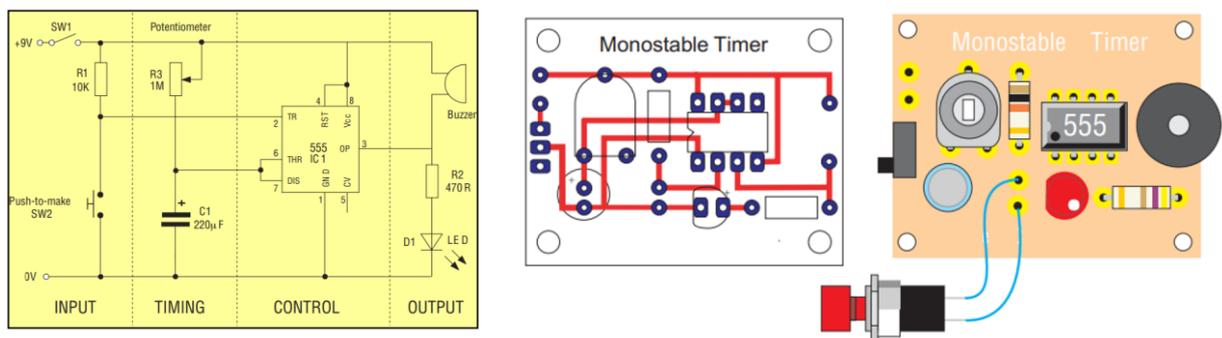


Timer

Circuit Construction

The circuit diagram below is the circuit for Timer. It is based on a NE555 monostable circuit.

- The timer starts when the switch is closed producing a pulse to the trigger input.
- The output from pin 3 switches to 9V and the LED will light, indicating the timer is in operation.
- The capacitor is also charging via the potentiometer. The higher the value of resistance the longer it will take to charge the capacitor.
- When the voltage from the capacitor reaches 6 volts, the output from pin 3 goes to 0V, the buzzer will sound and the LED goes out.



Equipment / Components Needed

- Soldering equipment set
- Circuit board
- Components - IC ME555, 8 pin IC holder, R1 10k resistor (brown, black, orange), R2 470R resistor (yellow, violet, brown), SW1 slide switch, SW2 push-to-make switch, R3 1M potentiometers, C1 220µF capacitor, D1 5mm LED, 12V buzzer, PP3 battery clip

Procedure for Construction

1. Solder the resistors in place.
2. Solder the capacitors in place (making sure you get the legs the correct way round).
3. Solder the LED in position so that it sits 20mm above the circuit board. It is important to connect it the correct way round or it will not light.
4. Solder the variable resistor in place.
5. Solder the buzzer into the circuit board.
6. Solder the IC holder (taking care not to solder between the legs).

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7. Solder the slide switch into the circuit board.
8. Solder the push-to-make switch onto the wires and then into position on the circuit board.
9. Solder the battery clip in place.
10. Place the NE555 timer chip into the holder, making sure to insert it the correct way round.

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Paya Lebar Square, 60 Paya Lebar Road, #12-40, Singapore 409051
Tel: 6747 4018 Fax: 6842 5720