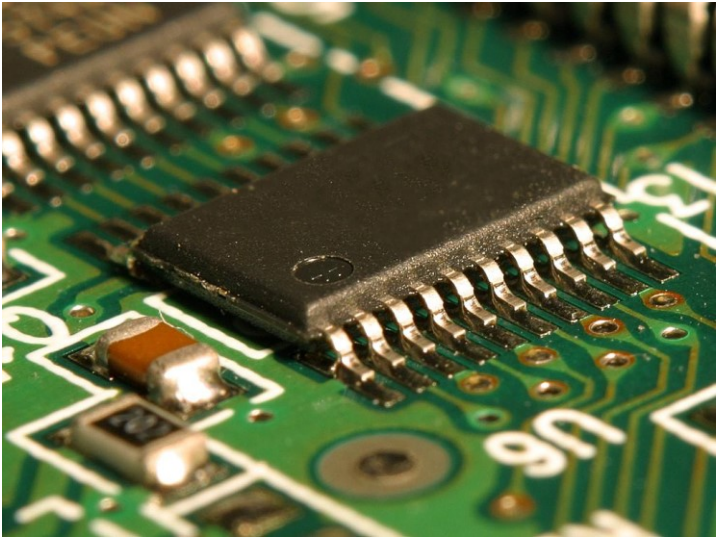
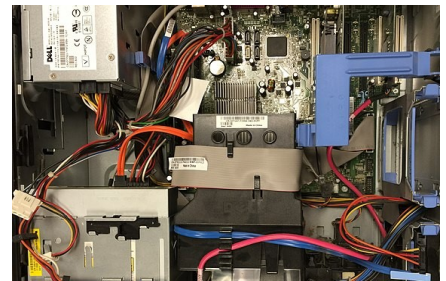


Introduction to Integrated Circuits (IC)

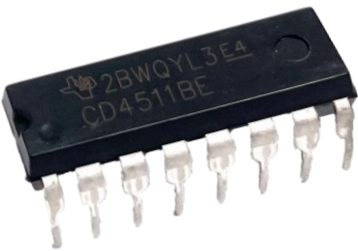


Integrated circuits (ICs) are electronic circuits that contain multiple components such as transistors, diodes, resistors, capacitors, etc. on a small silicon chip.

ICs are found in a wide range of electronic devices that include computers, smartphones, automobiles, medical equipment and more!



The development of ICs in the 1950s transformed the electronics industry by allowing complex electronic circuits to be made smaller, faster, and more reliable. Today, ICs are the fundamental building blocks of modern electronics leading to the development of increasingly smaller, more powerful and versatile electronic devices.



There are three ICs included in the Starter Circuit Kit.

555 TIMER

The 555 Timer generates electrical pulses that can be used for precision timing, time delay generation, pulse width modulation, and oscillator applications.

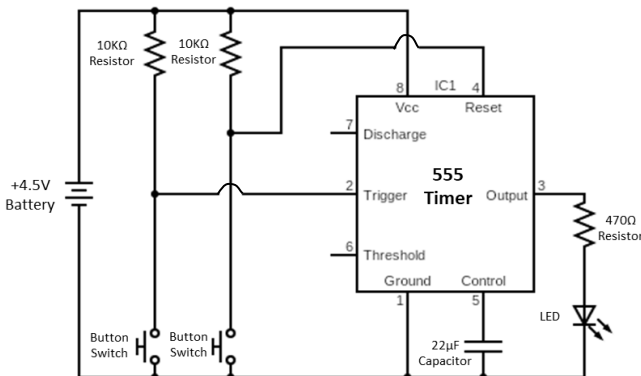
4017 DECADE COUNTER

The 4017 Decade Counter can count to 10! It has 10 outputs that represent the numbers 0 through 9. After every pulse, the counter changes its output to the next number, cycling from 0-9 and then back to 0 again!



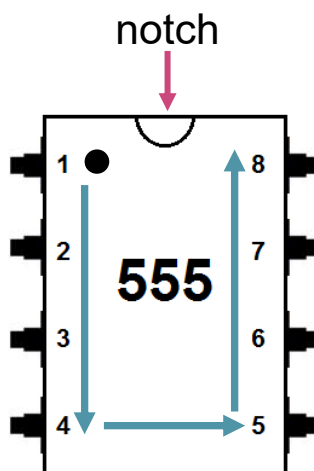
4511 BCD TO 7 SEGMENT DECODER

The 4511 BCD (Binary Coded Decimal) to 7 Segment Decoder converts 4-bit binary input into signals which will drive a 7-segment display showing the decimal numbers 0-9.



It is important to note that in some instances the circuit schematic has the pin numbers of the IC appear in a different order than they are in reality. This was done to make it easier to draw the circuit diagram.

When looking at any IC, the notch marks the top of the chip. The dot on the upper left is next to pin 1.



Pins are numbered counterclockwise starting in the upper left-hand corner.

