

Timed Traffic Light PCB

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IME 458

Overview

Function:

Emulates UK Traffic Light

Requirements:

Timing

Counting

Correct Sequence

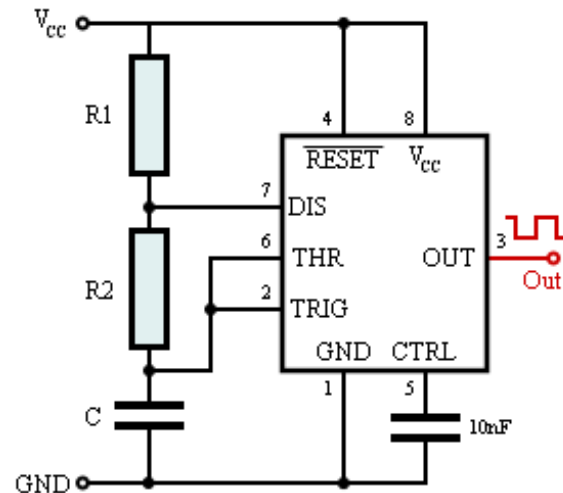
Timing

555 Timer IC

Generates pulses with specific frequency

Adjustable with Potentiometer (R2 below)

Provides pulses to counter IC



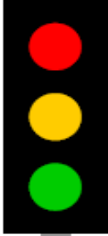
Counting

4017 Counter IC

Decade counter

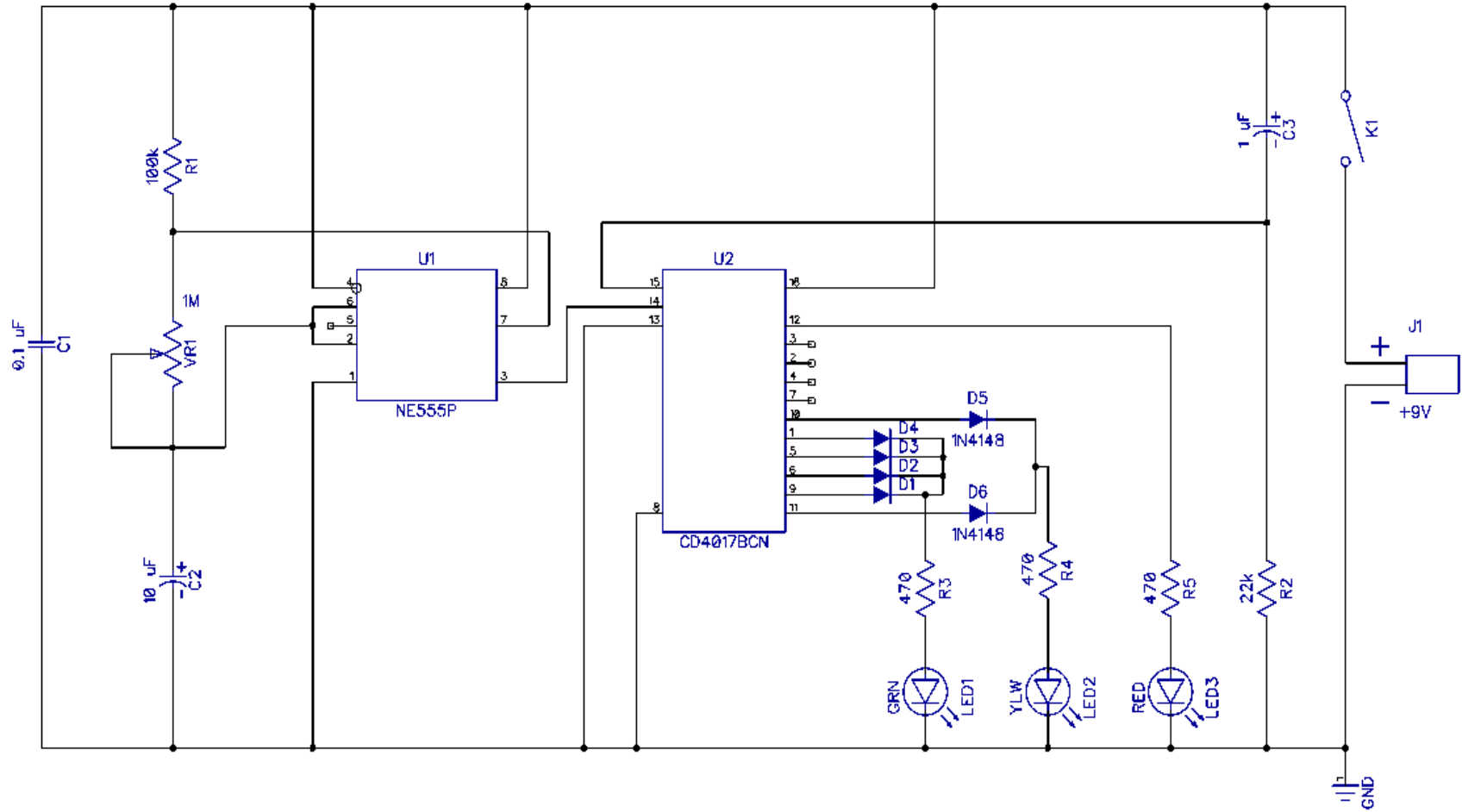
LEDs connected to IC

4017 counter outputs high	LEDs ●●● = LED on		
	red	amber	green
Q0 and ÷10	●		
Q1 and ÷10	●		
Q2 and ÷10	●		
Q3 and ÷10	●		
Q4 and ÷10	●	●	
Q5			●
Q6			●
Q7			●
Q8			●
Q9		●	

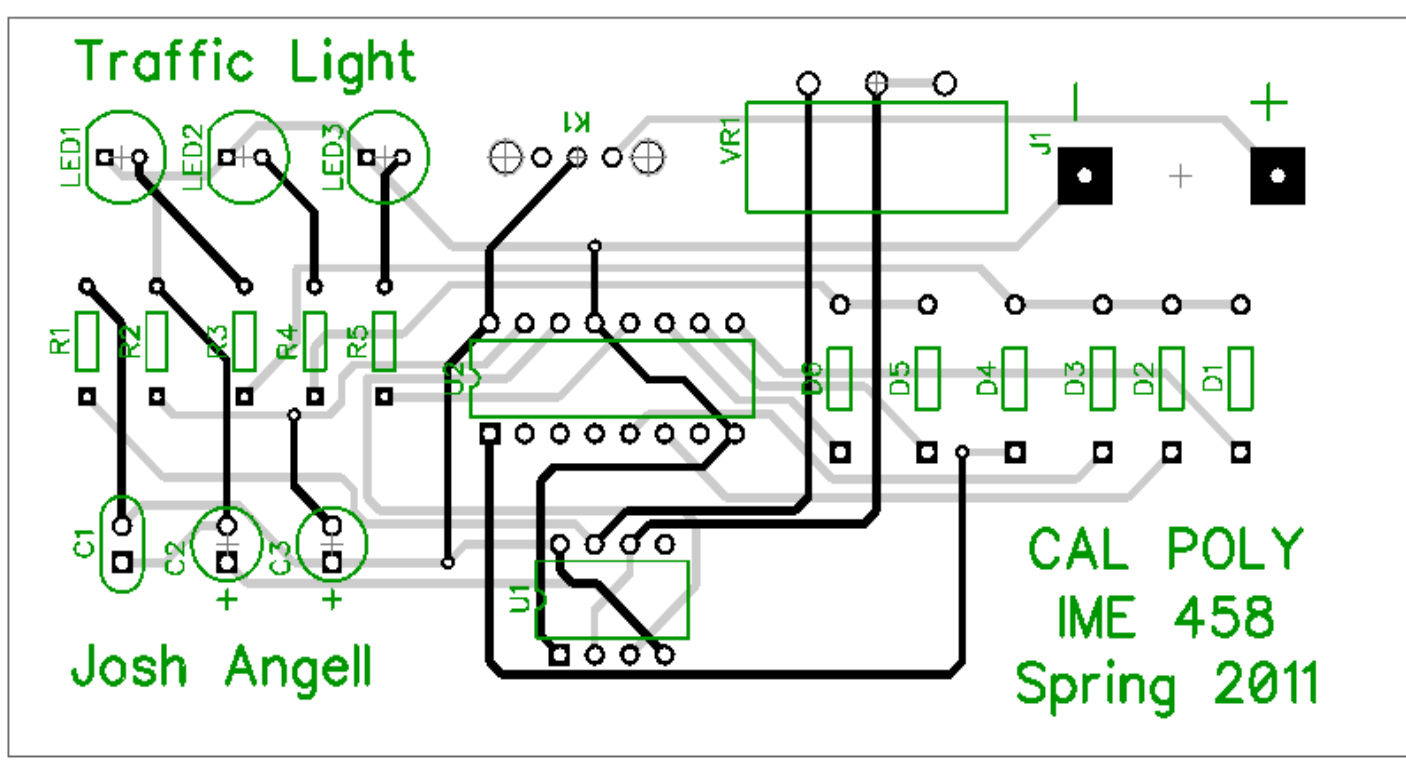


A vertical traffic light with three circular lights: red at the top, yellow in the middle, and green at the bottom. The lights are currently all illuminated.

Schematic



PCB Layout



Assembly

- All components through-hole
- Soldered to board
- Components arranged for alignment and ease of assembly



Functioning Device

