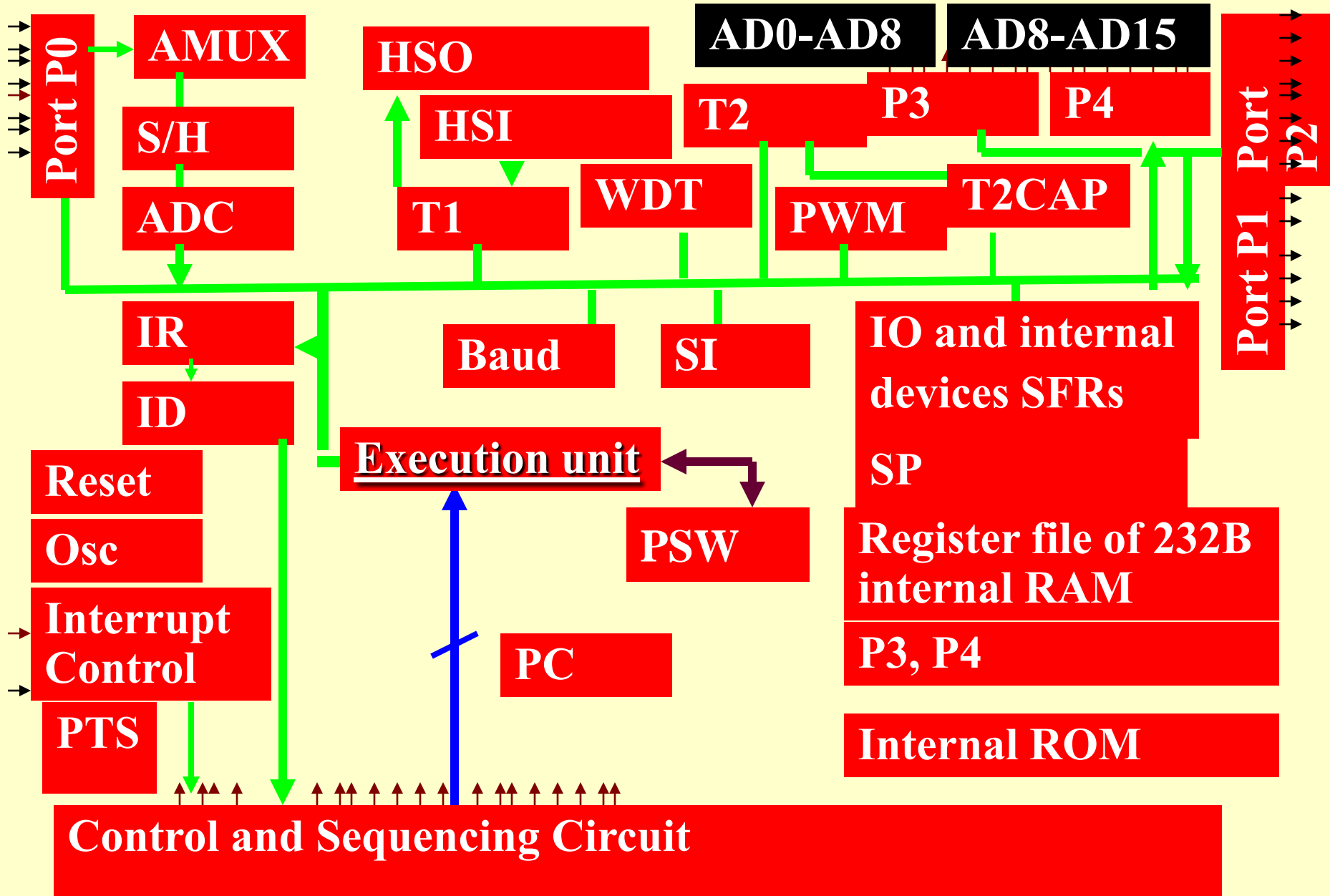


Chapter 14

80x96 Family Microcontrollers



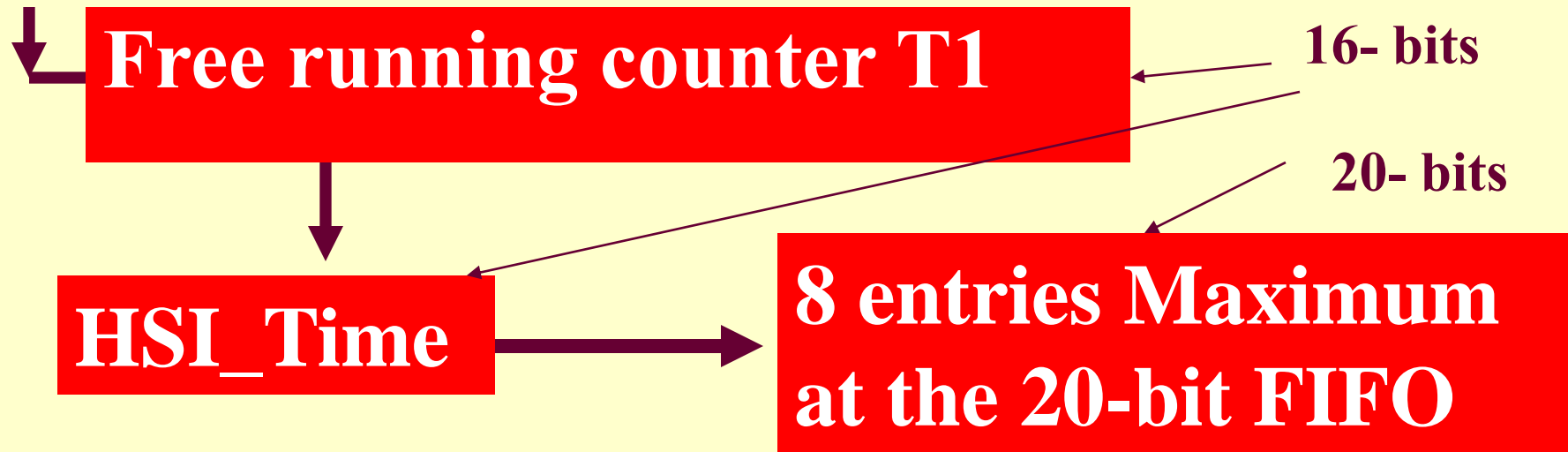
Lesson 08 Part c

HSI

High Speed Input Captures of counts in the timers

- Time captures on each inputs at Pins HSI.0, ..., HSI.3, queues at 20-bit FIFO, 4-bit to identify HSI event and 16-bit time
- HSI.2 and HSI.3 can also be used as HSO.4 and HSO.5 when only six out compare output HSO pins needed

2 μ s



Time captures on each inputs at Pins
HSI.0, ..., HSI.3 when interrupt enabled

Each Capture sets
event and an FIFO
entry status at
HSI_Status Register

Each Capture occur
on HSI.0 or HSI.1
inputs if enabled by
IOC0.0 or IOC0.1

**2 Mode bit each for HSI.0, HSI.1,
HSI.2, HSI.3 at 03H**

- **HSI_Mode register defines the edge for each HSI separately. Mode bits = 00 for an HSI 8th +ve edge input capture, 01 for every +ve edge capture, 10 every -ve edge and 11 every +ve and -ve edge**

Timer Capture Flags and Registers

- Timer Capture Flags for an HSI input capture IC Interrupt or Action Occurrences
- Registers for control and status of Input-Capture (s) at pins between HSI.0 to HSI.4 pins

Write **IOC1.7**

Read **IOS1.7,.6**

FIFO Full Interrupt enable

Two flags
HSICAPF,
FIFO_OVF

Read ← **8-bits HSI_Status**

8 flags two for each HSI: b1-b0 = HSI.0
X1-X0 Current state of HSI event and
at least one entry existence

Summary

We learnt

- HSI unit with a FIFO TOC1 to TOC5, TIC1 to TIC3

16-bit Timers T1 and T2 Actions

- 4 or 2 Input pins used for Capture options
- Time in T1 or T2 captures in HSI_Register

End of Lesson 8 Part c on **HSI**