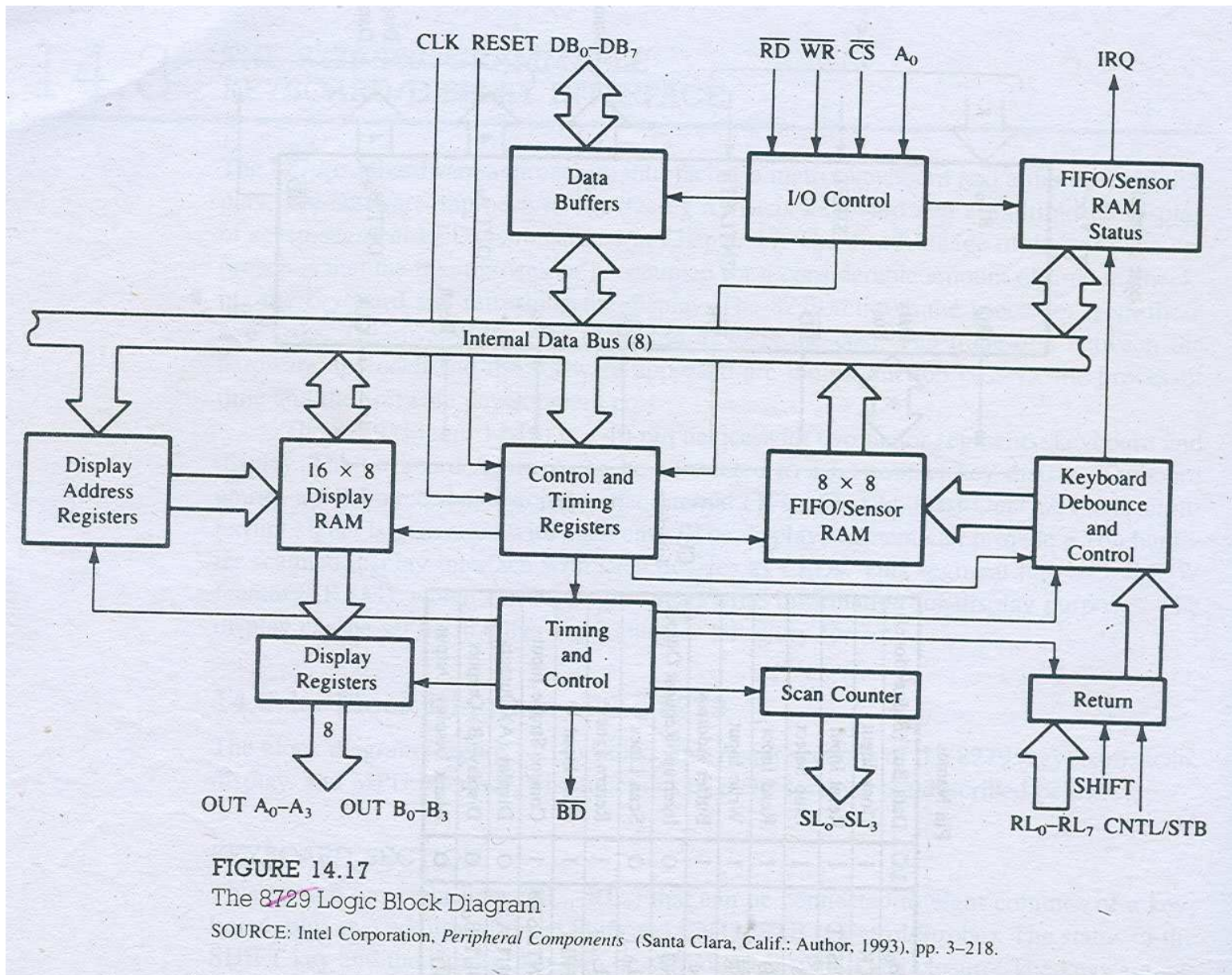


8279 – Keyboard and Display Controller

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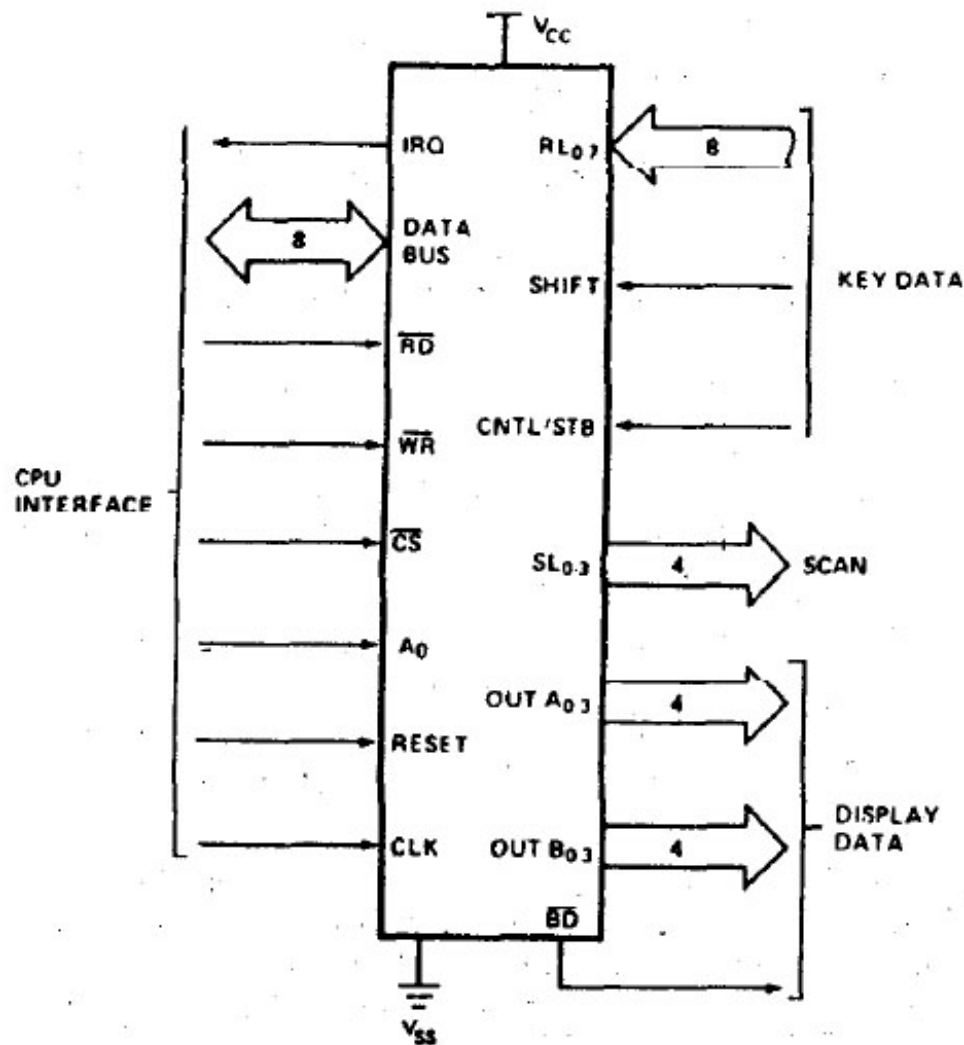
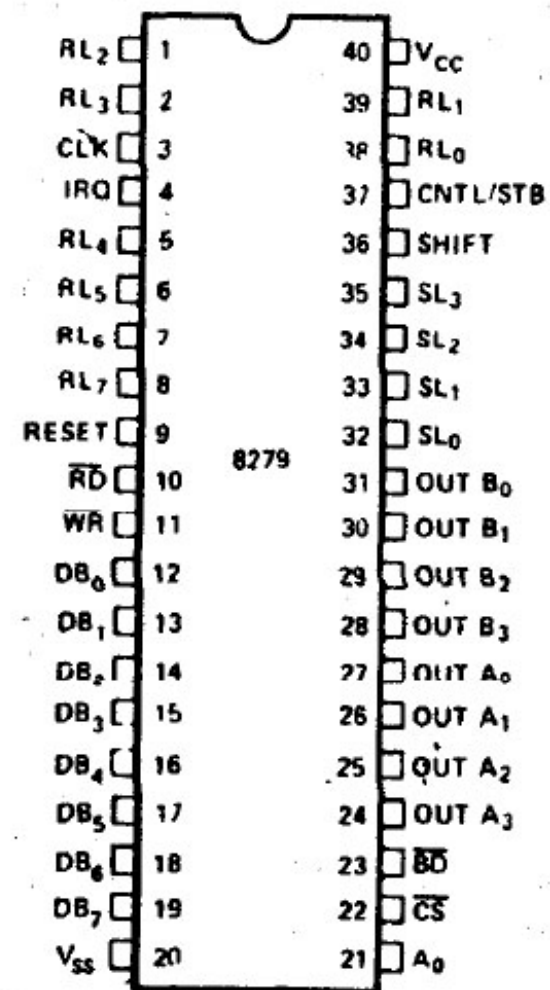


Figure 1. Logic Symbol

290123-1



290123-2

Figure 2. Pin Configuration

8279 – Keyboard and Display Controller

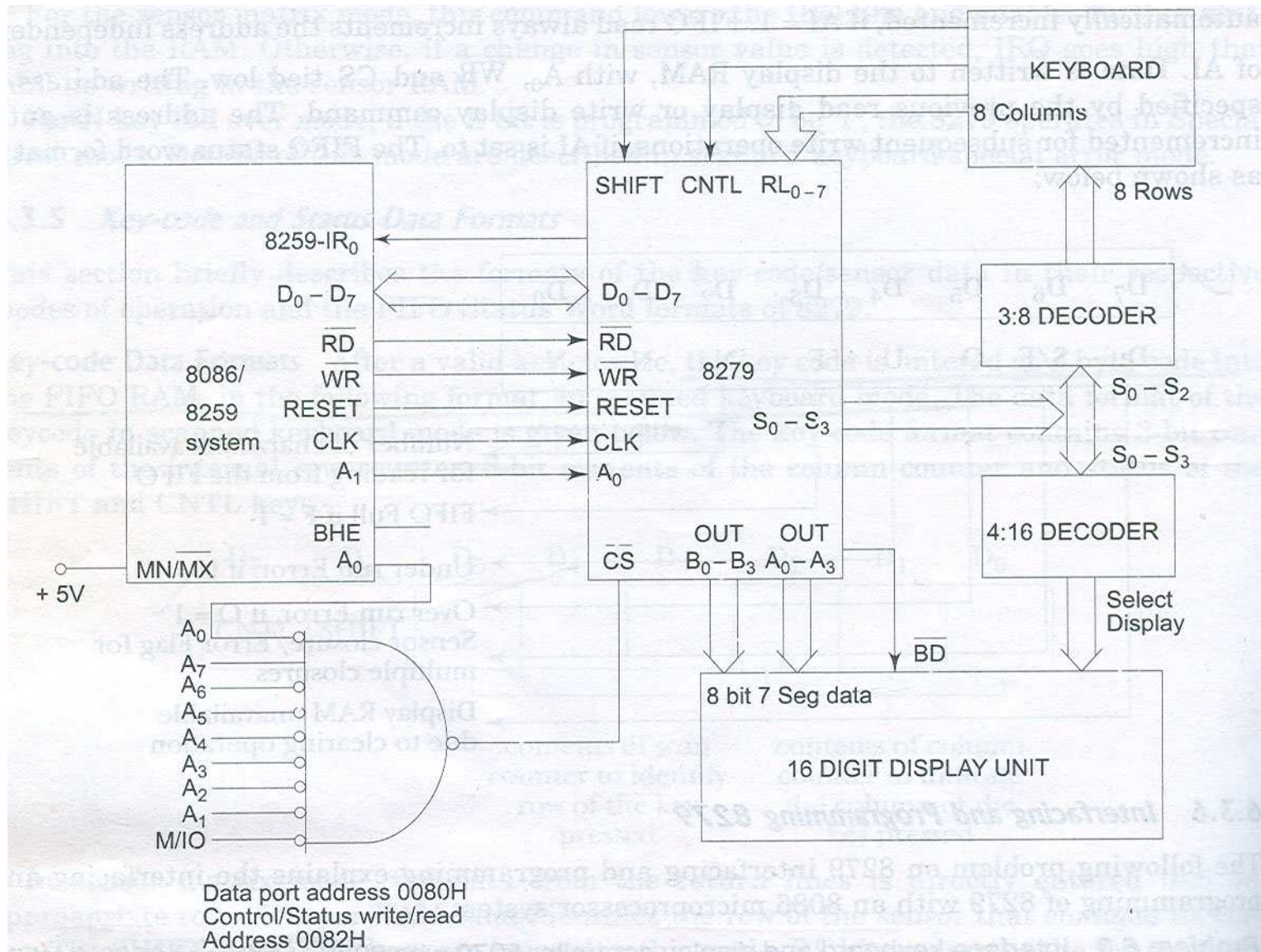


Fig. 6.23 8279 Interfacing with 8086

Keyboard/Display Mode Set

	MSB							LSB
Code:	0	0	0	D	D	K	K	K

Where DD is the Display Mode and KKK is the Keyboard Mode.

DD

- 0 0 8 8-bit character display—Left entry
- 0 1 16 8-bit character display—Left entry*
- 1 0 8 8-bit character display—Right entry
- 1 1 16 8-bit character display—Right entry

For description of right and left entry, see Interface Considerations. Note that when decoded scan is set in keyboard mode, the display is reduced to 4 characters independent of display mode set.

KKK

- 0 0 0 Encoded Scan Keyboard—2 Key Lock-out*
- 0 0 1 Decoded Scan Keyboard—2-Key Lock-out
- 0 1 0 Encoded Scan Keyboard—N-Key Roll-over
- 0 1 1 Decoded Scan Keyboard—N-Key Roll-over
- 1 0 0 Encoded Scan Sensor Matrix
- 1 0 1 Decoded Scan Sensor Matrix
- 1 1 0 Strobed Input, Encoded Display Scan
- 1 1 1 Strobed Input, Decoded Display Scan

Program Clock

Code:

0	0	1	P	P	P	P	P
---	---	---	---	---	---	---	---

All timing and multiplexing signals for the 8270 are generated by an internal prescaler. This prescaler divides the external clock (pin 3) by a programmable integer. Bits P P P P P determine the value of this integer which ranges from 2 to 31.

Read Display RAM

Code:

0	1	1	AI	A	A	A	A
---	---	---	----	---	---	---	---

The CPU sets up the 8279 for a read of the Display RAM by first writing this command. The address bits AAAA select one of the 16 rows of the Display RAM. If the AI flag is set ($AI = 1$), this row address will be incremented after each following read *or write* to the Display RAM. Since the same counter is used for both reading and writing, this command sets the next read *or write* address and the sense of the Auto-Increment mode for both operations.

Write Display RAM

Code:

1	0	0	AI	A	A	A	A
---	---	---	----	---	---	---	---

The CPU sets up the 8279 for a write to the Display RAM by first writing this command. After writing the command with $A_0 = 1$, all subsequent writes with $A_0 = 0$ will be to the Display RAM. The addressing and Auto-Increment functions are identical to those for the Read Display RAM.

Read FIFO/Sensor RAM

Code:

0	1	0	AI	X	A	A	A
---	---	---	----	---	---	---	---

 X = Don't Care

The CPU sets the 8279 for a read of the FIFO/Sensor RAM by first writing this command. In the Scan Keyboard Mode, the Auto-Increment flag (AI) and the RAM address bits (AAA) are irrelevant. The 8279 will automatically drive the data bus for each subsequent read ($A_0 = 0$) in the same sequence in which the data first entered the FIFO. All subsequent reads will be from the FIFO until another command is issued.