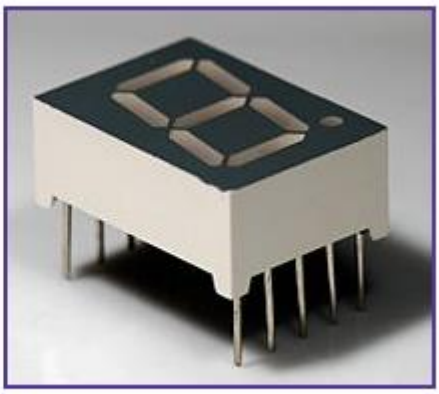
Seven Segment Display

Design:



Digit drive pattern:

Digit drive pattern of a seven segment LED display is simply the different logic combinations of its terminals **'a' to 'h'** in order to display different digits and characters. The common digit drive patterns (0 to 9) of a Seven segment display.

History of Seven Segment Displays

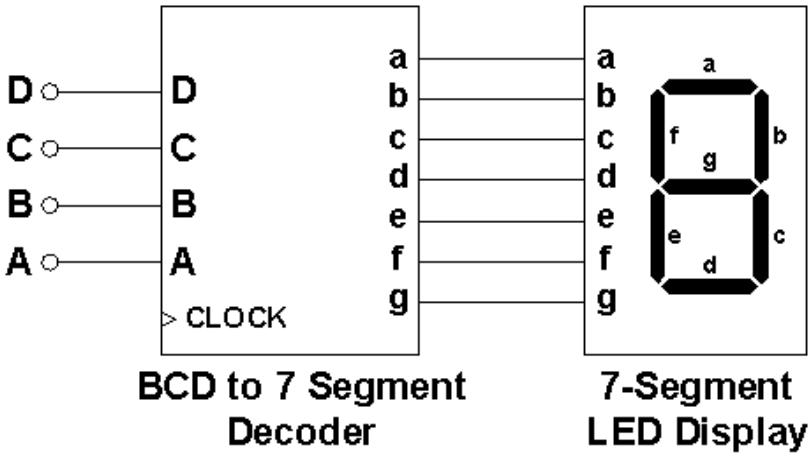
The seven segment display dates back to century old. In the year 1908 F.W. Wood invented eight segment displays which displays the digit '4' by using diagonal bar. After that in 1910 seven segment display is invented and is illuminated using incandescent bulbs. They are used in electric power plants but has gained no much reputation.

Later in 1970's, with the advent of LEDs usage of seven segment displays increased to a large extent.

BCD to Seven Segment Conversion

The 7 segment displays are very popularly used in circuit boards and PCBs as display devices. This display needs active nine pins of micro controller or other logic IC for driving it. And the scenario goes worst if multiple 7 segment displays

are used. This makes the circuit bulky with many interconnections. To avoid this, it is essential to use a BCD to 7 segment display driver ICs like IC 7447 and IC 7448 in order to drive the displays. The inputs to the IC are 4-bit BCD value and the outputs are 7 pins which are connection to the 7-segment display.



The BCD value chart

BCD Input Data				
SW3	**SW2**	**SW1**	**SW0**	**Numeral Displayed**
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9

Applications of Seven Segment Displays

- The applications of seven segments are mostly in digital calculators, electronic meters, digital clocks, odometers, digital clocks, clock radios, etc.

- Today most of the 7 segment applications are using LCDs, because of low current consumption.