



SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
Coimbatore-35



DEPARTMENT OF BIOMEDICAL ENGINEERING

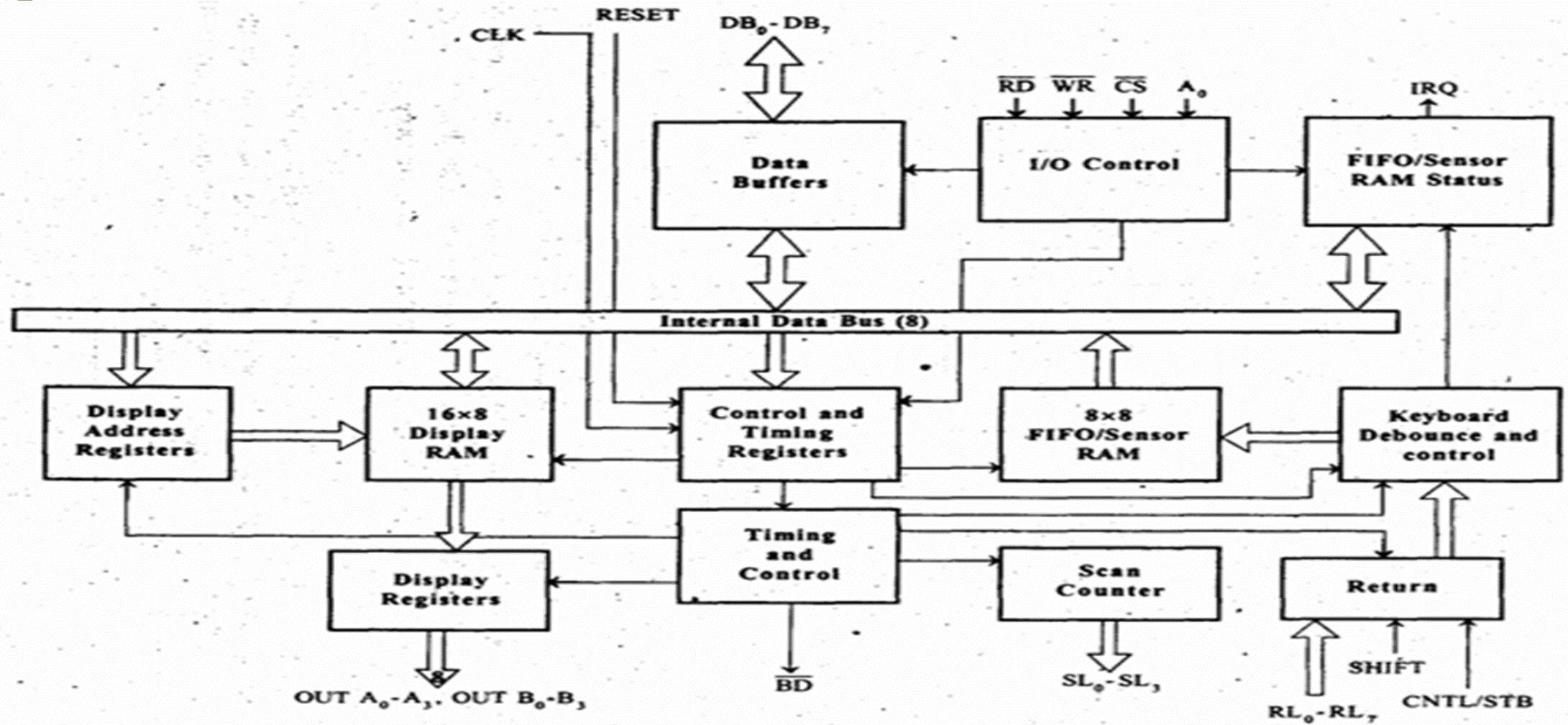
19BMB303 & Fundamentals of Microprocessors and Microcontrollers

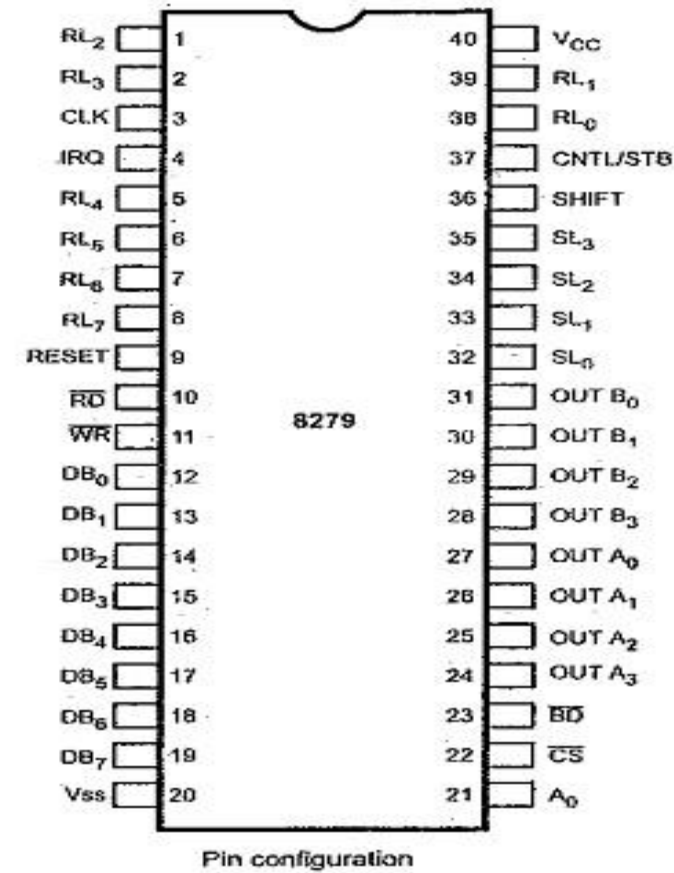
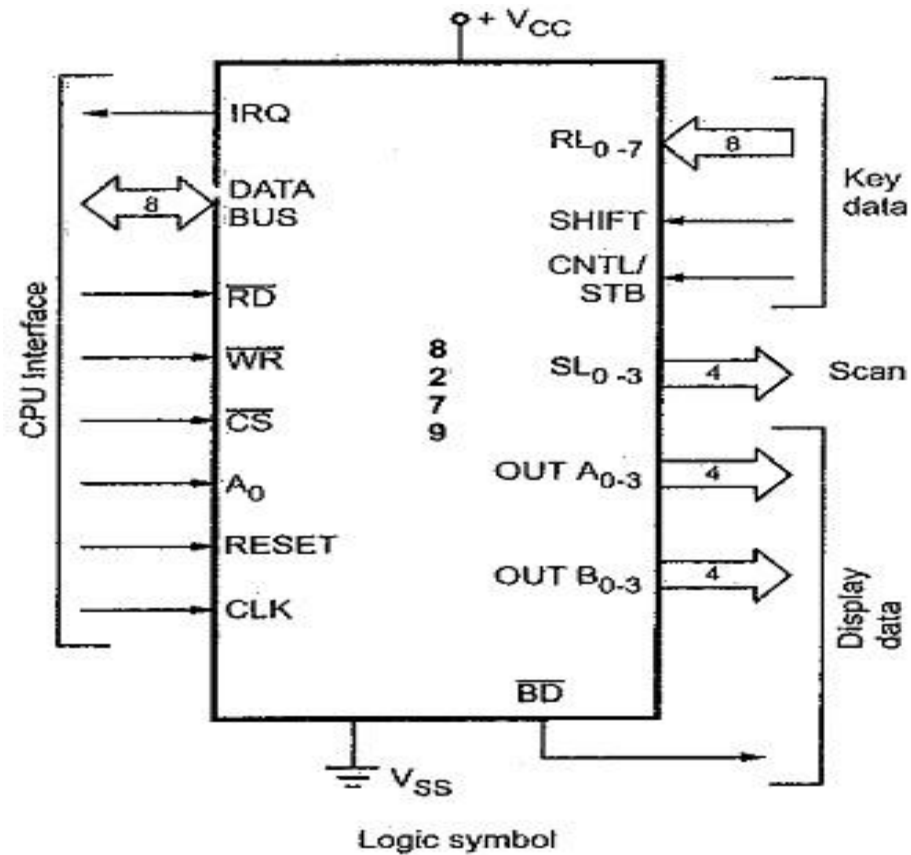
UNIT II – 8279 INTERFACING **III Year/ VI Sem**

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Keyboard / Display Interfacing [8279]





(a) Functional diagram

Fig. 14.83

(b) Pin diagram



Command Words of 8279

All the command words or status words are written or read with **A0 = 1** and **CS = 0** to or from **8279**.

- a) **Keyboard Display Mode Set** : The format of the command word to select different modes of operation of 8279 is given below with its bit definitions.

D7	D6	D5	D4	D3	D2	D1	D0
0	0	0	D	D	K	K	K

D	D	Display modes
0	0	Eight 8-bit character Left entry
0	1	Sixteen 8-bit character left entry
1	0	Eight 8-bit character Right entry
1	1	Sixteen 8-bit character Right entry

IIE - SAP



<i>D</i>		<i>Display modes</i>
0	0	Eight 8-bit character Left entry
0	1	Sixteen 8-bit character Left entry (Default after reset)
1	0	Eight 8-bit character Right entry
1	1	Sixteen 8-bit character Right entry

<i>K</i>	<i>K</i>	<i>K</i>	<i>Keyboard modes</i>
0	0	0	Encoded scan, 2 key lockout (Default after reset)
0	0	1	Decoded scan, 2 key lockout
0	1	0	Encoded scan N-Key roll over
0	1	1	Decoded scan N-Key roll over
1	0	0	Encoded scan sensor matrix
1	0	1	Decoded scan sensor matrix
1	1	0	Strobed Input Encoded scan
1	1	1	Strobed Input Decoded scan



MAIN SECTIONS



- CPU INTERFACE SECTION
- SCAN SECTION
- KEYBOARD SECTION
- DISPLAY SECTION



CPU INTERFACE SECTION



- DATA BUS BUFFERS
- I/O CONTROL
- CONTROL & TIMING REGISTERS
- TIMING CONTROL



SCAN SECTION



- ENCODED MODE
- DECODED MODE



KEYBOARD SECTION



- RETURN BUFFERS
- KEYBOARD DEBOUNCE & CONTROL
- FIFO/SENSOR RAM
- FIFO/SENSOR RAM STATUS



DISPLAY SECTION



- DISPLAY RAM
- DISPLAY ADDRESS REGISTERS
- DISPLAY REGISTERS



OPERATING MODES



- **SCANNED KEYBOARD MODE**
 - ENCODED MODE
 - DECODED MODE
 - 2-KEY LOCK OUT
 - N-KEY ROLL OVER
- **SCANNED SENSOR MATRIX MODE**
- **STROBED INPUT MODE**



DISPLAY MODES



LEFT ENTRY

RIGHT ENTRY

EXAMPLE

EXAMPLE

TYPE WRITER

CALCULATOR