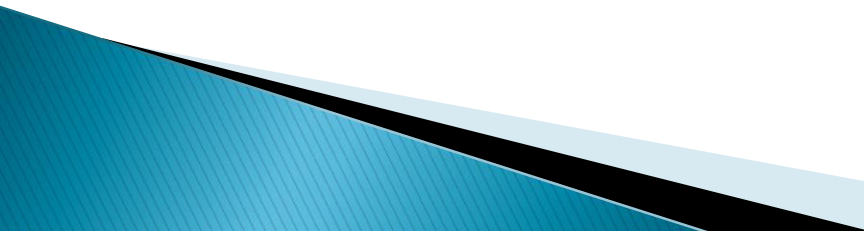


# Basics of Interfacing

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# Peripheral Interface Ics

- ▶ 8251- Universal Synchronous Asynchronous Receiver Transmitter IC
  - ▶ 8253- Programmable Interval Timer IC
  - ▶ 8255- Programmable Peripheral Interface IC
  - ▶ 8257- Direct Memory Access IC
  - ▶ 8259- Programmable Interrupt Controller IC
  - ▶ 8279- Programmable Keyboard Display IC
- 

## Programmable Peripheral Interface(PPI)

Programmable Peripheral Interface IC (PPI) is designed to increase the input and output interfacing capacity of microprocessor.

### Features

- It is a 40 pin IC.
- It contains three ports –
  - Port A
  - Port B
  - Port C
- The capacity of each port is an 8-bits.
- Port C is divided in to two ports i.e. port c upper and port c lower each of 4-bits.

## Programing of PPI

8255 is a Programmable device which can be programmed in different modes by writing 8-bit control word in control register.



If D7 = 0 => BSR Mode

If D7 = 1 => I/O Mode

### BSR MODE - Bit Set Reset Mode

In BSR Mode any line of Port C(Out of 8 lines) can be set or reset.



### BSR Mode Format

Example – To send Logic 1 on Pc<sub>2</sub> line.

BSR control Word will be



Control Word (CW) = 05 H

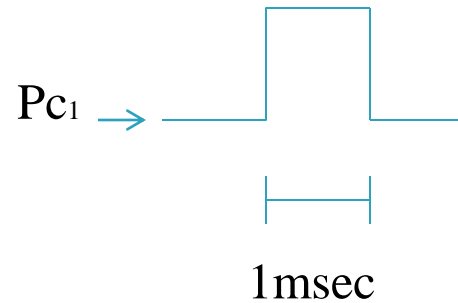
**Instructions are –**

MVI A, 05 H

OUT CR

By using above two instructions the logic 1 signal will be send on Pc<sub>2</sub> Pin of 8255.

Example – To generate a pulse of duration 1 msec on  $Pc_1$  line of 8255.



BSR control Word will be

To Set  $Pc_1$



Control Word (CW) = 03 H

To Reset  $Pc_1$



Control Word (CW) = 02 H

## Program for pulse of duration 1 msec

```
LXI SP, XXXX H
MVI A, 03 H
OUT CR
CALL DELAY ; Delay of 1 msec
MVI A, 02 H
OUT CR
HLT
```