

Lab Outline

This lab aims to demonstrate how RC circuits can be used to construct timing circuits. Students will then use these timing circuits to control various different output devices.

1. LED Flasher
2. Speaker Circuit
3. Servo Controller

Equipment Required


- Breadboard
- Power Supply
- Digital Multimeter with Probes
- ADAM2000 + Scopy {Oscilloscope}
- Oscilloscope Probes
- Wire Strippers
- Diagonal Cutters
- Pliers


Bill of Materials

1x  100Ω Resistor

1x  470Ω Resistor

6x  1kΩ Resistor

2x  2.2kΩ Resistor

2x  10kΩ Resistor

2x  100kΩ Resistor

1x 10kΩ Potentiometer (B10K, Box 2)

2x 20kΩ Potentiometer (B20K, Box 2)

1x 50kΩ Potentiometer (B50K, Box 2)

4x  10nF Ceramic Capacitor (Box 2)

3x  100nF Ceramic Capacitor (Box 2)

6x 10μF Electrolytic Capacitor (Box 2)

4x SE555P Timer IC (Box 1)

1x LED (Box 1)

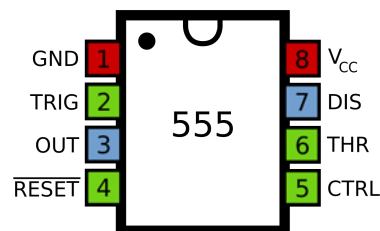
1x 8Ω Speaker (Bag 4)

1x Pushbutton (Box 2)

2x n-MOSFET (ZVN3306A, Box 1)

2x 9g Servo Motors + Pan-Tilt Parts Kit (Bag 4)

Pinouts



555 Timer Pinout