

MATAKULIAH SISTEM DIGITAL

PERTEMUAN X

REGISTER

**OLEH :
HIDAYAT**

**JURUSAN TEKNIK KOMPUTER
UNIKOM
2012**

Klasifikasi

Register diklasifikasikan:

- Register Parallel In/Parallel Out (PIPO)
- Register Serial In/Serial Out (SISO)
- Register Parallel In/Serial Out (PISO)
- Register Serial In/Parallel Out (SIPO)

Parallel In/Parallel Out (PIPO)

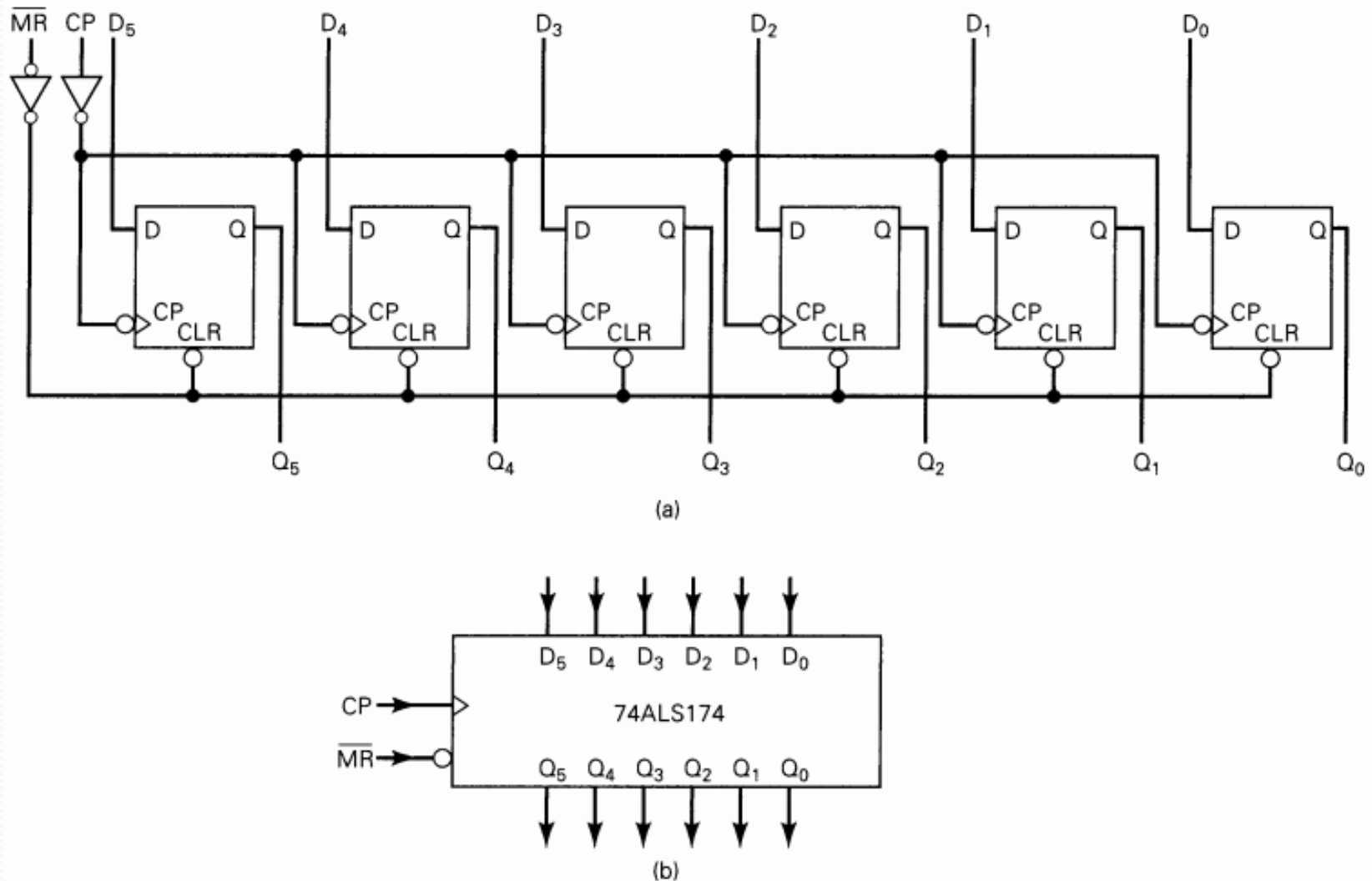


FIGURE 7-49 (a) Circuit diagram of the 74ALS174; (b) logic symbol. (Courtesy of Fairchild, a Schlumberger company)

Parallel In/Parallel Out (PIPO)

- Data output diproses secara sinkron

Serial In/Serial Out (SISO)

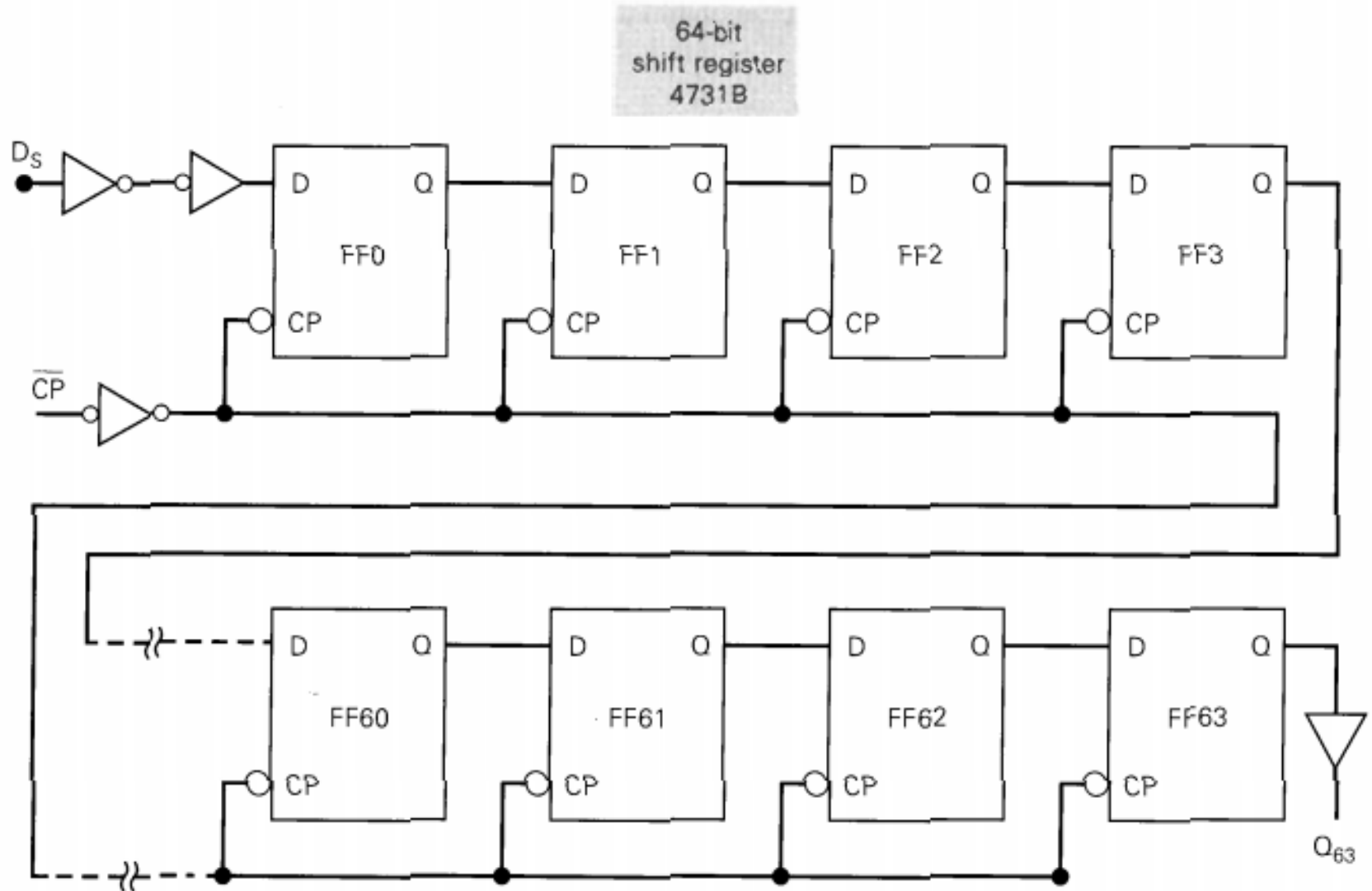


FIGURE 7-51 Logic diagram for one of four 64-bit shift registers on a 4731B. (Courtesy of Fairchild, a Schlumberger company)

Serial In/Serial Out (SISO)

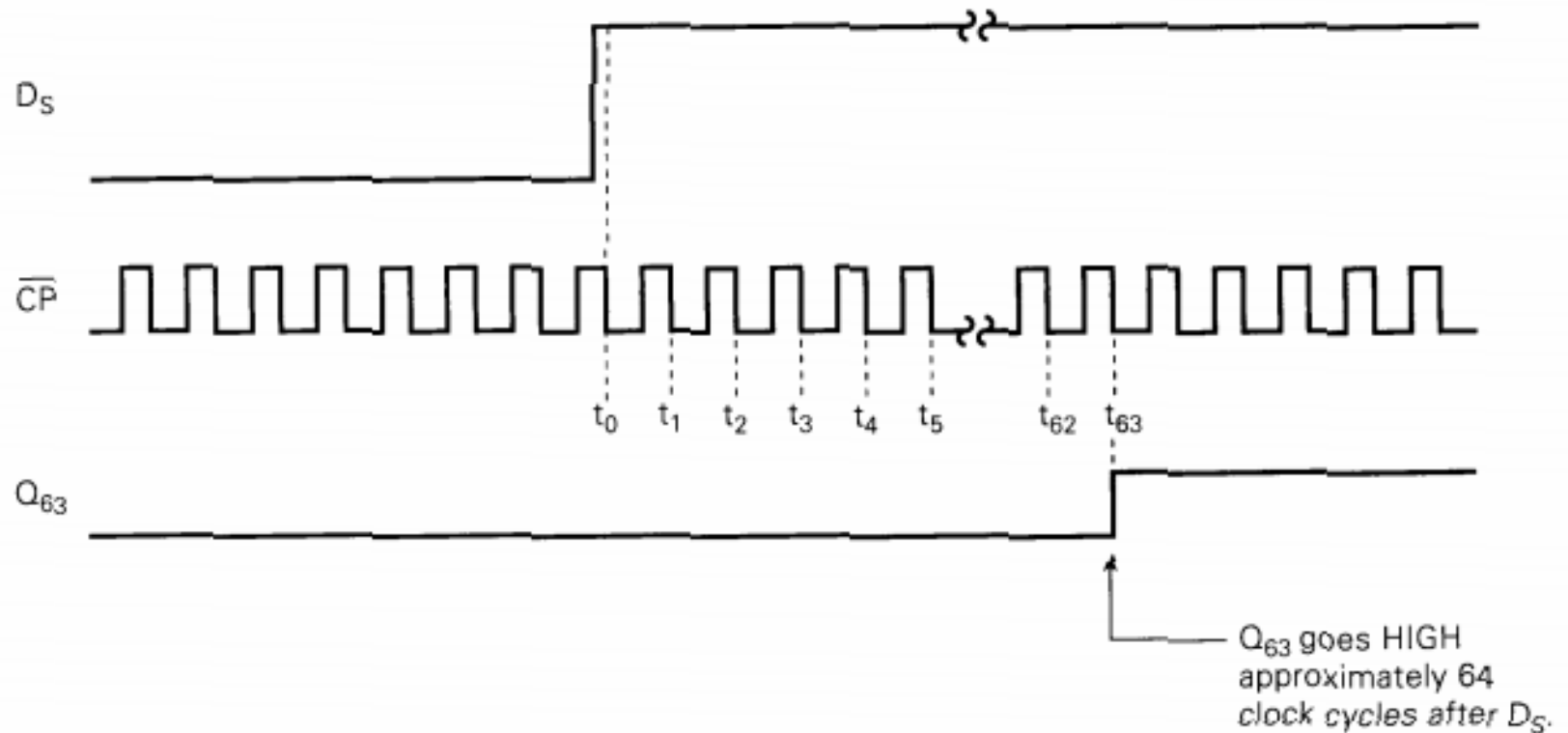
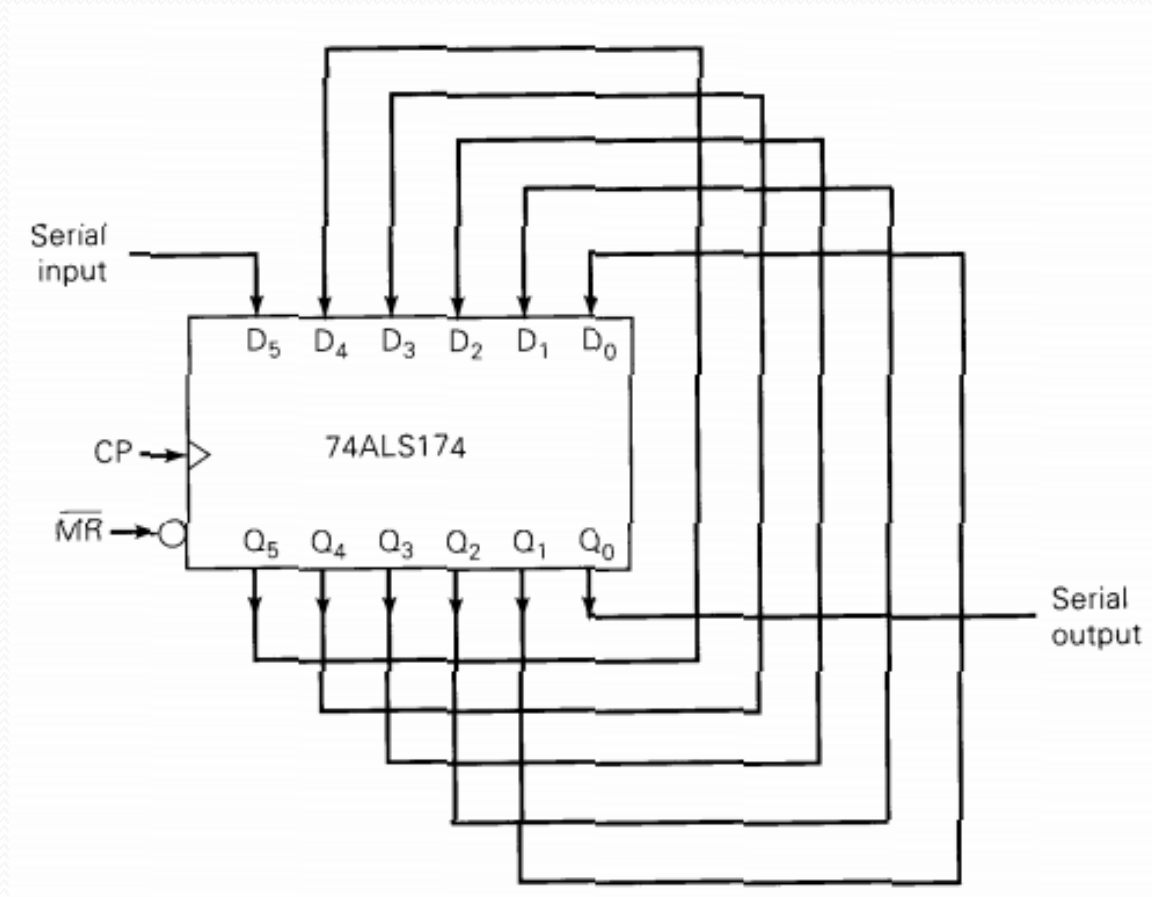
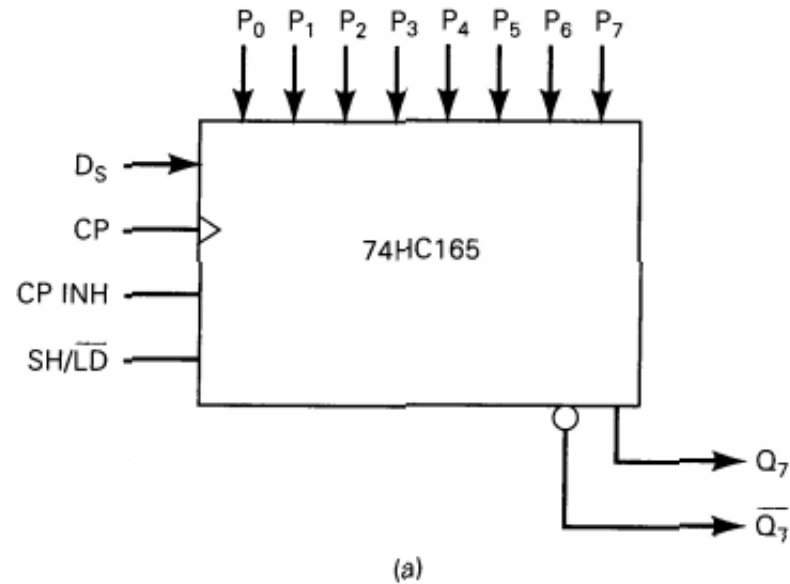


FIGURE 7-52 Waveforms showing how one of the 4731B shift registers can be used to delay a digital signal.

Alternatif utk reg. SISO



Parallel In/Serial Out (PISO)



Function Table

Inputs			Operation
SH/\overline{LD}	CP	$CP\ INH$	
L	X	X	Parallel load
H	H	X	No change
H	X	H	No change
H	\mathcal{F}	L	Shifting
H	L	\mathcal{F}	Shifting

H = high level
L = low level
X = immaterial
 \mathcal{F} = PGT

(b)

Serial In/Parallel Out (SIPO)

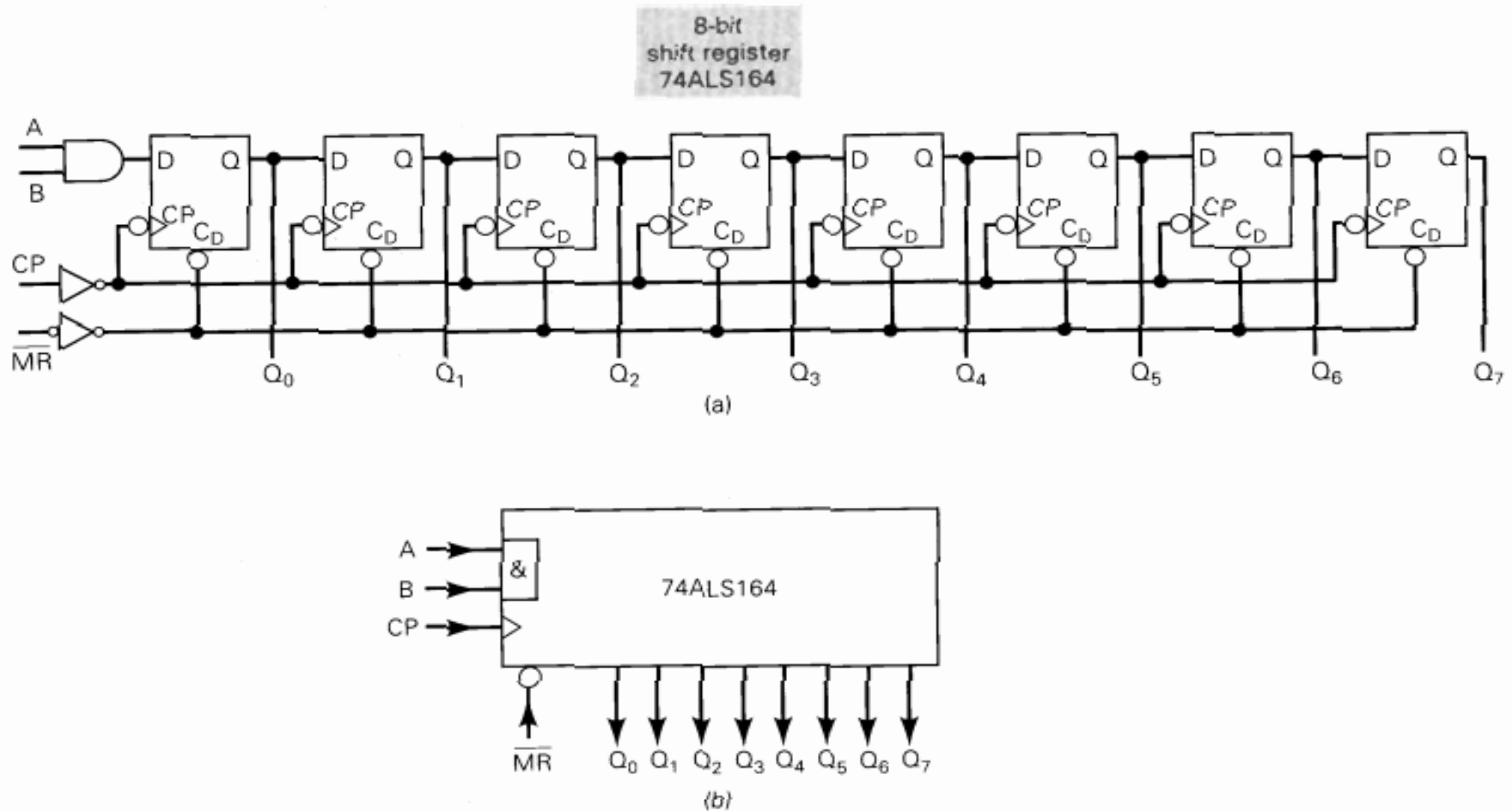
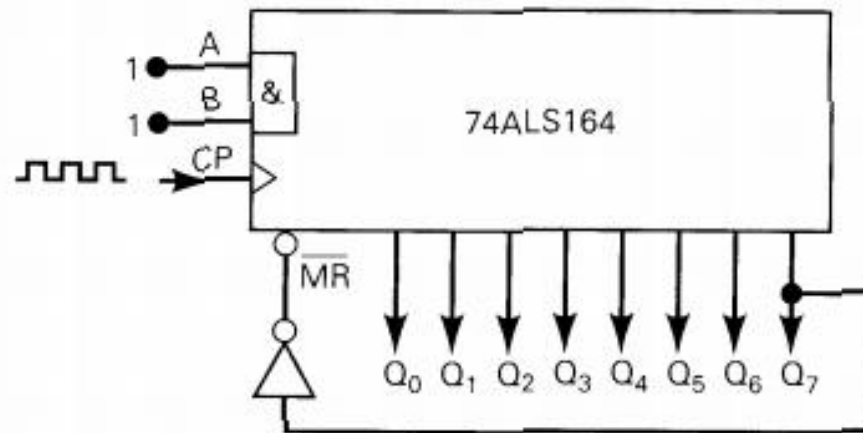


FIGURE 7-54 (a) Logic diagram for the 74ALS164; (b) logic symbol. (Courtesy of Fairchild, a Schlumberger company)



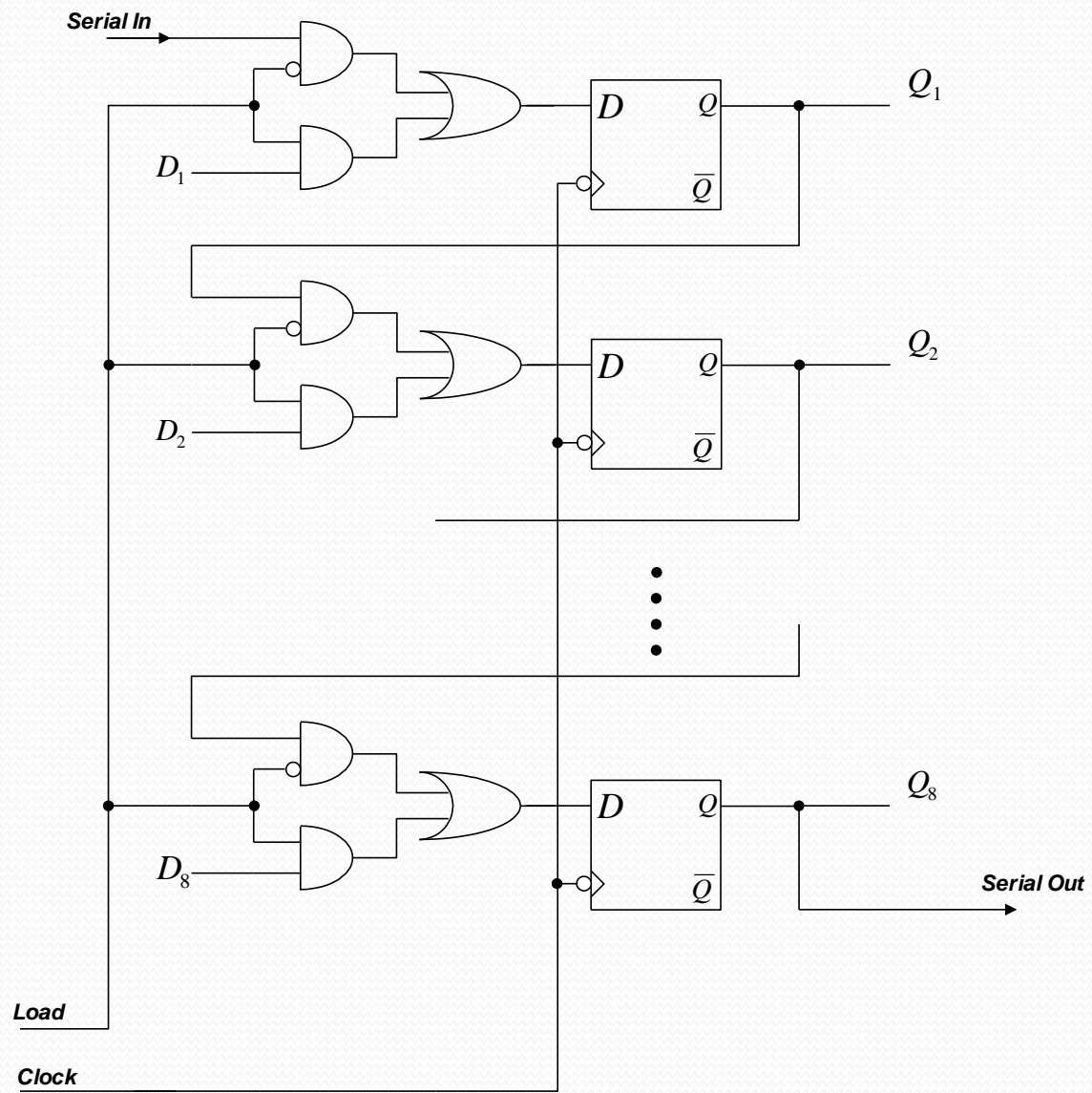
(a)

Input pulse number	Q ₀	Q ₁	Q ₂	Q ₃	Q ₄	Q ₅	Q ₆	Q ₇
0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0
2	1	1	0	0	0	0	0	0
3	1	1	1	0	0	0	0	0
4	1	1	1	1	0	0	0	0
5	1	1	1	1	1	0	0	0
6	1	1	1	1	1	1	0	0
7	1	1	1	1	1	1	1	0
8	1	1	1	1	1	1	1	1

Temporary state

Recycles

(b)

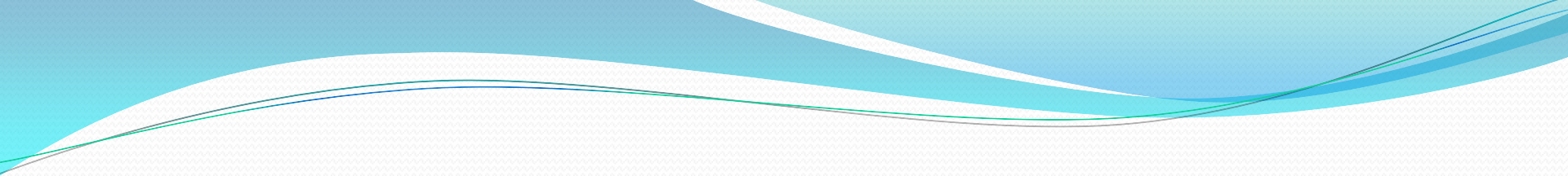




summer

Tocci, R.J. & Widmer, N.S. 2001. Digital System Principles and Applications Eighth Edition. Prentice Hall Internacional.

Chapter 5



“Innal ‘ilma ‘aziizun, idzaa a’thaytahu kullaka, a’thaaka ba’dlahu, wa idzaa a’thaytahu ba’dlaka, lam ya’thiika syay an.”

Sesungguhnya ilmu itu mulia. Jika kau menyerahkan seluruh usahamu kepadanya, ia akan menyerahkan sebahagian dirinya kepadamu. Dan jika kau hanya menyerahkan sedikit saja usahamu kepadanya, ia tidak akan menyerahkan apa-apa kepadamu.

SELESAI