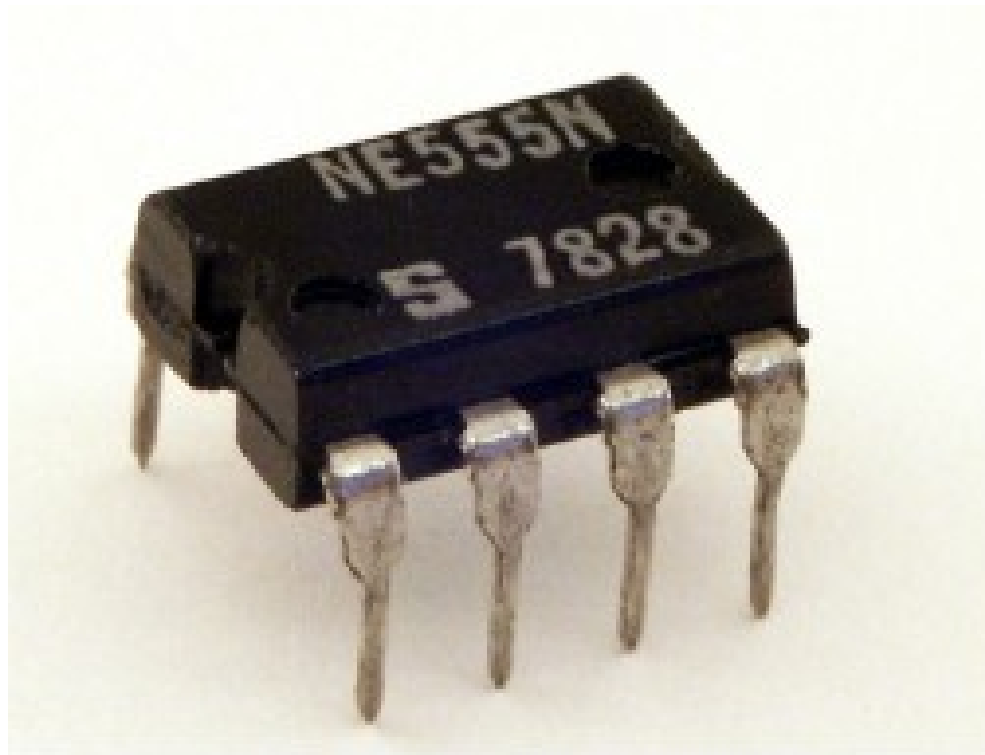
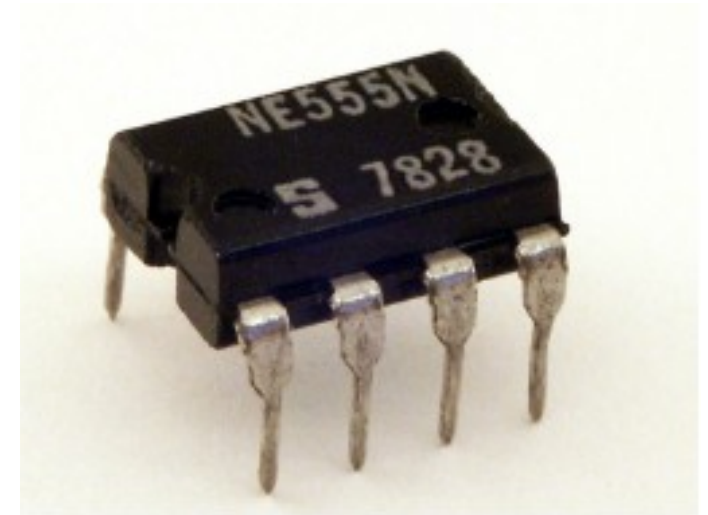
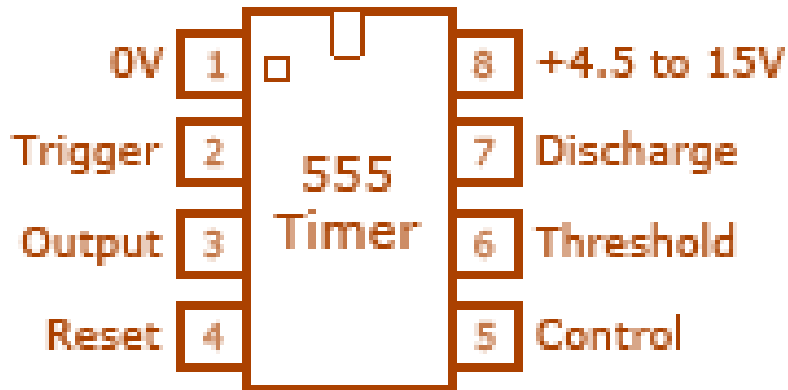


555 timer - Integrated Circuit

555 IC

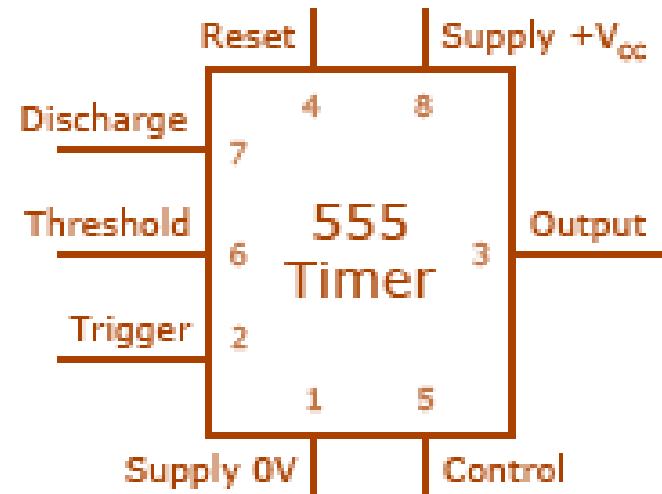


555 IC Symbol



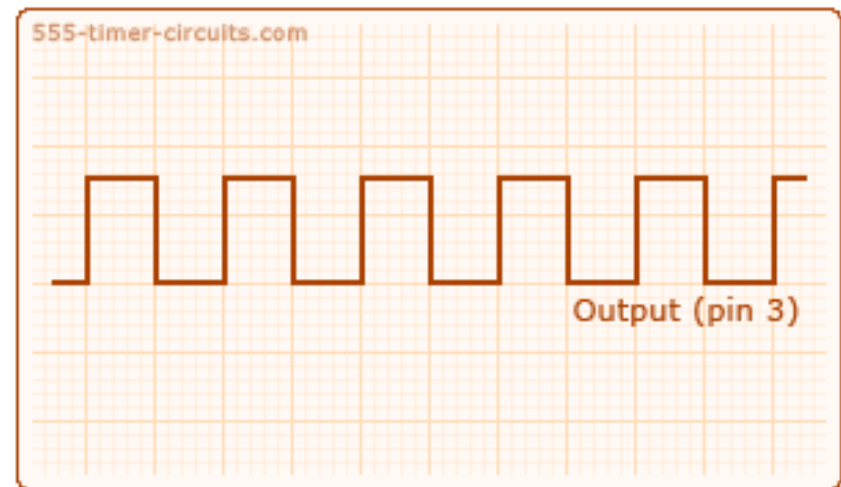
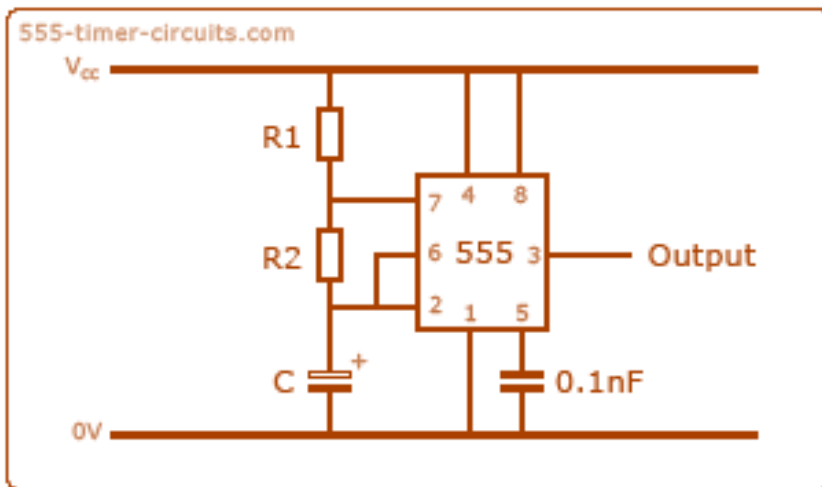
In a circuit..

- Not the same order as above
- Easier to draw diagram



555 Timer – Main Operating Modes

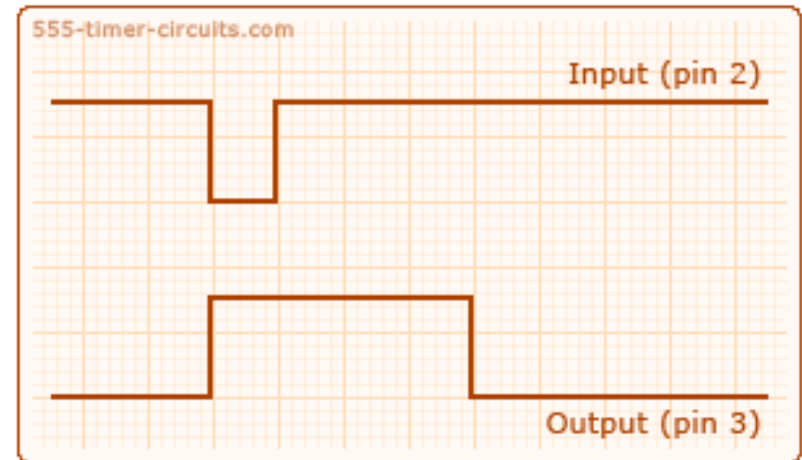
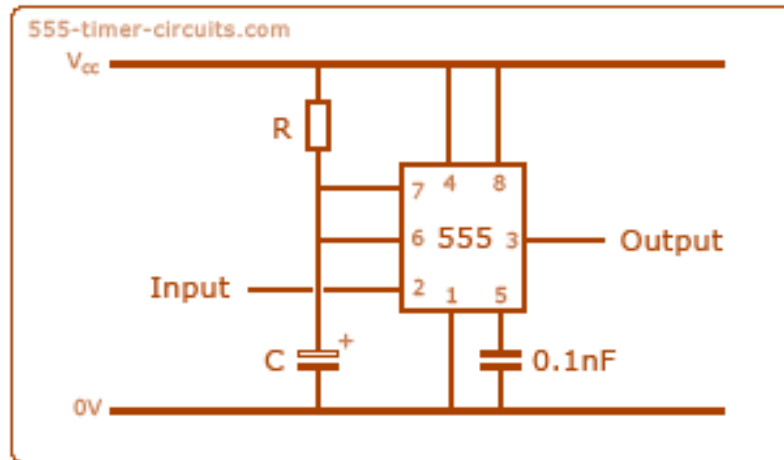
- **Astable**: The output continually switches between high and low.



- This type of circuit could be used to give a mechanism intermittent motion by switching a motor on and off at regular intervals. It can also be used to flash lamps and LEDs, and is useful as a 'clock' pulse for other digital ICs and circuits.

Modes of 555 timer

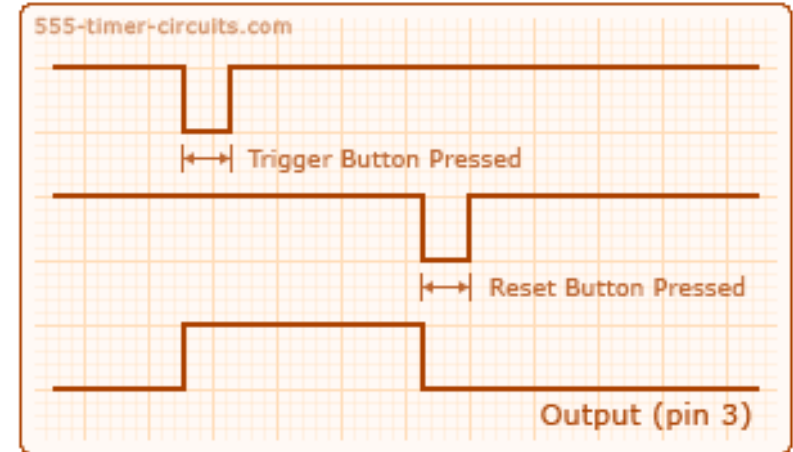
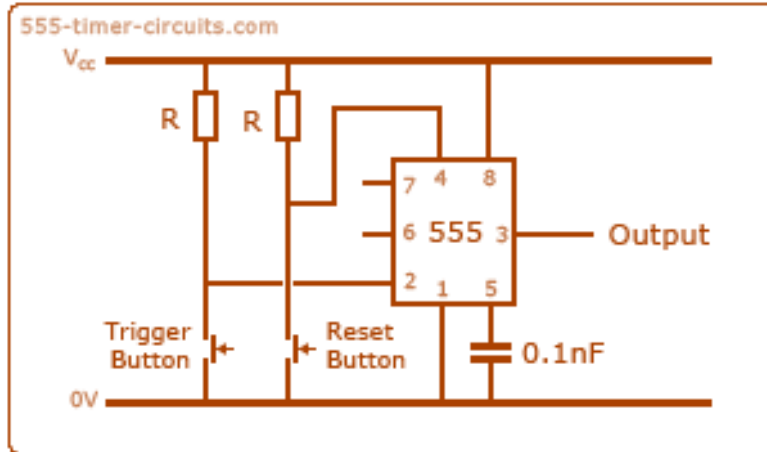
- **Monostable:** produces one pulse of a set length in response to a trigger input such as a push button.



This type of circuit is ideal for use in a "push to operate" system for a model displayed at exhibitions. A visitor can push a button to start a model's mechanism moving, and the mechanism will automatically switch off after a set time.

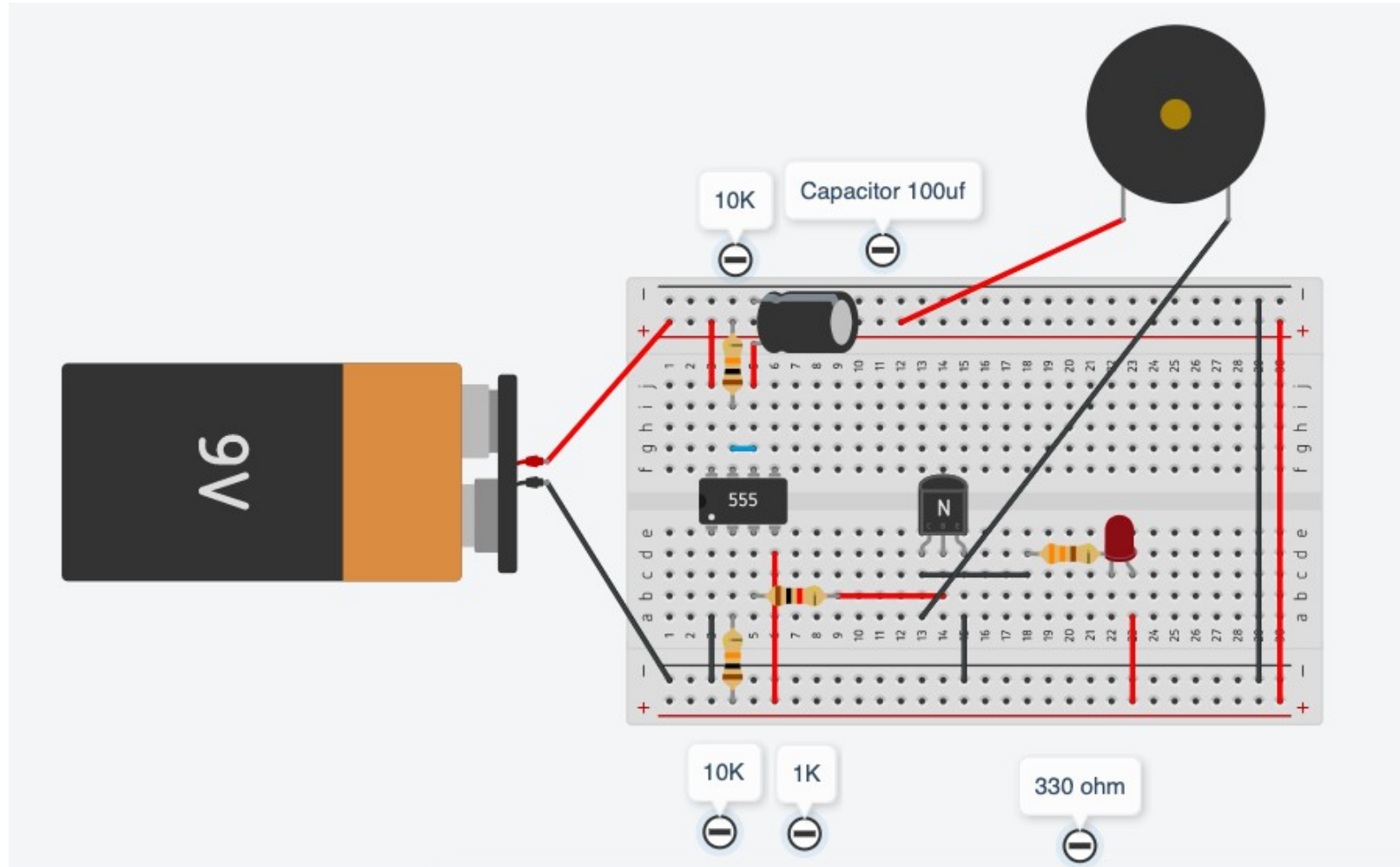
Modes of 555 timer

- **Bistable (Schmitt trigger):**

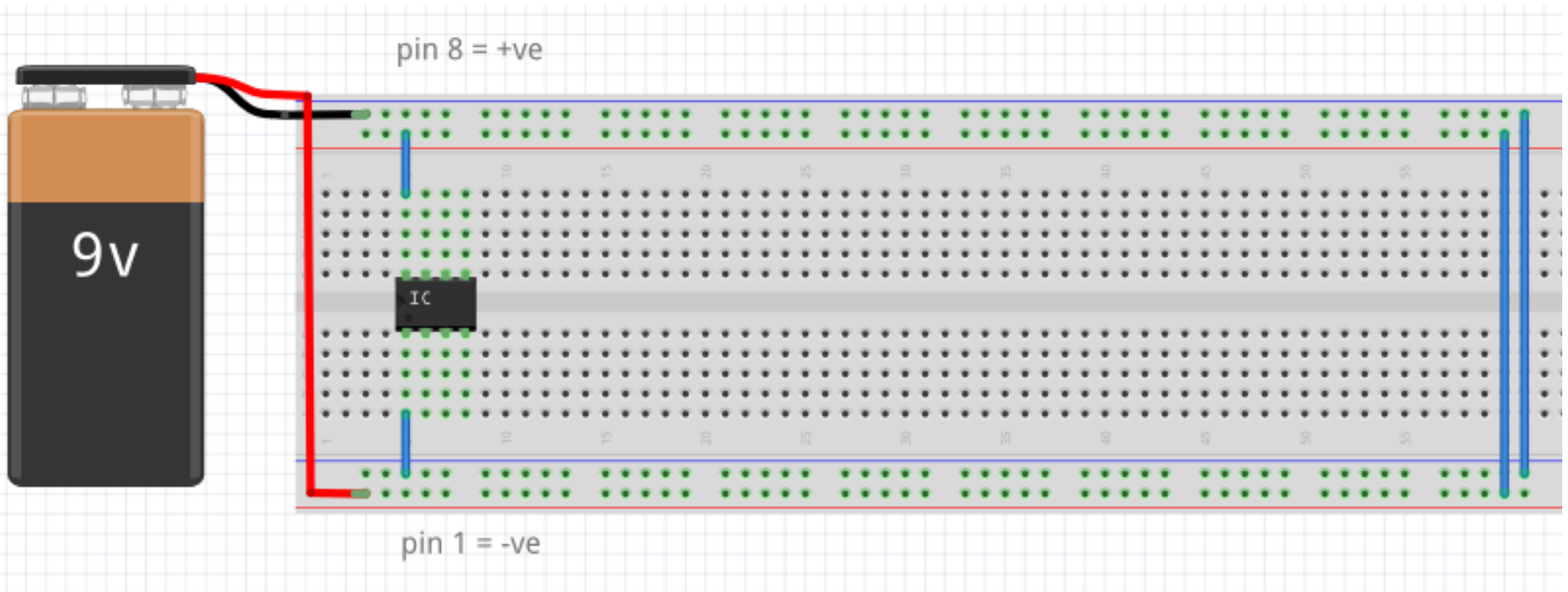


This type of circuit is ideal for use in an automated model railway system where the train is required to run back and forth over the same piece of track. A push button (or reed switch with a magnet on the underside of the train) would be placed at each end of the track so that when one is hit by the train, it will either trigger or reset the bistable. The output of the 555 would control a DPDT relay which would be wired as a reversing switch to reverse the direction of current to the track, thereby reversing the direction of the train.

1- Simulate using Tinkercad



2- Testing the 555 timer on Breadboard



3- Build on Breadboard

