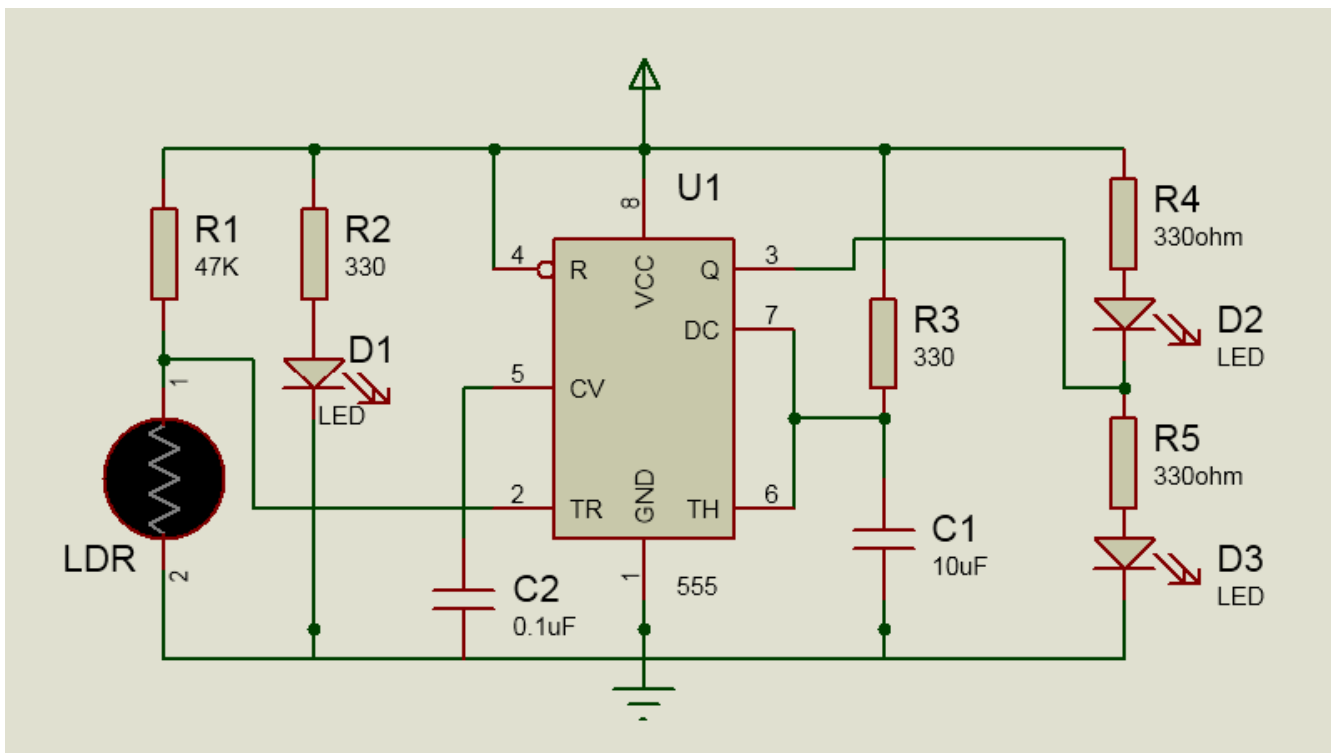


# AUTOMATIC UPPER DIPPER FOR VEHICLE

While driving a car in night a problem like many drivers do not dip the headlamps of their vehicles in night while approaching. The switching operation is used to dip the head light which may distract the concentration. Automatic upper dipper is the latest convenience in today's cars. This eliminate the need for the driver to manually switch on or switch off the dipper beam in most driving situations. The automatic upper dipper system reacts like the human eye to headlight of incoming vehicles and independently turns upper beam to dipper beam when needed. Such a system offers both safety and convenience.

## CIRCUIT DIAGRAM:



## **CIRCUIT COMPONENTS:**

- IC555 (TIMER IC)



- RESISTORS (R1=47Kohm, R2=R3=R4=R5= 330ohm, R3= 1Kohm)



- CAPACITORS (C1=10uf)



- LEDs (LIGHT EMITTING DIODE)



- LDR (LIGHT DEPENDENT RESISTOR)

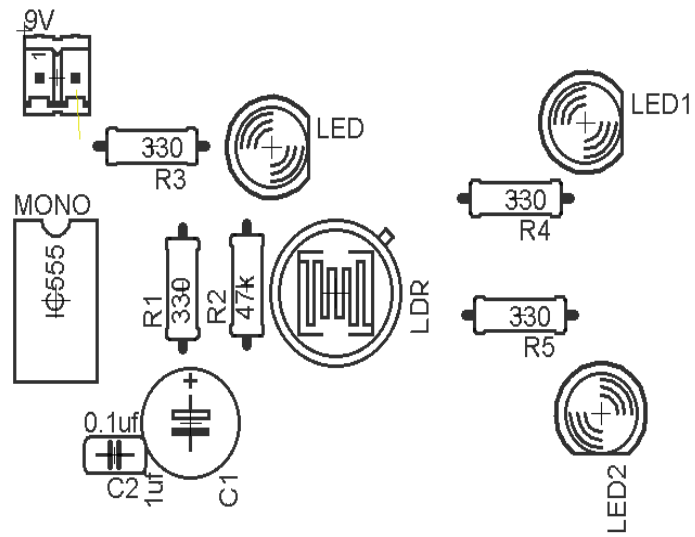


## **WORKING:**

This automatic system uses LDR which senses the headlight of approaching vehicle, as the resistance of LDR changes as per light intensity. LDR sense the light and change its internal resistance according to the light fall on it, which is further mounted in PVC pipe of 4 cm length positioned on the grill of car or in front such that the light fall on the LDR only when vehicles is approaching and is distance of 3M to 9M. When light fall on it, the resistance decreases and makes output of IC555 low. When the distance between two approaching vehicles is more than 9 meter or less than 3 meter the circuit is not operated. The operating and non operating distance of the circuit can be varied by proper positioning of the PVC pipe and by adjusting the variable resistor VR<sub>1</sub>. Due to change in intensity the voltage given to 555 timer control IC becomes high or low. On the basis of trigger and threshold condition, it will cause the headlight control from upper to dipper. Once the approaching vehicle passed away, LDR goes in dark and output of 555 IC change. It changes headlight beam from dipper to upper.

## **PCB LAYOUT:**

### **FRONT SIDE:**



BACK SIDE:

