

Experiment 8 : Multivibrators

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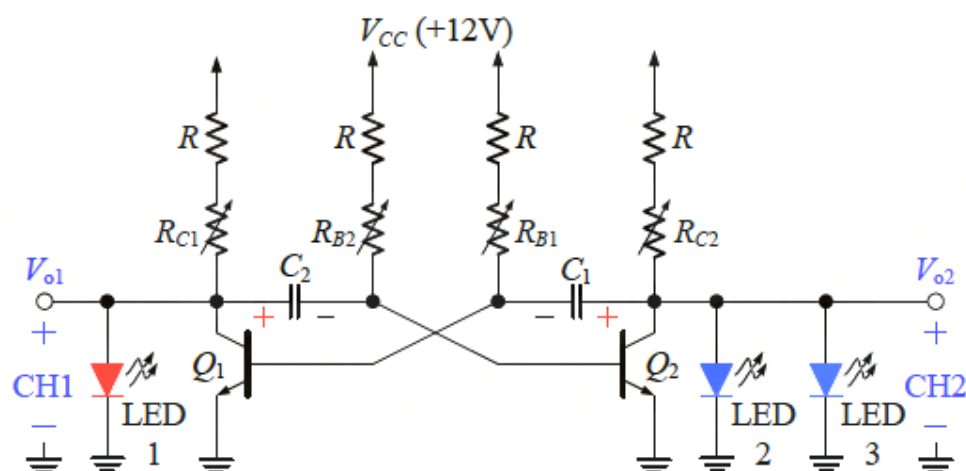
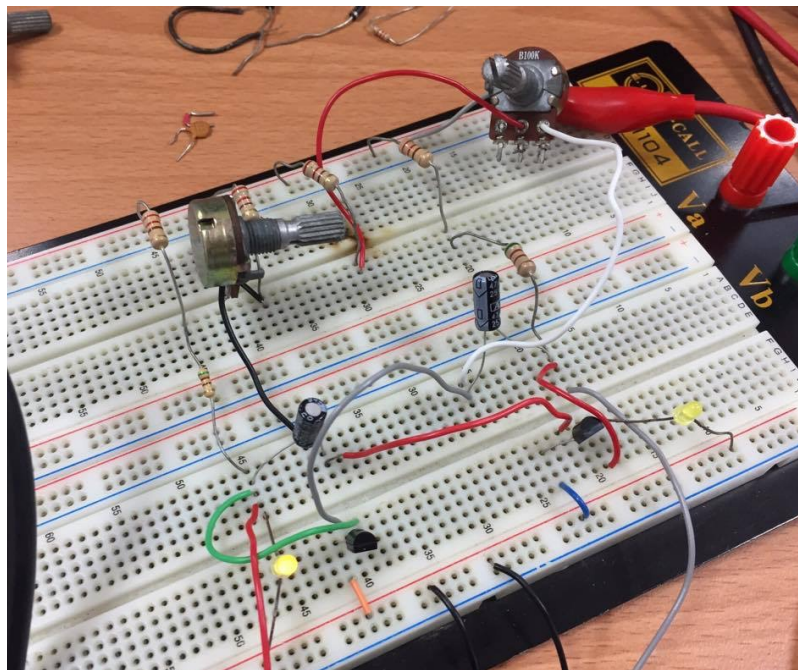
Class Number : 三早/2

1. Experiment Objectives

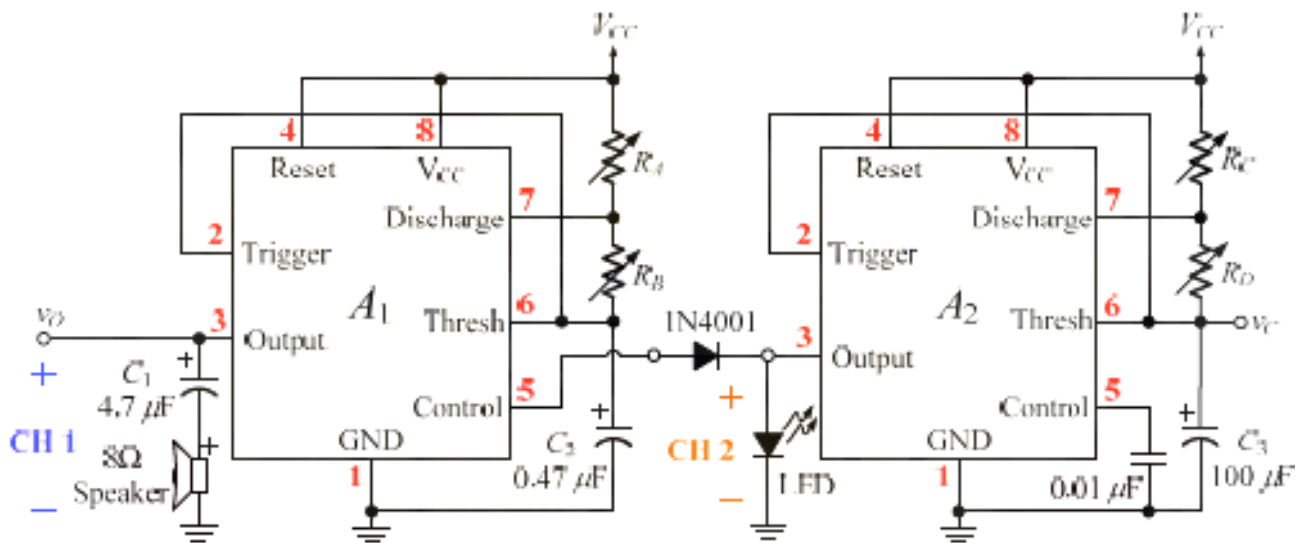
1.1. To familiarize various kind of multivibrators, including bistable, monostable and unstable multivibrators.

2. Experiment Setups

2.1. Circuit of Sparkling Lamp in the Vehicle (煞車燈閃爍電路)



2.2. Alarm Bell Circuit using the LM555 IC



3. Labs Work

3.1. Circuit of Sparkling Lamp in the Vehicle (煞車燈閃爍電路)

3.1.1. $T_H = 250 \mu s$

3.1.2. $T_L = 250 \mu s$

3.1.3. Duty cycle = 50%

3.1.4. $R_{C1} = 0.52 \text{ k}\Omega$, $R_{C2} = 0.53 \text{ k}\Omega$, $R_{B1} = 20.7 \text{ k}\Omega$, $R_{B2} = 23.5 \text{ k}\Omega$

3.2. Alarm Bell Circuit using the LM555 IC

3.2.1. $f_0(\text{CH1}) = 342.5 \text{ Hz}$

3.2.2. $f_0(\text{CH2}) = 10.6 \text{ Hz}$

3.2.3. $R_A = 270 \Omega$, $R_B = 4.05 \text{ k}\Omega$

3.2.4. $R_C = 1.11 \text{ k}\Omega$, $R_D = 5.38 \text{ k}\Omega$