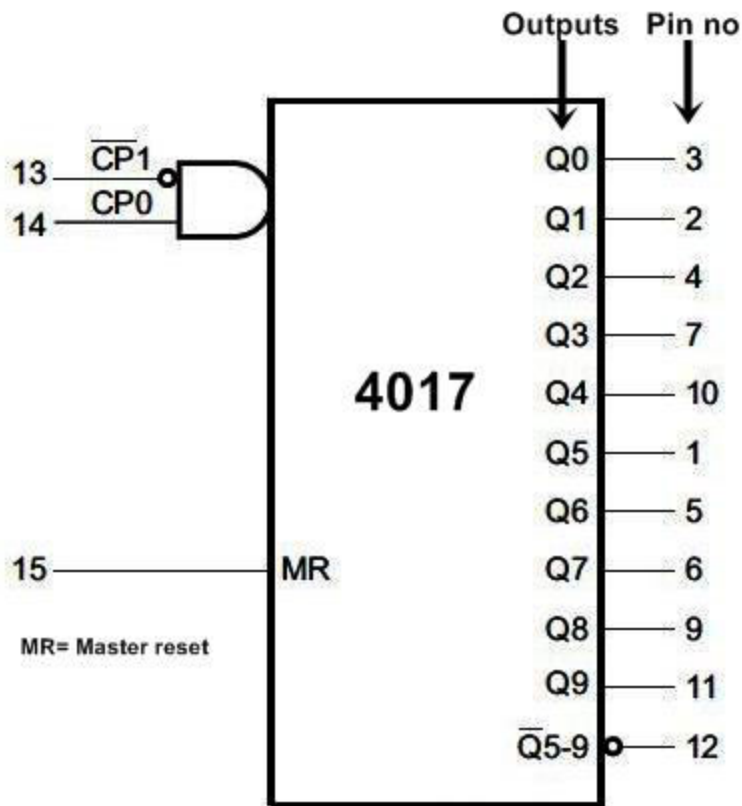
Here Low means negative or 0 and High means positive or 1.

At first When circuit is turn on then all LEDs will glow at fix any one colour and as soon counter ic 4017 starts counting output then one by one LED changed his colour in running effect.
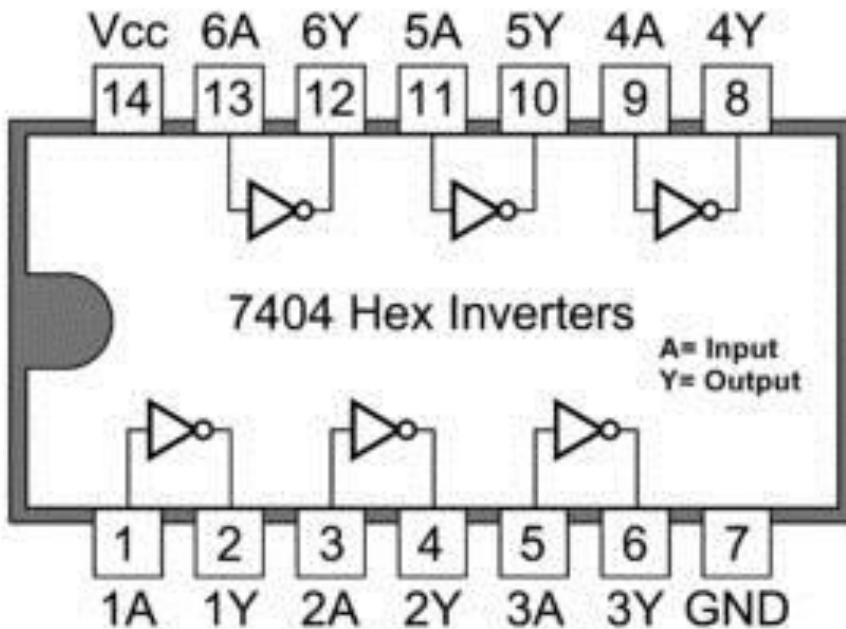
You can understand the working of this as , when the input positive signal gives the **4017** to Inverter input then it converts it in negative and give to led. in this condition only one leg of led get positive supply so only one colour glow because One wire is directly conneted with before inverter input to led input . And when output of 4017 is Low, then inverter converts High and this goes to second leg of LED , and only other colour will glow and other is off.

Negative supply of ground (common) pin of All LEDs connected through 100 ohm resistor. The flashing effect is increased or decreased by changing the value by moving of Variable Resistor VR1 or changing the capacitor value of C1.

Dual Colour (Bicolour) LED Chaser/Flasher

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D1-D10 = Bicolour LED

R2-R11=100 Ω   VR1=100K

IC 3A-F=74AC04   IC 4A-D= 74AC04

Outputs Pin no

	4017	
13 — $\overline{CP1}$		
14 — CP0		
		Q0 — 3
		Q1 — 2
		Q2 — 4
		Q3 — 7
		Q4 — 10
		Q5 — 1
		Q6 — 5
15 — MR		Q7 — 6
		Q8 — 9
MR= Master reset		Q9 — 11
		$\overline{Q5\text{-}9}$ — 12

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Vcc 6A 6Y 5A 5Y 4A 4Y
14   13 12 11 10   9   8

7404 Hex Inverters

A= Input
Y= Output

1   2   3   4   5   6   7
1A 1Y 2A 2Y 3A 3Y GND

This circuit gives a very beautiful running effect light with two colour. Where on colour will still and other colour will running one by one, But Only one colour blink at a time.

Connect bicolour LED with 7404 with very carefully because if mismatch the connection then blinking colour can mixed. pin no 1 , 3 , 5 , 9 , 11 , 13 are inputs pin and these are connected with output pins of 4017 . Pin 1 of 7404 is connected with starting output of 4017 (pin 3) and with one leg of 1st led . Pin 3 is connected with 1st output of 4017 (pin 2) and one leg of 2nd led....... as follows. All output

pins of 7404 are connected with other leg of led . pin 2 with led 1, pin 4 with led 2, pin 6 with led 3.....
.

Use 5v DC supply for this **flasher/blinker circuit .**
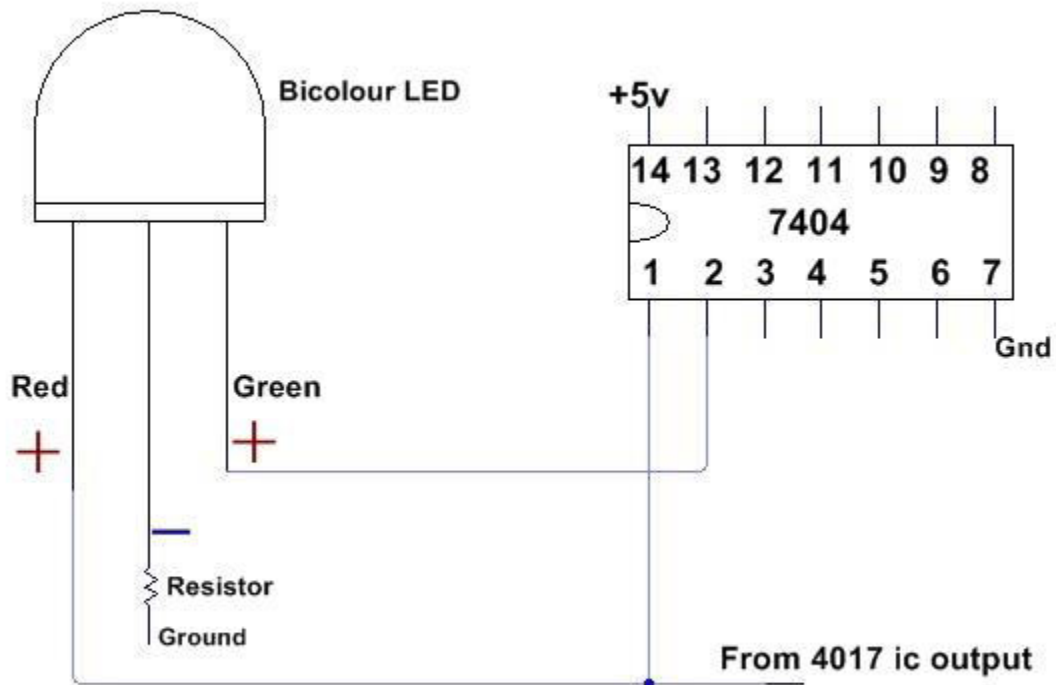
Components

NE555 ic- 1

4017 ic-1

74AC04 (7404) ic-2

Bicolour LED-10

Preset (100K)-1

Resistor

100Ω-10, 100k-1

Capacitor-

2.2uf 16v-1, 0.1uf-1