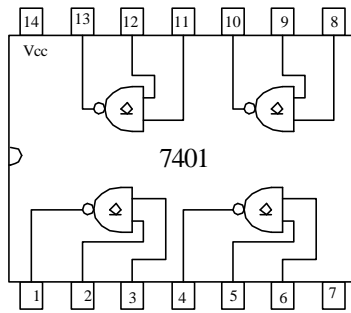
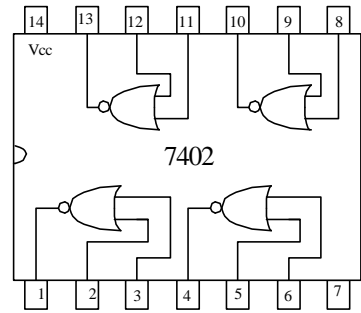


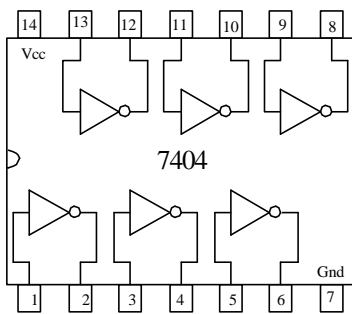
7400 Quad 2-input NAND



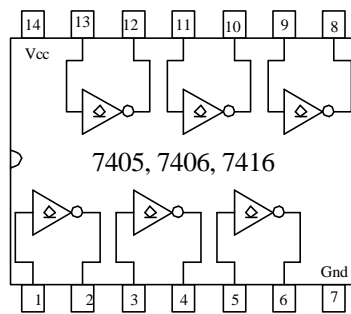
7401 Quad 2-input NAND
(open-collector outputs)



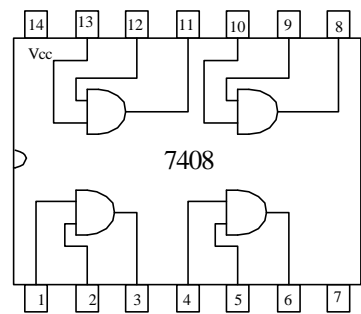
7402 Quad 2-input NOR



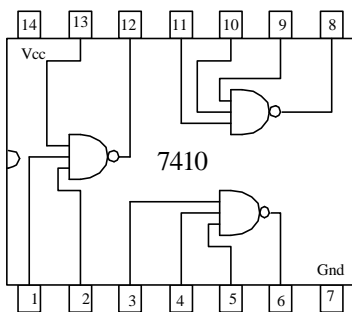
7404 Hex Inverter



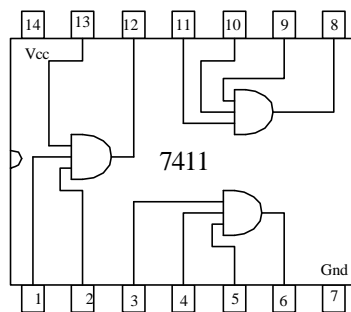
7405, 7406, 7416 Hex Inverter
(open-collector outputs)



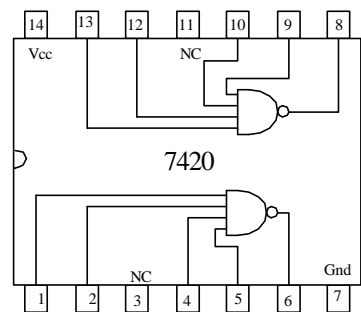
7408 Quad 2-input AND



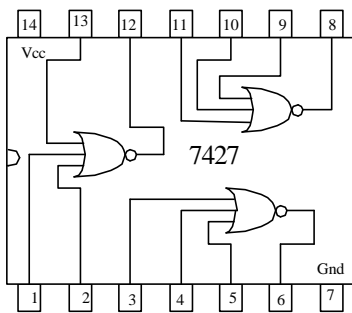
7410 Triple 3-input NAND



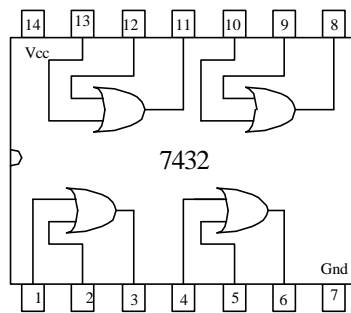
7411 Triple 3-input AND



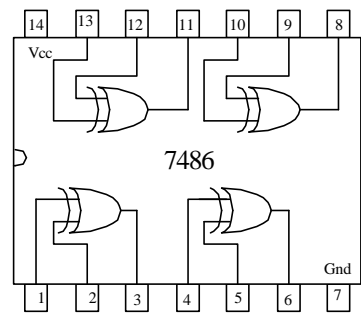
7420 Dual 4-input NAND



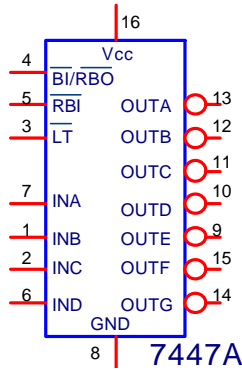
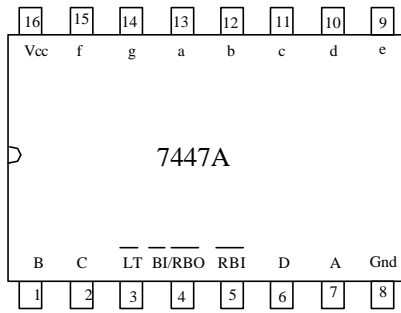
7427 Triple 3-input NOR



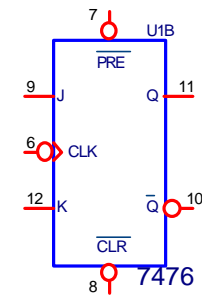
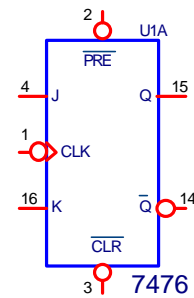
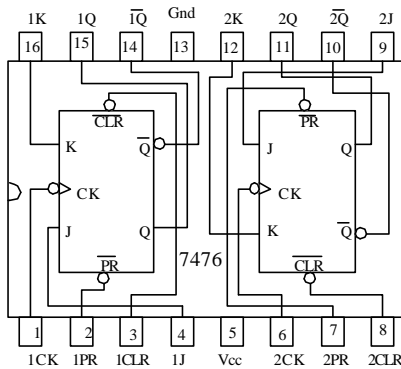
7432 Quad 2-input OR



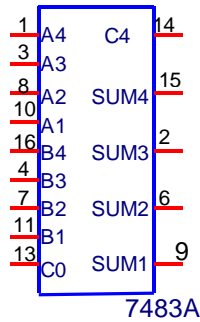
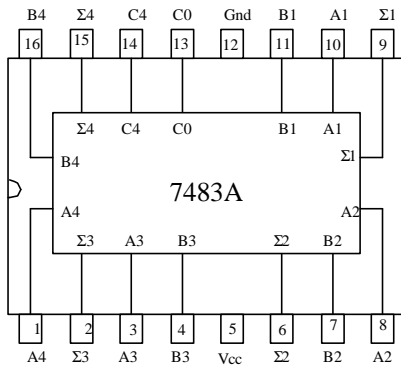
7486 Quad 2-input Exclusive-OR



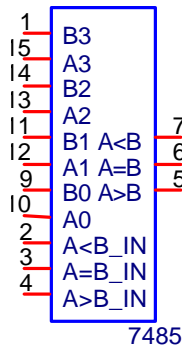
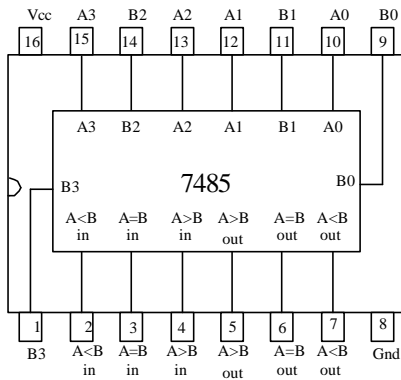
7447A BCD to 7-segment decoder/driver: Pinout and Logic Symbol



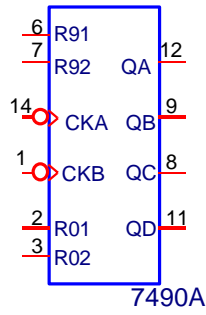
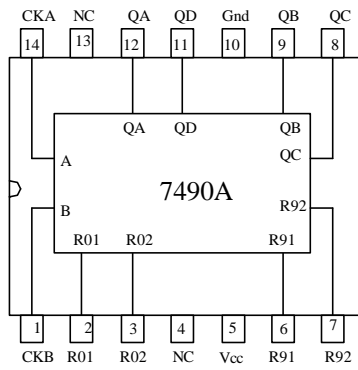
7476 Dual JK Flip-Flop: Pinout and Logic Symbols



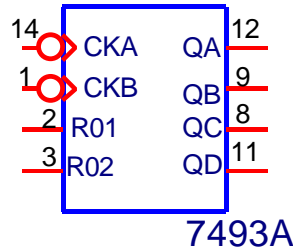
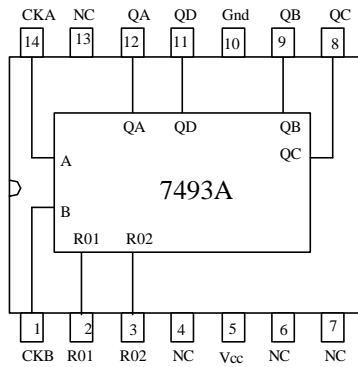
7483A 4-bit Adder: Pinout and Logic Symbol



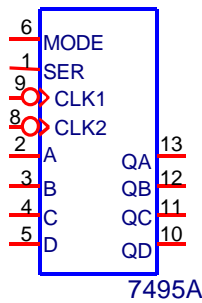
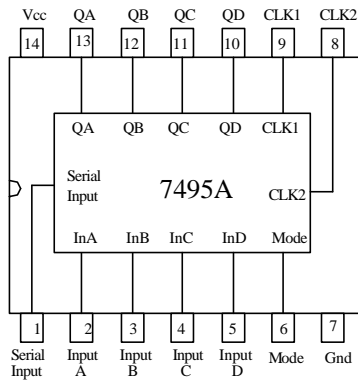
7485 4-bit Magnitude Comparator: Pinout and Logic Symbol



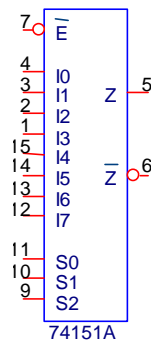
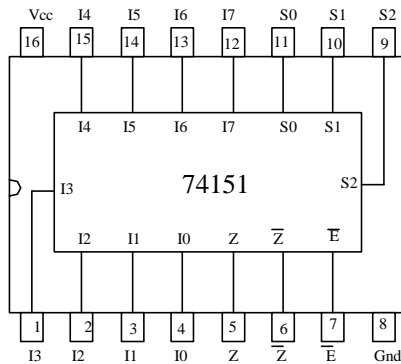
7490A Decade Counter: Pinout and Logic Symbol



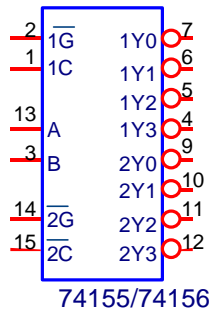
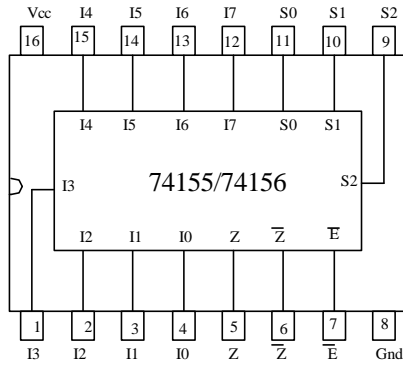
7493A 4-Bit Binary Counter: Pinout and Logic Symbol



7495A 4-Bit Parallel-Load Shift Register: Pinout and Logic Symbol

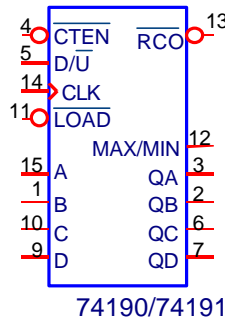
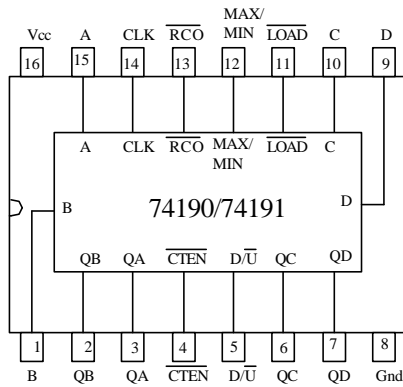


74151 8x1 Data Selector/Multiplexer: Pinout and Logic Symbol



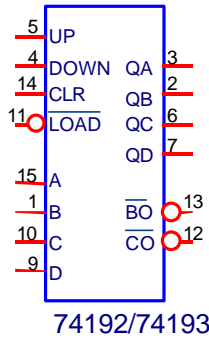
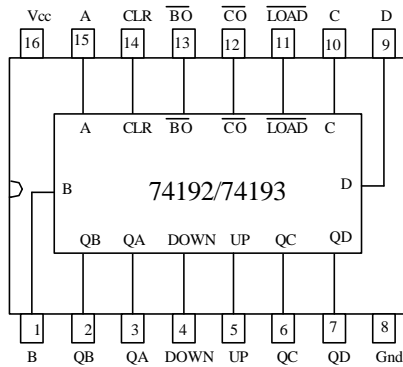
74155 – Totem Pole Outputs
74156 – Open-Collector Outputs

74155/74156 Dual 2-Line To 4-Line Decoder/Demultiplexer: Pinout and Logic Symbol



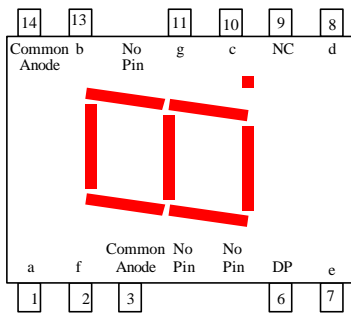
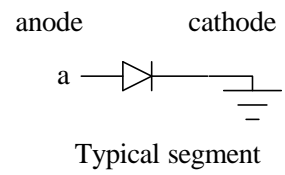
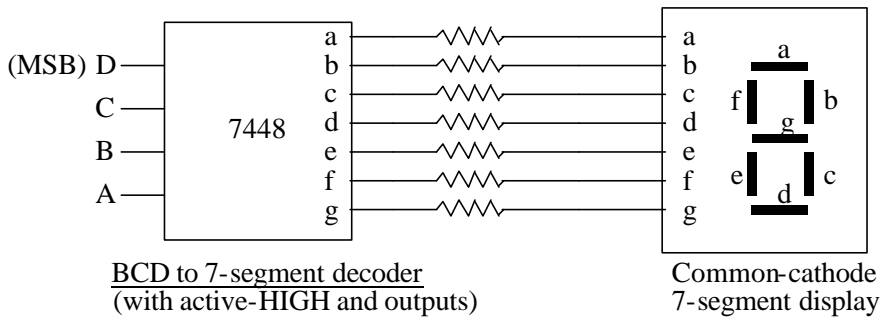
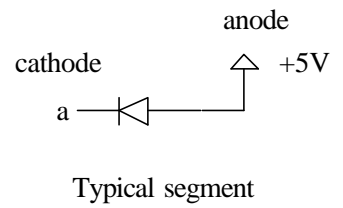
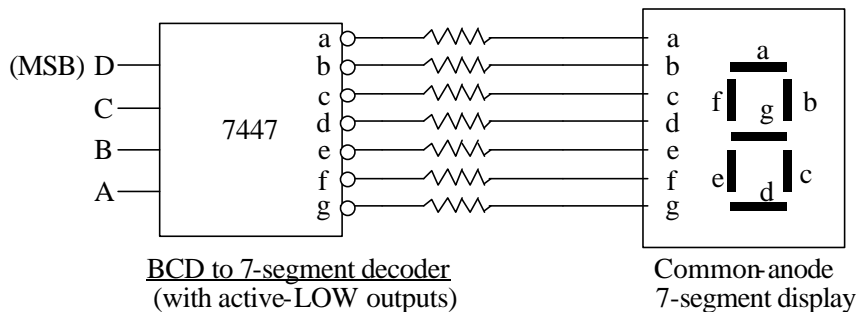
74190 – BCD Counter
74191 – 4-Bit Binary Counter

74190/74191 Synchronous Up/Down Counter: Pinout and Logic Symbol

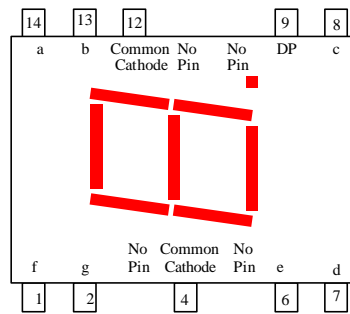


74192 – BCD Counter
74193 – 4-Bit Binary Counter

74192/74193 Synchronous Up/Down Counter: Pinout and Logic Symbol



MAN72A Common Anode 7-segment Display
(common anode connection to Vcc)

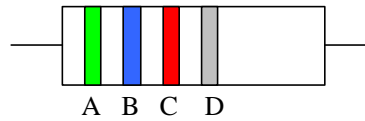


MAN74A Common Cathode 7-segment Display
(common cathode connection to ground)

Resistor Color Code

Carbon resistors are typically color-coded using four colored bands labeled A, B, C, and D as indicated below.

Bands A, B, C		Band D	
Black	0	Gold	5%
Brown	1	Silver	10%
Red	2	No band	20%
Orange	3		
Yellow	4		
Green	5		
Blue	6		
Violet	7		
Gray	8		
White	9		
Gold	-1		
Silver	-2		

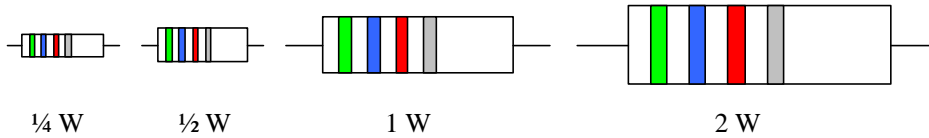


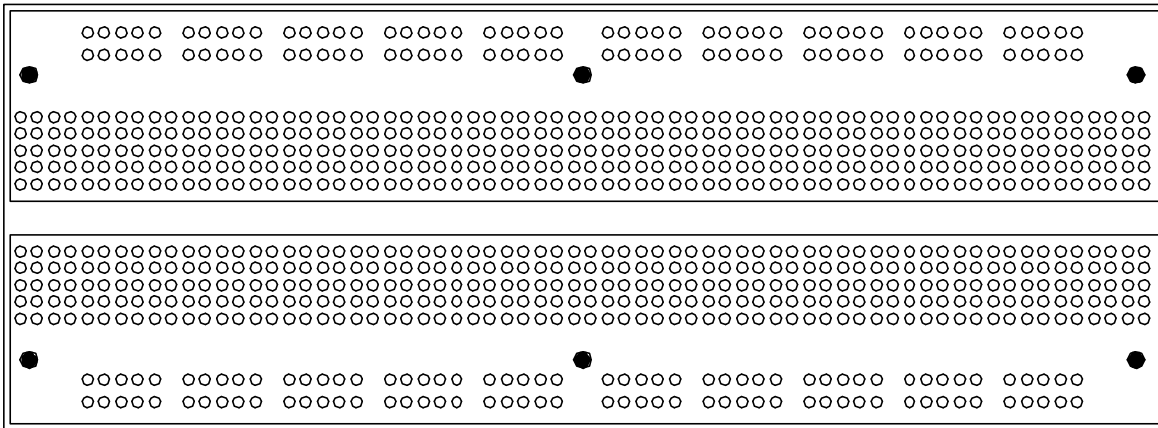
A – First significant digit
 B – Second significant digit
 C – Exponent
 D – Tolerance

Resistance value: $R = AB \times 10^C$

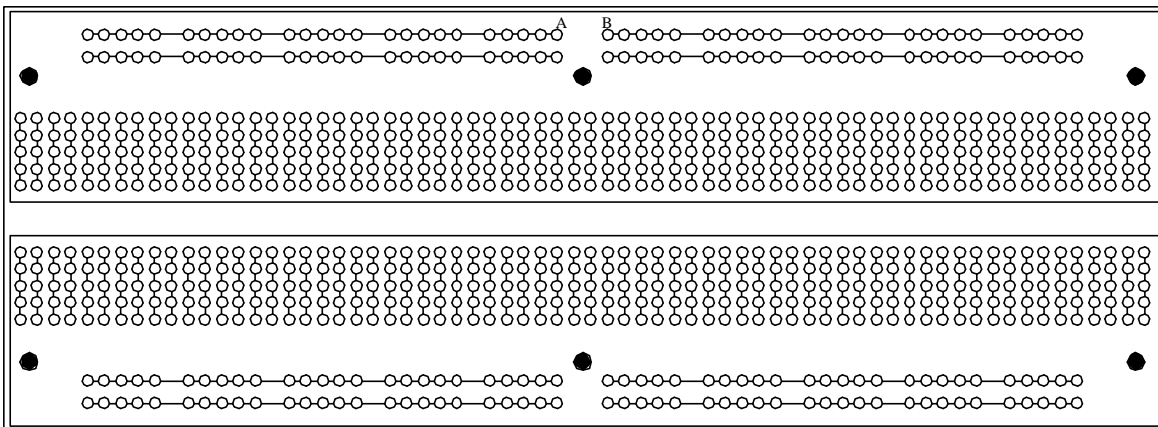
Ex: Green, Blue, Red, Silver
 $R = 56 \times 10^2 = 5.6 \text{ k}\Omega$, 10% tolerance

The size of a carbon resistor indicates its power rating.





SK-10 Solderless Breadboard (or equivalent)



Internal Connections on the SK-10 Solderless Breadboard

- Notes:
- 1) Lines indicate which holes are connected under the breadboard.
 - 2) To connect two or more wires together, plug them in the same row of holes.
 - 3) Holes A and B are connected on some breadboards (as well as the similar holes on the other horizontal rows).

Example: Connect the following circuit using the SK-10 solderless breadboard.

