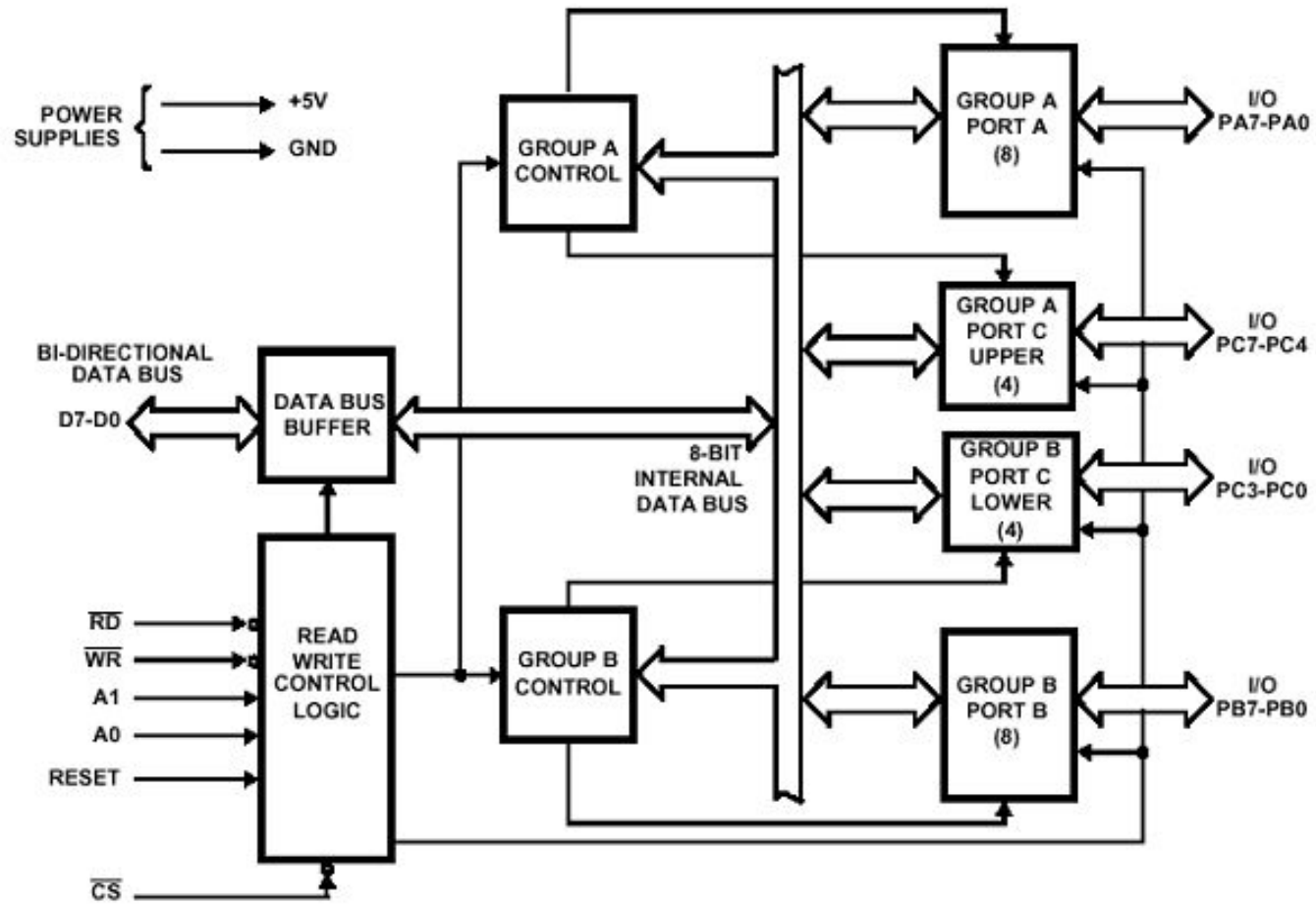
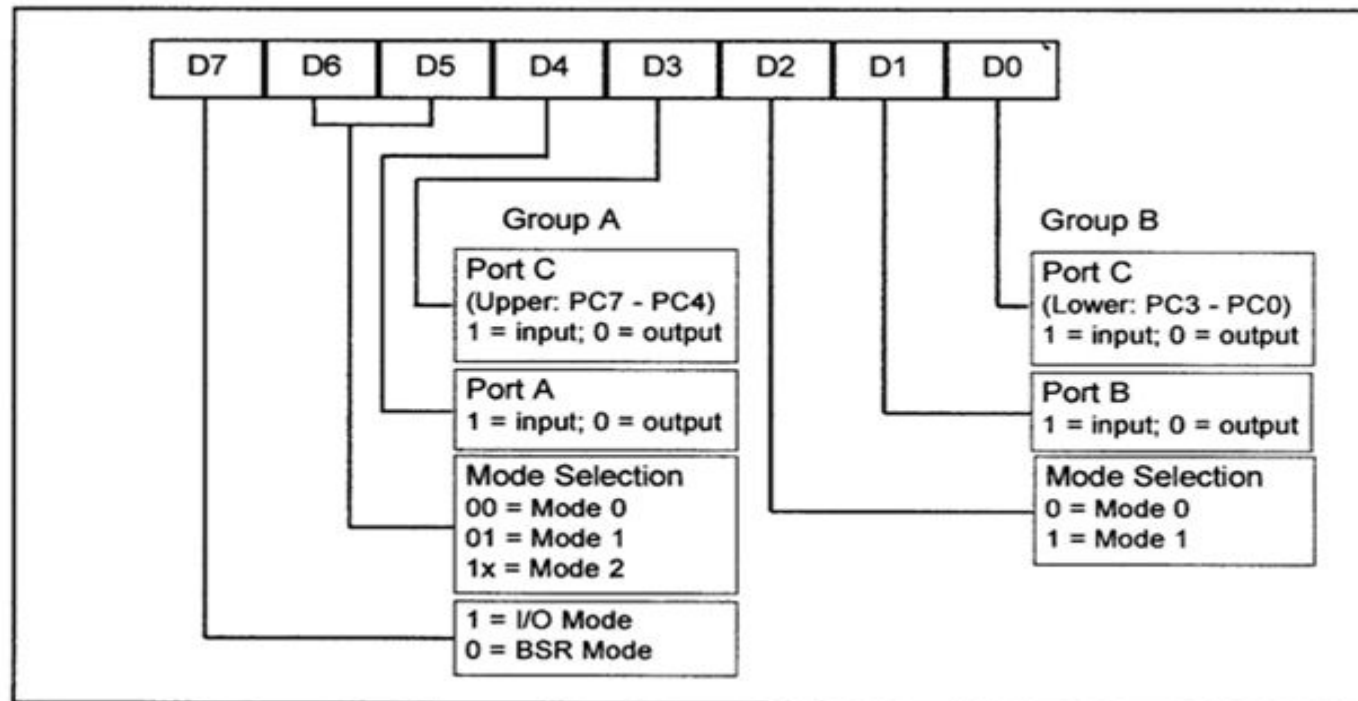


8255



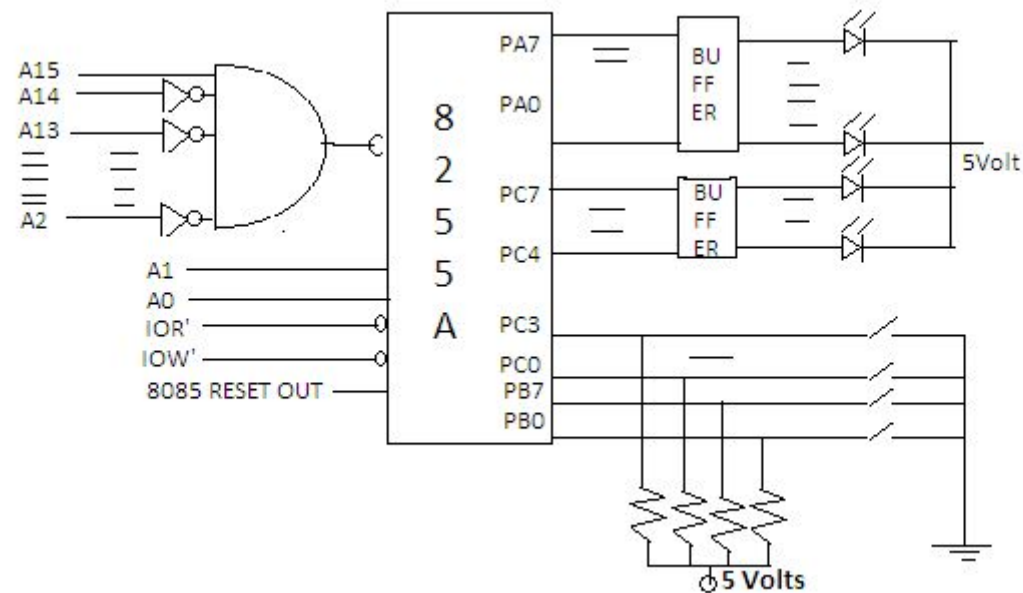
CS	A ₁	A ₀	Result
0	0	0	PORT A
0	0	1	PORT B
0	1	0	PORT C
0	1	1	Control Register
1	X	X	No Selection



Control Word Format 8255A

Example:

- Identify port addresses in figure below.
- Write the control word to configure port A and port Cu as output port and port B and port CL as input port
- Write a program to read the DIP switches and display the reading from port B at port A and from port Cl at port Cu.



The port address for the above configuration is given below:

A15.....A2	A1	A0	Hex Address	Port Name
1000000000000000	0	0	8000h	Port A
1000000000000000	0	1	8001h	Port B
1000000000000000	1	0	8002h	Port C
1000000000000000	1	1	8003h	Control Register

The control word for the above figure is shown below:

D7	D6	D5	D4	D3	D2	D1	D0	Value in Hex
1	0	0	0	0	0	1	1	83h

Mode 1

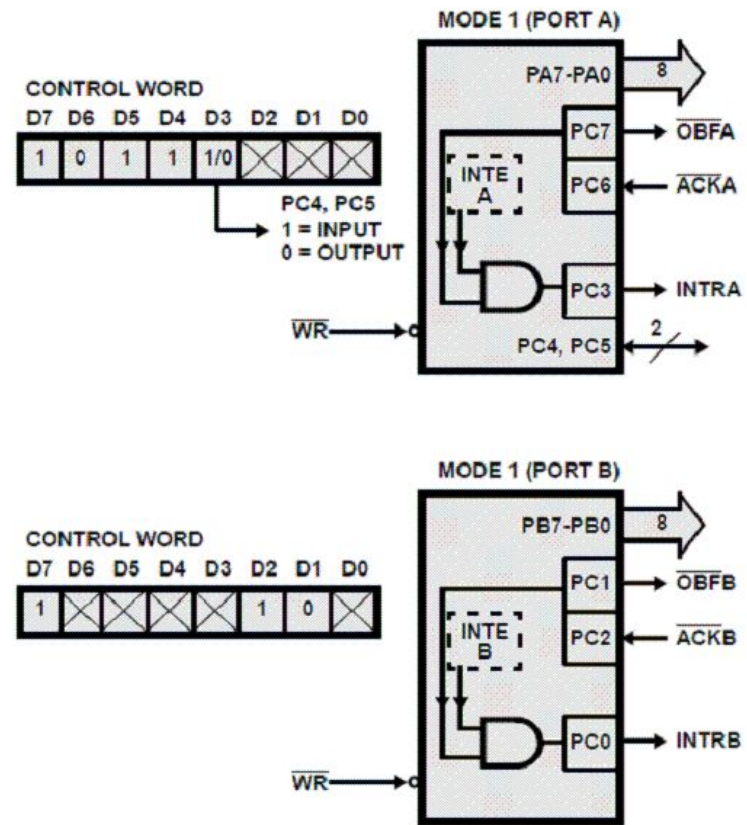


Fig 1.7 (Mode1 output operation)

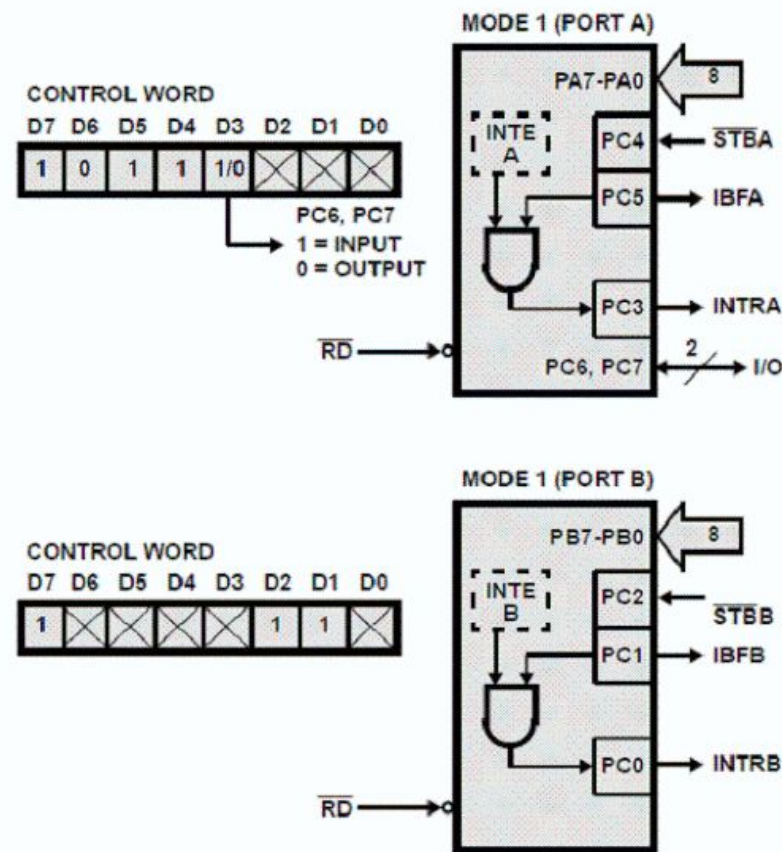
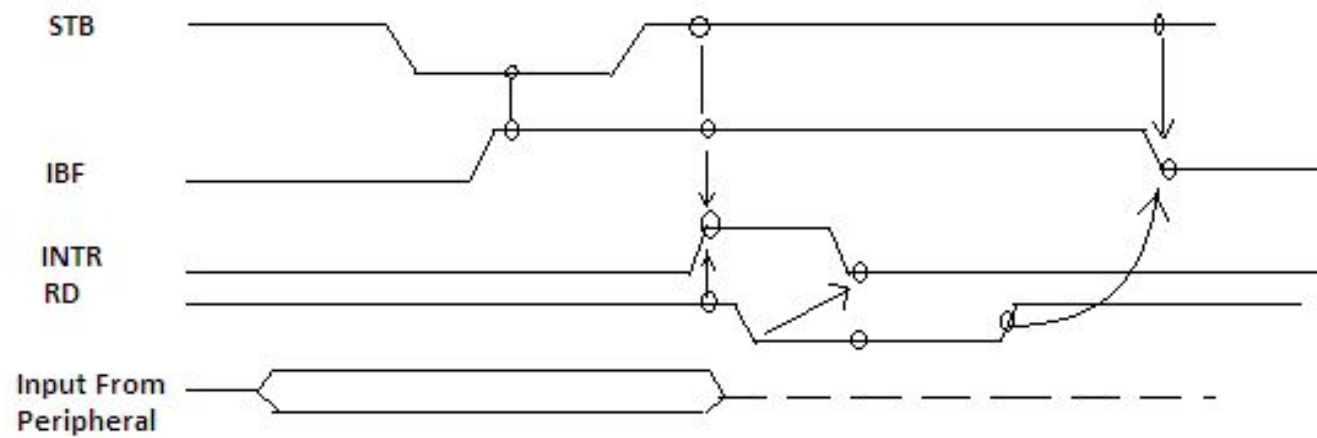


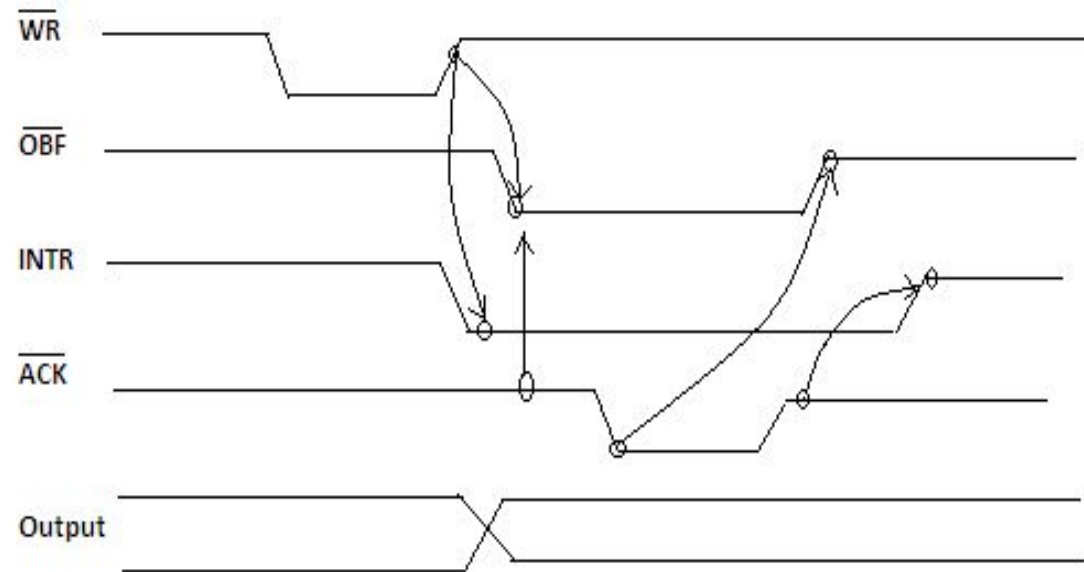
Fig 1.6 (Mode1 Input operation)

Read Mode1



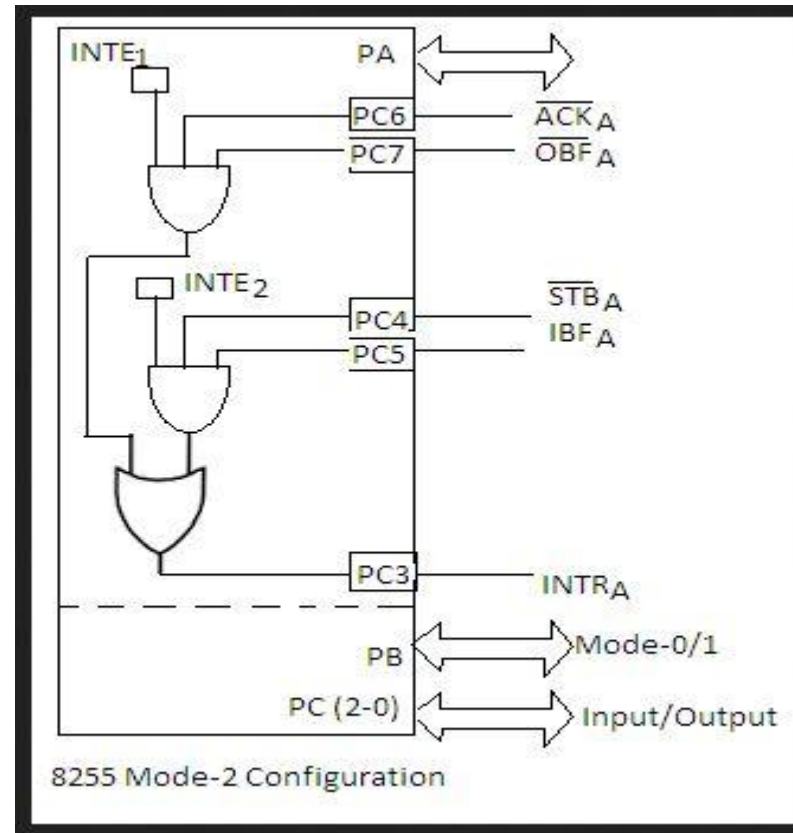
Waveform with strobed Input (with Handshake)

Write Mode 1

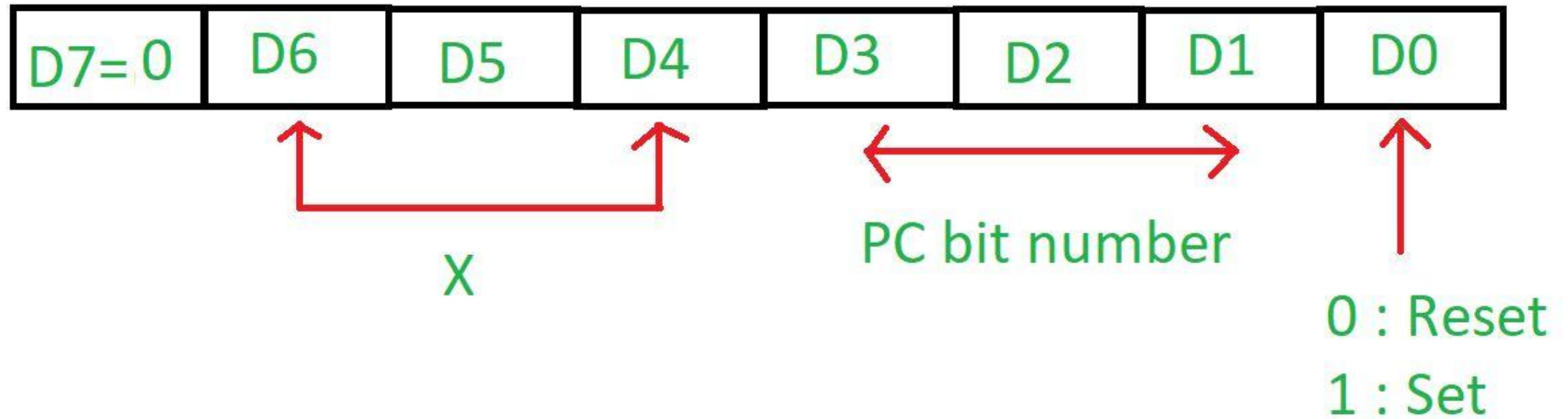


8255 Mode-1 Output

Mode 2: Bi Directional Port A



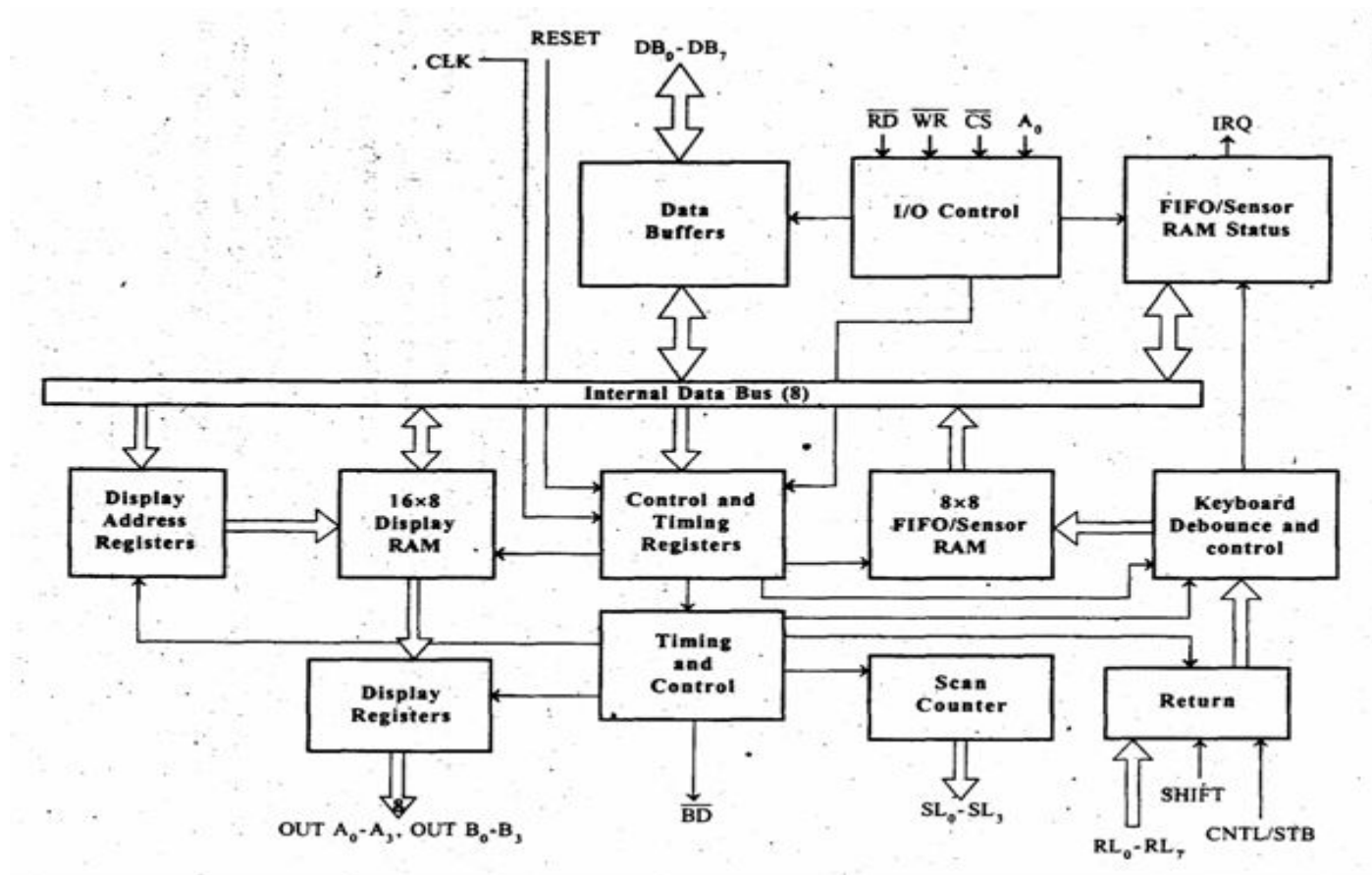
BSR



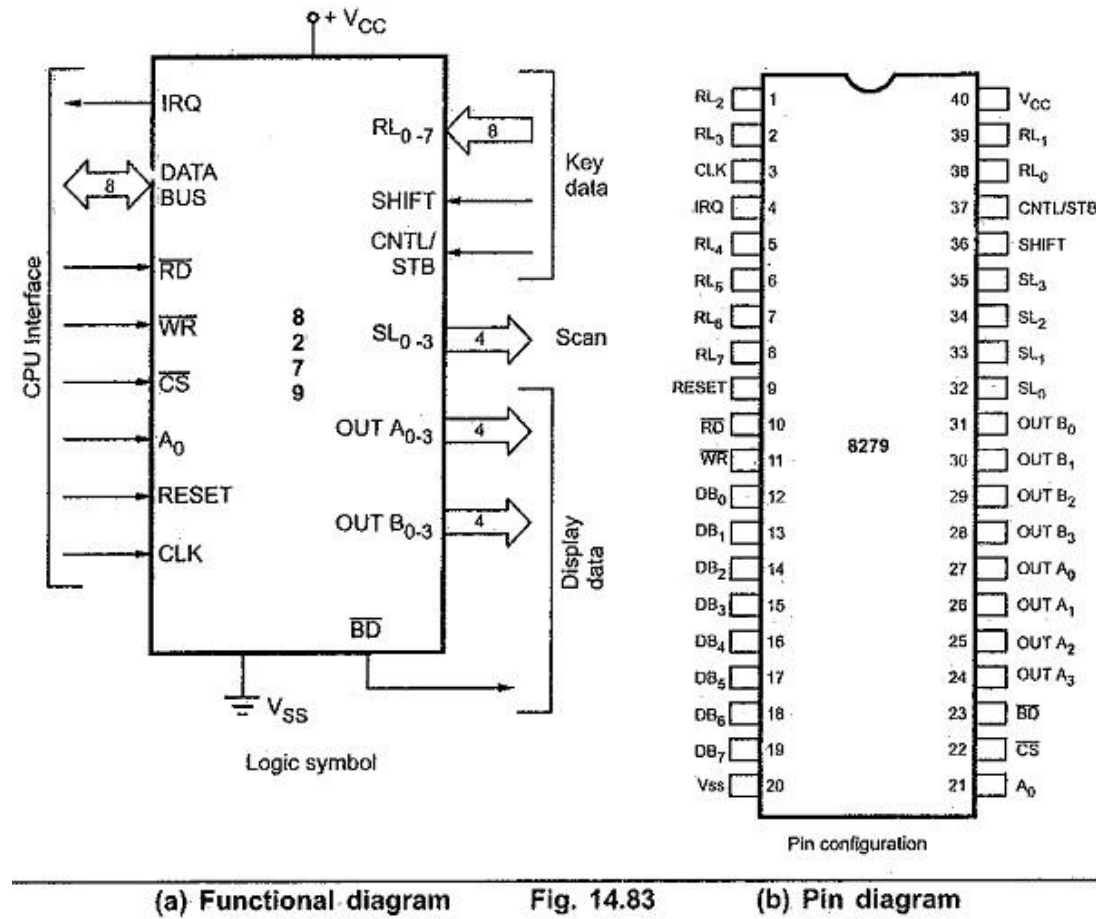
D3 D2 D1

0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

KDI 8279



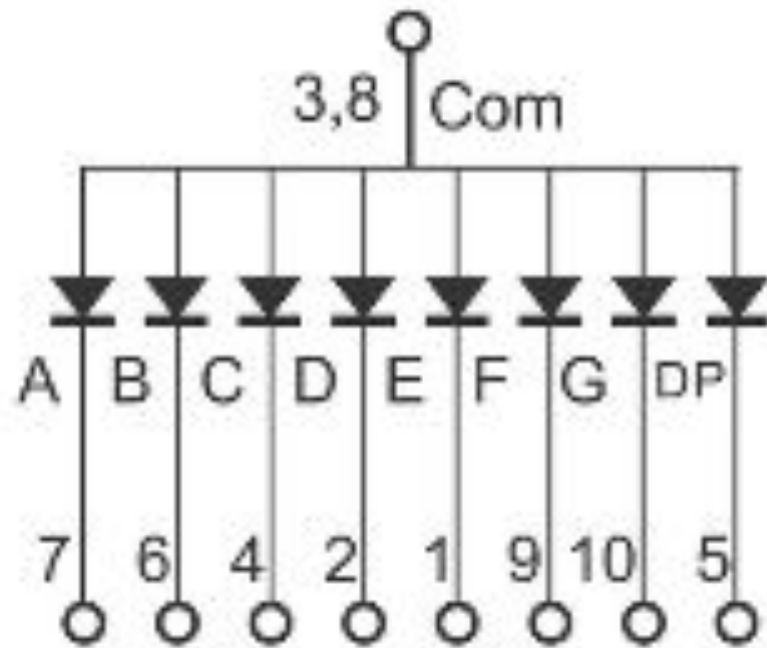
KDI



7 Segment Display



7 Segment Display - Pin Out Diagram

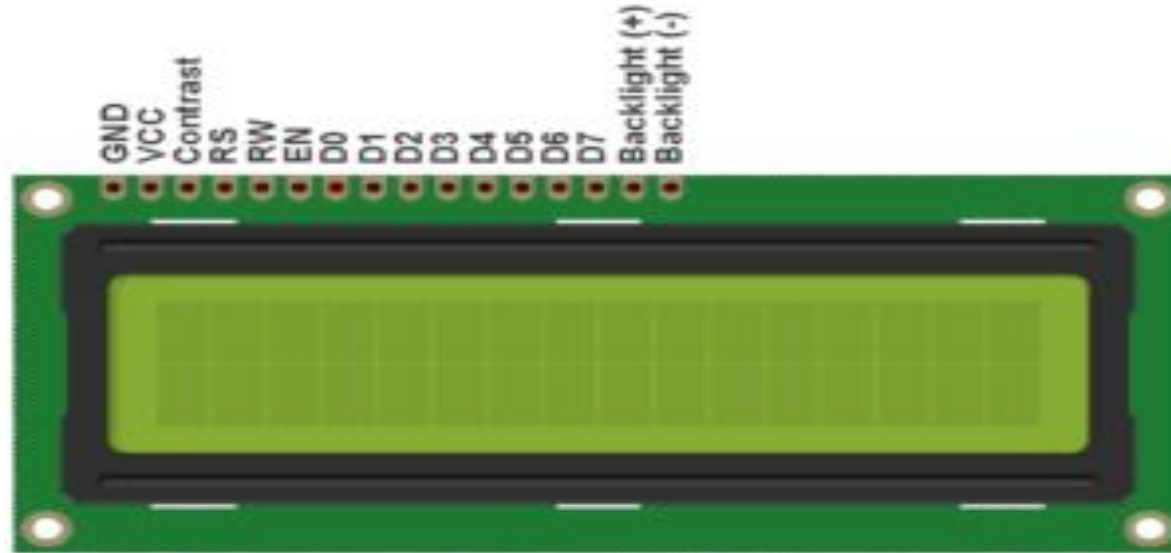


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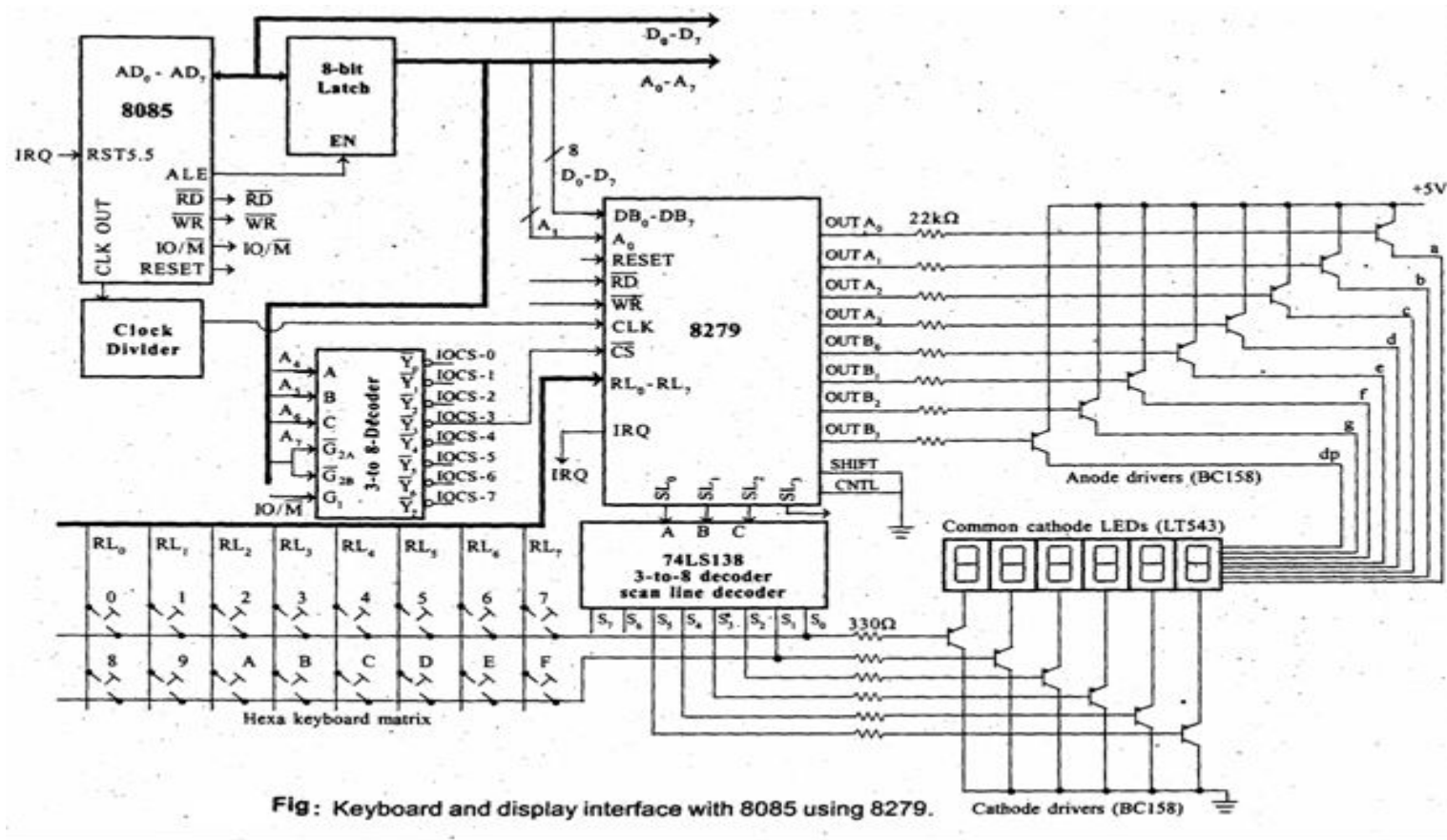
inputs and corresponding outputs

Decimal	Binary DCBA	7 Segment Code a b c d e f g
0	0000	1 1 1 1 1 1 0
1	0001	0 1 1 0 0 0 0
2	0010	1 1 0 1 1 0 1
3	0011	1 1 1 1 0 0 1
4	0100	0 1 1 0 0 1 1
5	0101	1 0 1 1 0 1 1
6	0110	0 0 1 1 1 1 1
7	0111	1 1 1 0 0 0 0
8	1000	1 1 1 1 1 1 1
9	1001	1 1 1 0 0 1 1

16 x 2 LCD

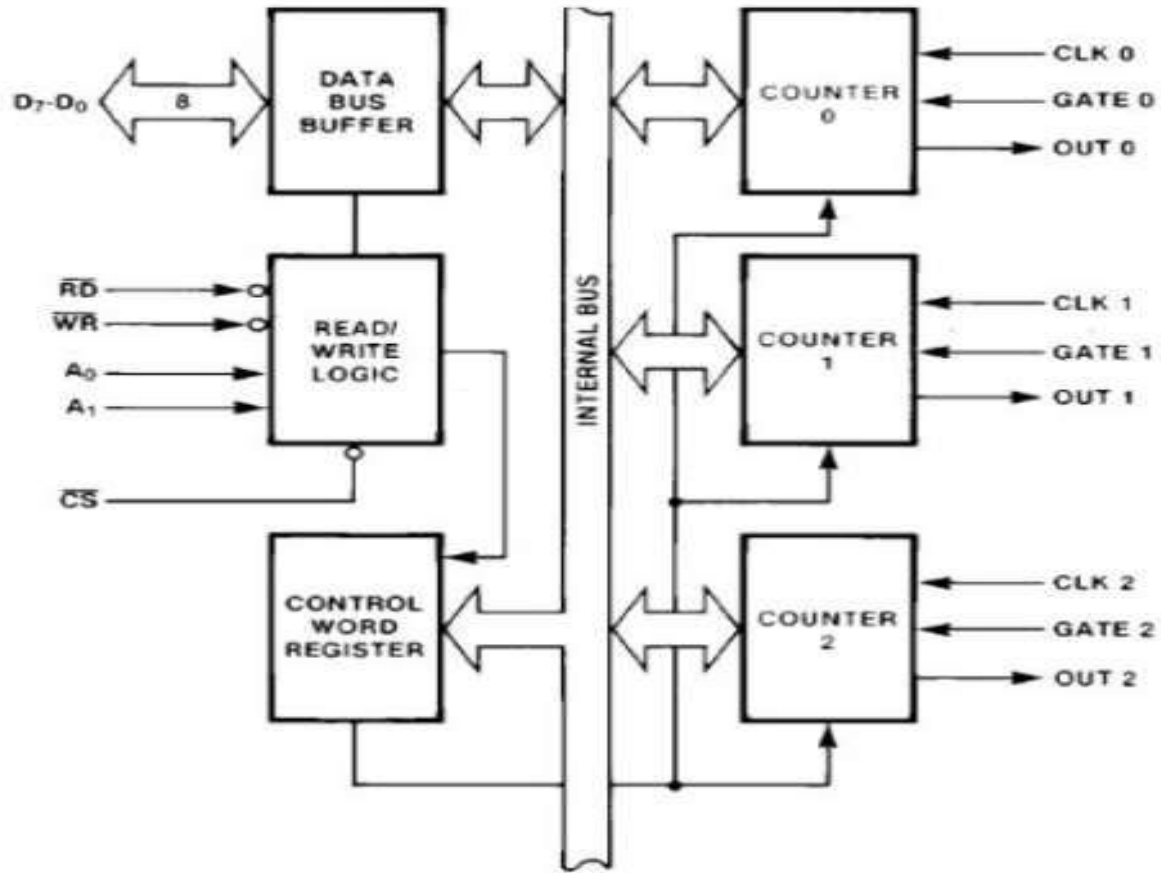


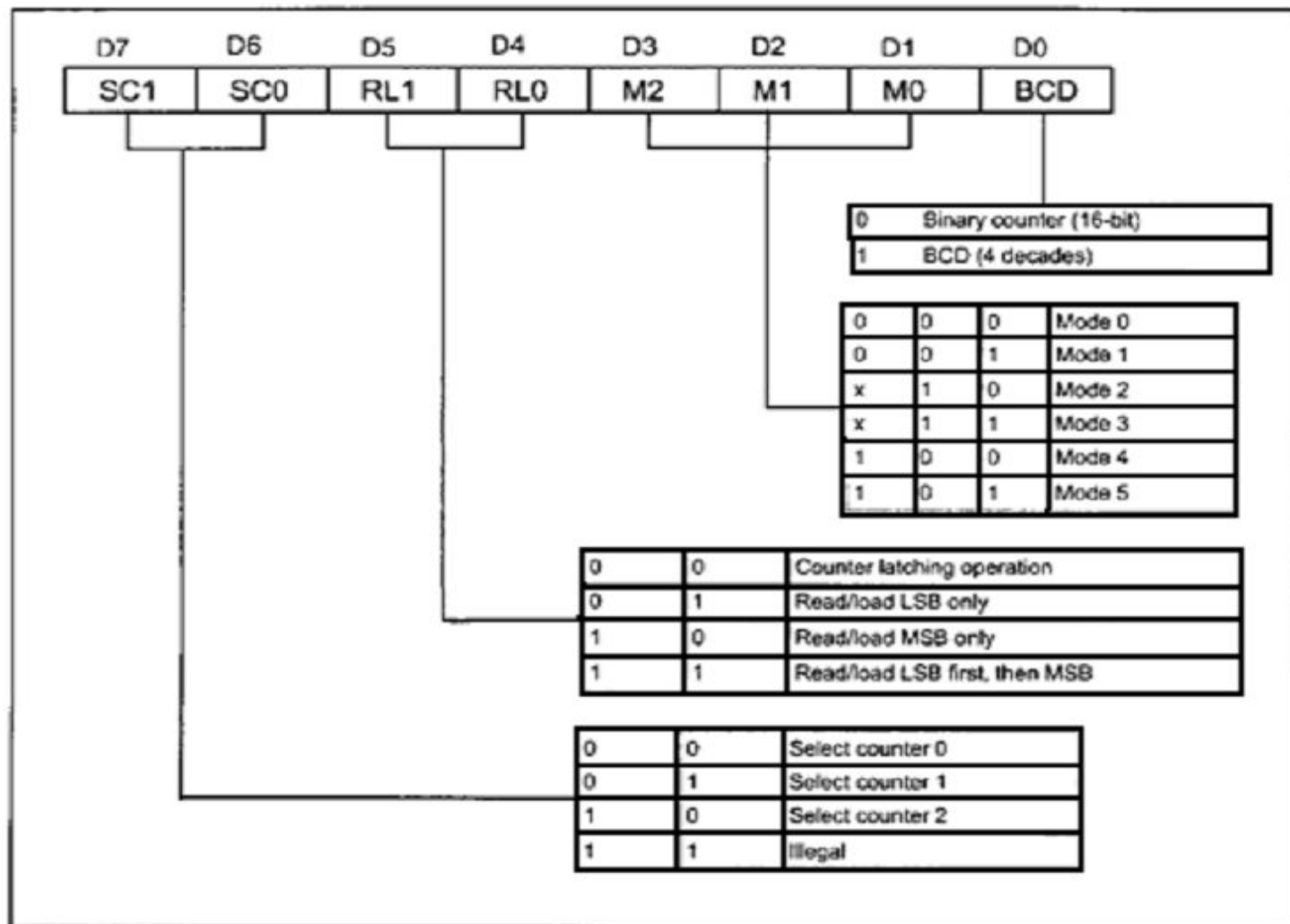
Kdi Configurations



- Keyboard scanning
- Key debouncing
- Key code generation
- Sending display code to LED
- Display refreshing

8253/54 Programmable Interval timer





Control word

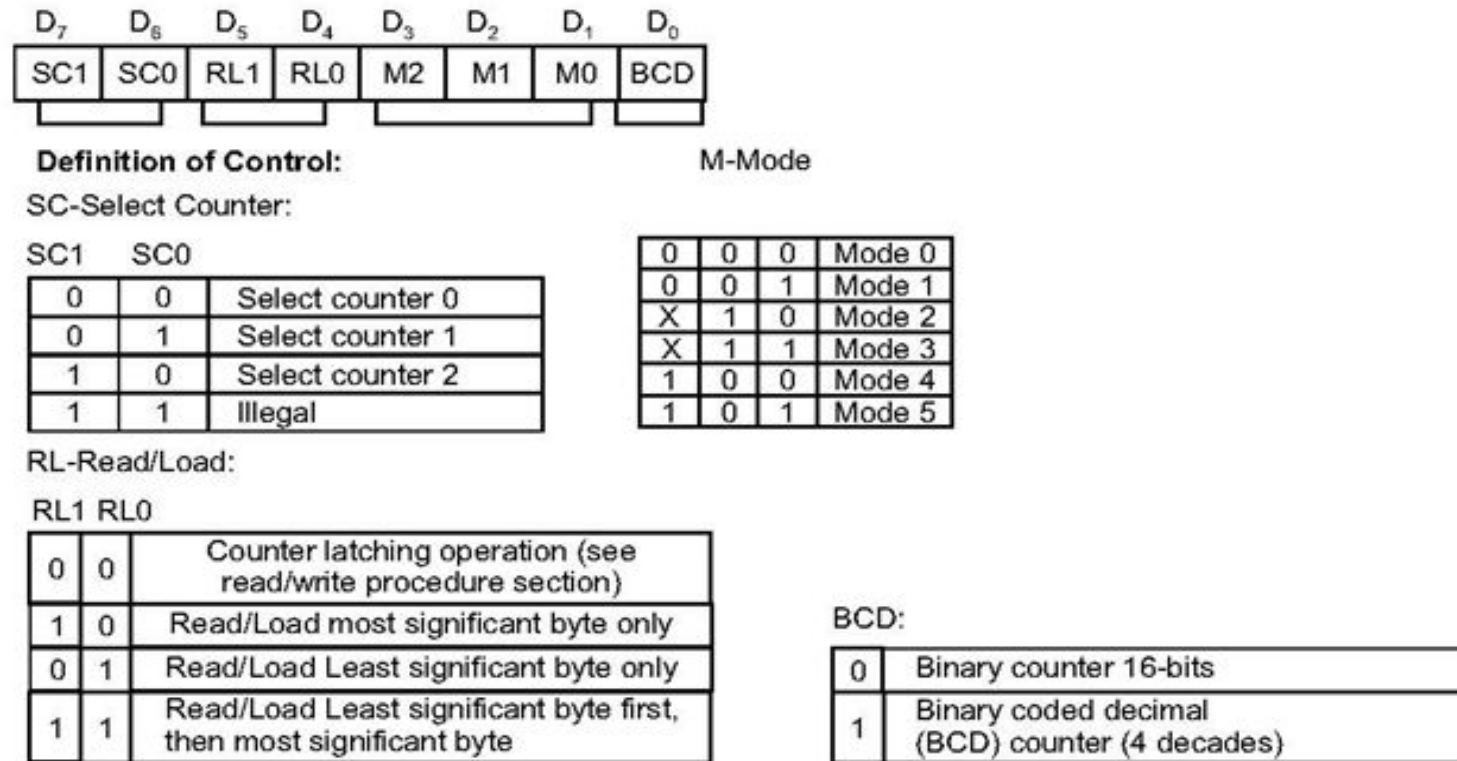


Fig. 9g.3: Control word format and mode definitions
(Source: Intel Corporation)

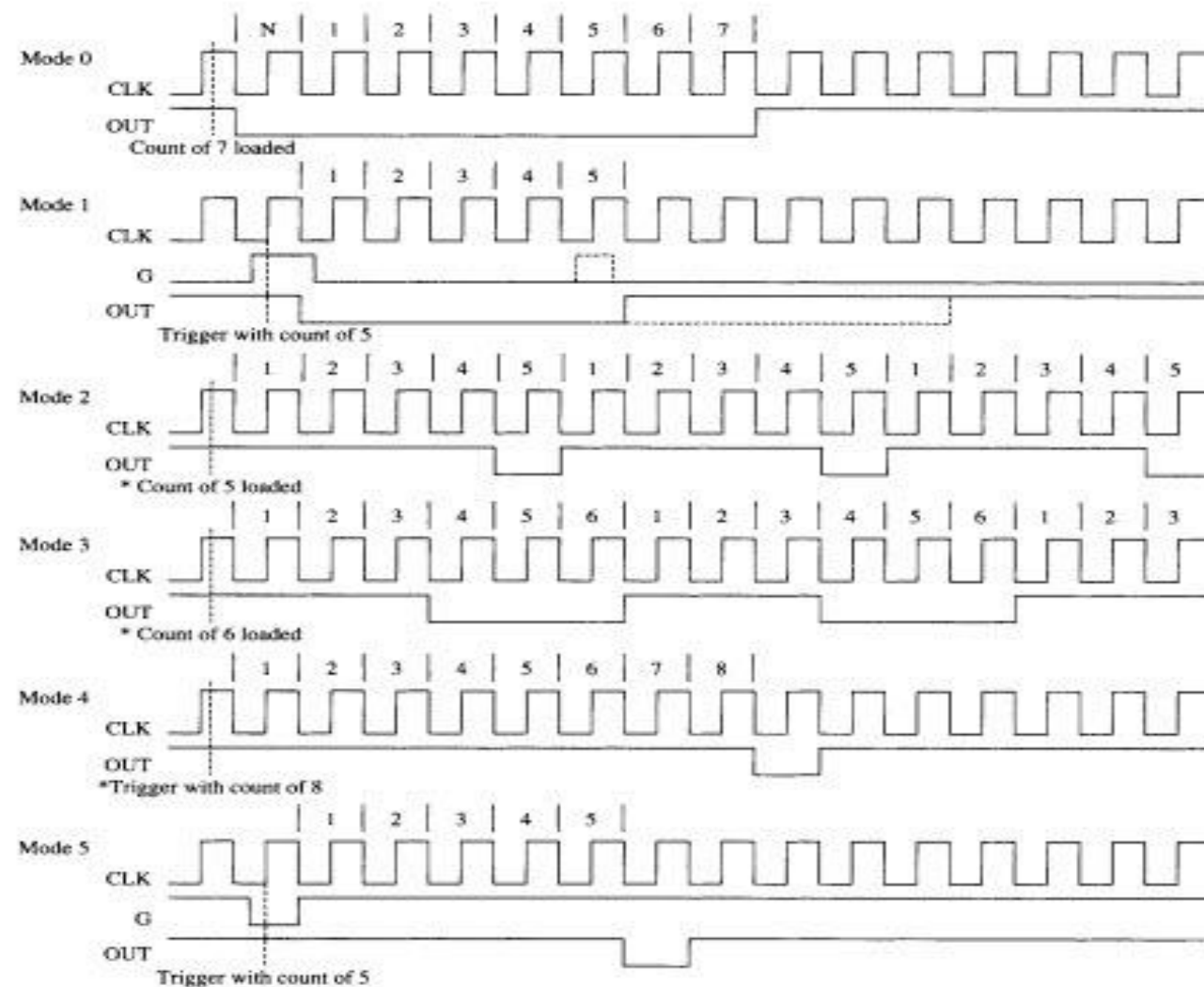


FIGURE 11-35 The six modes of operation for the 8254-2 programmable interval timer. The G input stops the count when 0 in modes 2, 3, and 4.