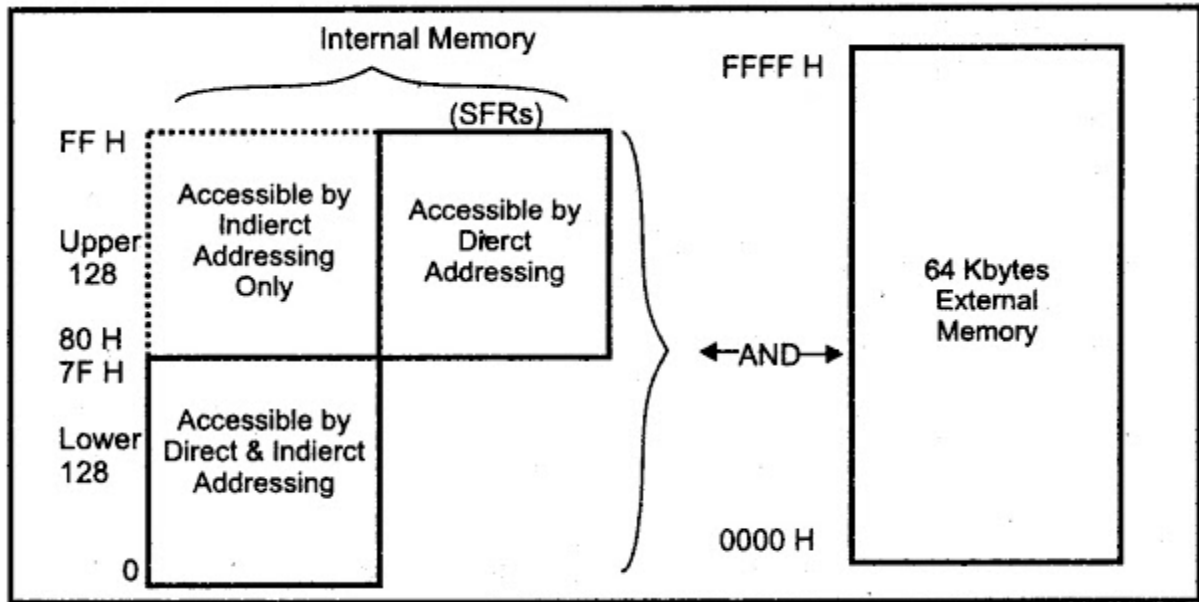


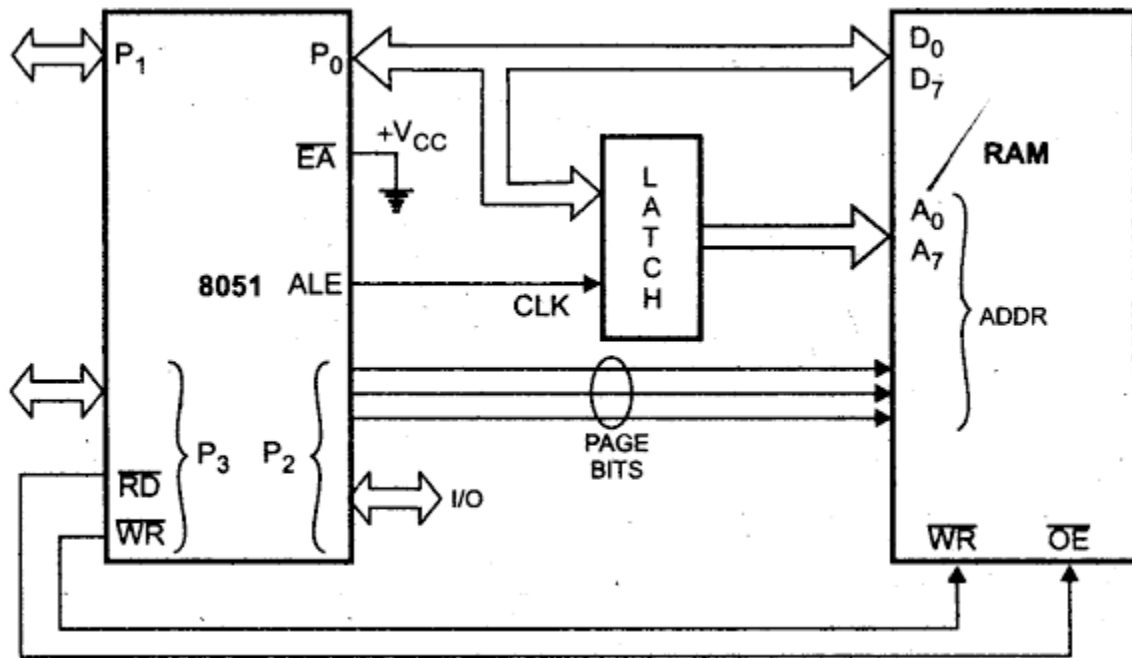
DATA MEMORY OF 8031/8051 MICROCONTROLLER

- In 8031/8051 microcontroller the entire 64kb data memory space is external.
- The address range of external data memory is 0000H to FFFFH.
- Apart from external data memory the 8031/8051 has 256 bytes of internal data memory in which the first 128 bytes are called RAM and next 128 byte is called SFR.
- The address range of SFRs and internal RAM are 00H to FFH
- The “MOVX” instruction is used to access the external data memory.
- The internal data memory space for 8051 is divided into three blocks: Lower 128bytes, Upper 128 bytes and SFRs.
- The upper addresses and SFRs occupy the same block of address space, 80H through FFH, and they are physically separate entities.
- The upper address is accessible by indirect addressing only and SFRS are accessible by direct addressing only.
- Lower address space can be accessed either by direct addressing or by indirect addressing.



The 8051 Data Memory

- The circuit diagram for connecting external data memory is shown. The multiplexed address / data bus is provided by port 0.
- Port 2 gives the higher order address bus.
- The RD (Low) and WR (Low) signals from 8051 selects the memory read and memory write operation, respectively.



Accessing External Data Memory

Source : <http://mediatoget.blogspot.in/2013/03/data-memory-of-80318051-microcontroller.html>