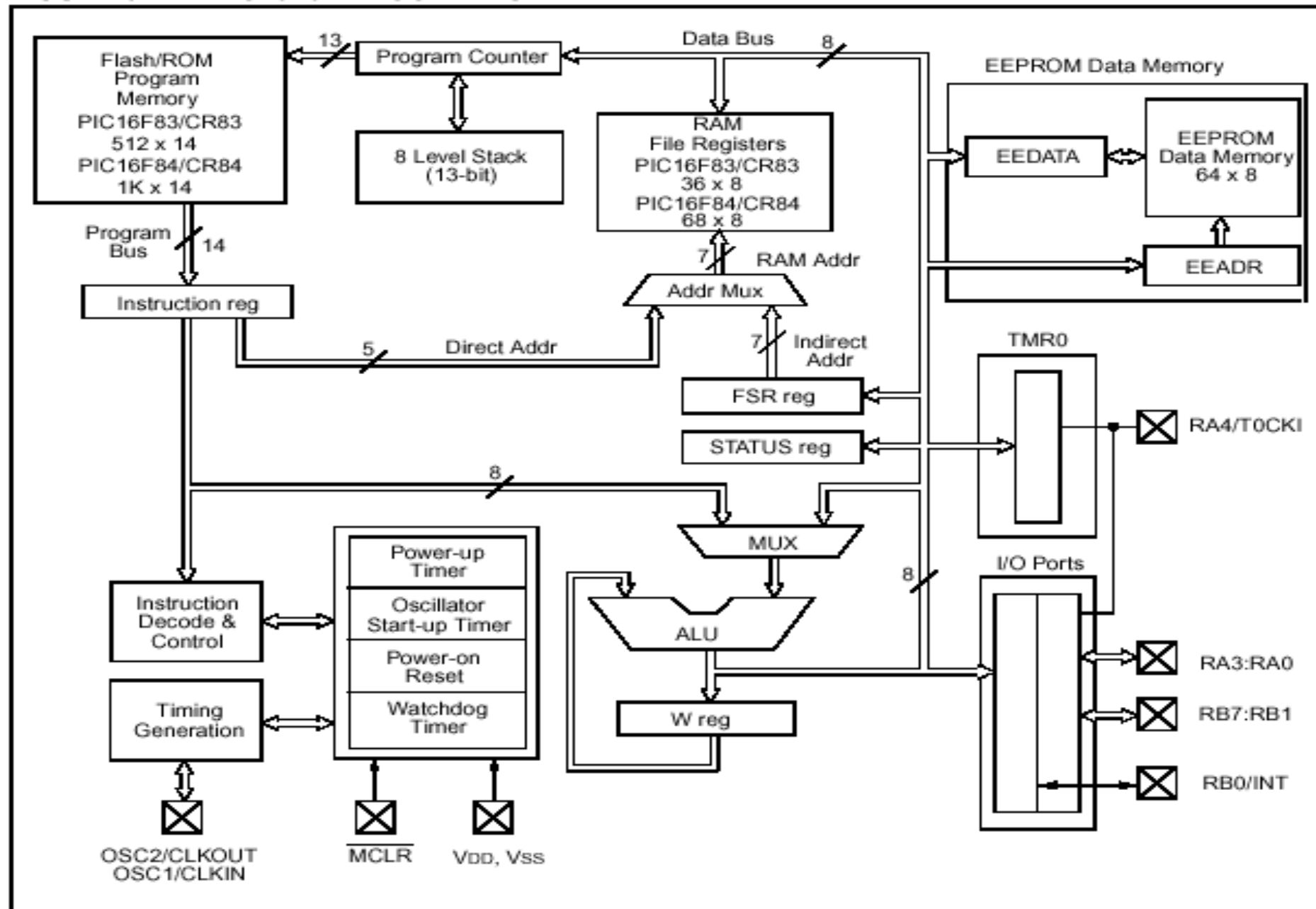- The term **PIC** stands for

- "**P**eripheral **I**nterface **C**ontroller"

FIGURE 3-1: PIC16F8X BLOCK DIAGRAM

ontroller

- PIC microcontrollers are based on the Harvard architecture where program and data busses are kept separate.

- Early versions of PIC microcontrollers use EPROM to store the program instruction but have adopted the flash memory since 2002 to allow better erasing and storing of the code.

features

ed : PIC executes most of its instructions in **0.2 μs** or **five**
ructions per microsecond.

- **Instruction set Simplicity :** just **35 instructions.**
- **Integration of operational features:**

  Power-on-reset and **brown-out protection** ensure that the chip operates only when the supply voltage is within specifications.

- **Watch dog timer:** resets the PIC if the chip malfunctions or deviates from its normal operation at any time.

- **Powerful output pin control:**

  single instruction can **select and drive** a **single output pin high or low in its 0.2 μs** instruction execution time. The PIN can drive a **load of up** to **25μA**.

es

port expansion:

the help of built in **Serial Peripheral Interface (SPI)** the number of I/O ports can be expanded. EPROM/DIP/ROM options are provided.
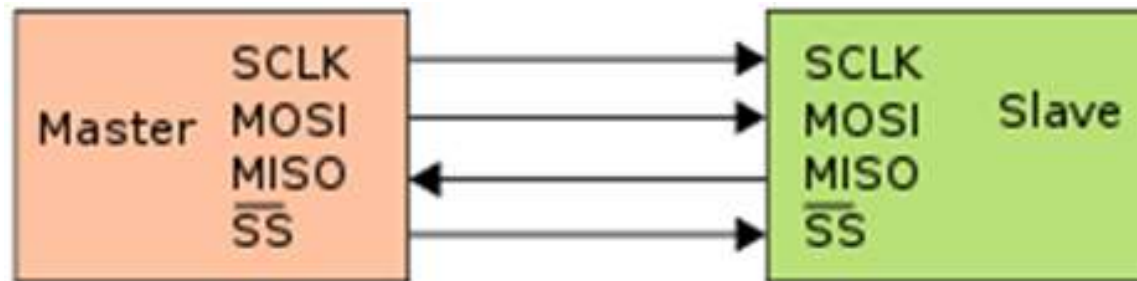
- **Interrupt control:**

Up to **12 independent interrupt sources** can control when the CPU will deal with each sources.

Programmable timer options:

Three timers can characterize inputs, control outputs and provide **internal timing for the program execution**.

• There are Three Timers : Namely **Timer 0**, **Timer1**, **Timer 2**

• **Timer0**: **8-bit timer/counter** with **8-bit prescaler**

• **Timer1**:**16-bit timer/counter** with **prescaler can be incremented during sleep via external crystal/clock**

• **Timer2**: **8-bit timer/counter** with **8-bit period register, pre- scaler and post- scaler**