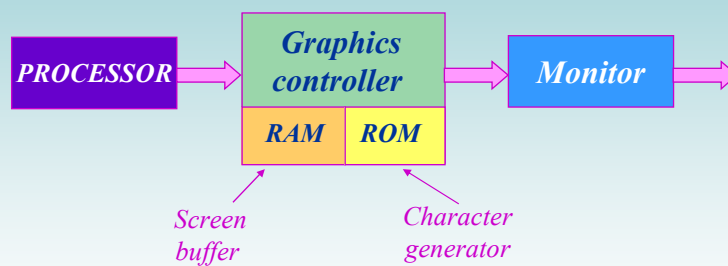


Output devices

| | | | | | |
|-----|---|---|---|-----|----|
| | 1 | 2 | 3 | ... | 80 |
| 1 | | | | | |
| 2 | h | e | y | | |
| 3 | | | | | |
| ... | | | | | |
| ... | | | | | |
| 25 | | | | | |

Organisation of a screen in character mode

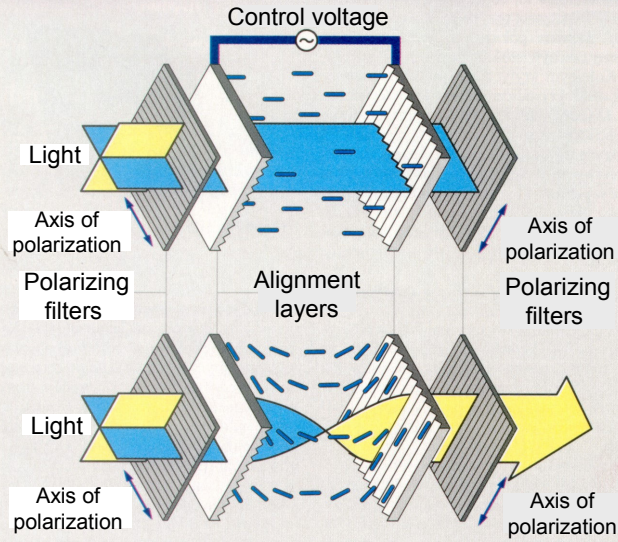
Output devices



Graphics card and Visual Display Unit (VDU)

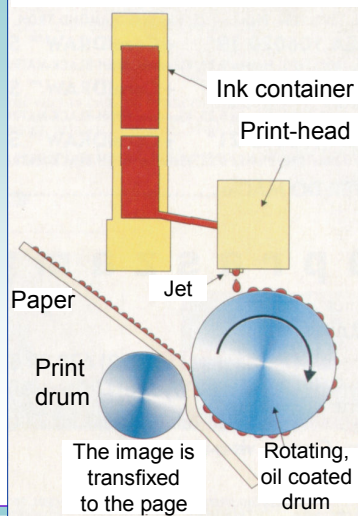
LCD monitors

Liquid crystal display (LCD) – one pixel formation



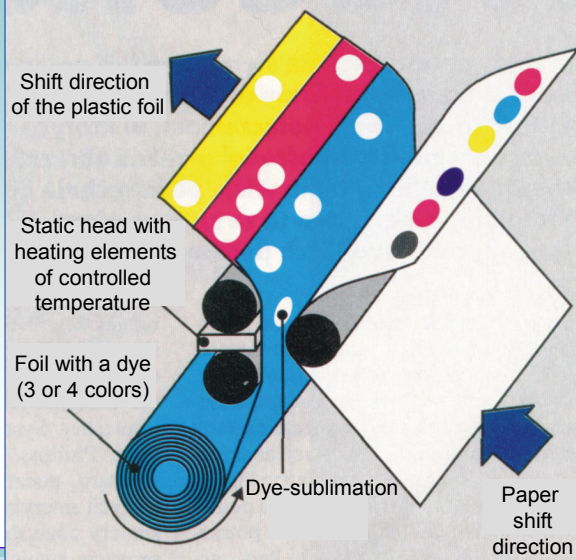
Solid Ink printers

Phase-change printers
(*transfix technology*)

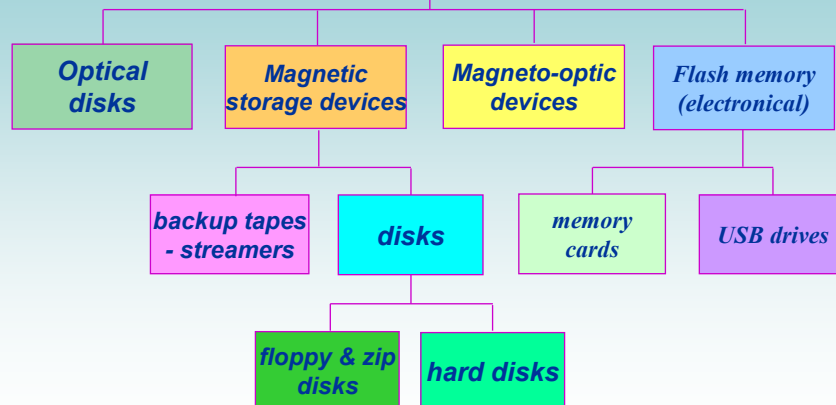


Sublimation printers

Dye-sublimation printing technique

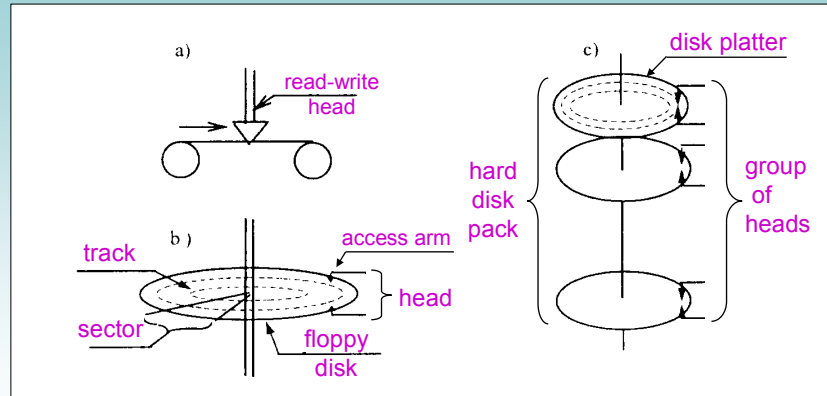


Storage devices



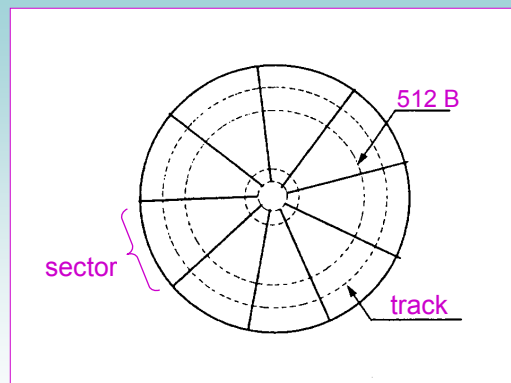
Classification of storage devices

Magnetic storage devices



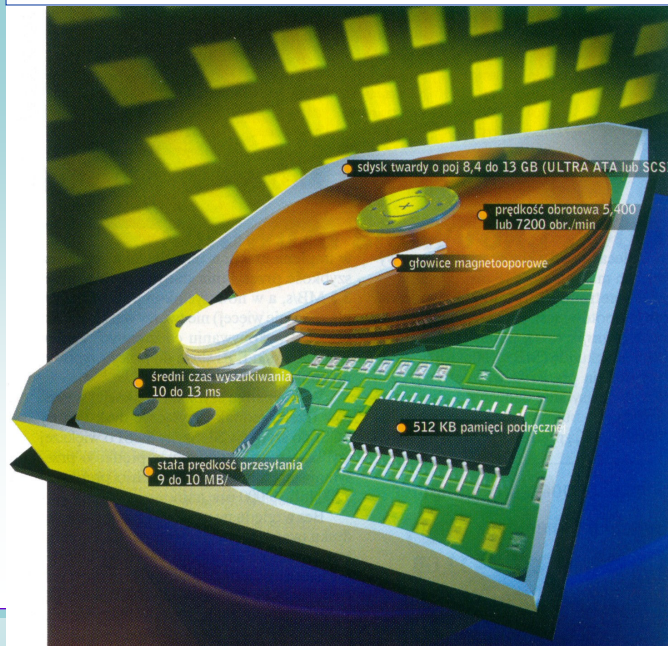
Schemes of magnetic storage devices:
a - tape, b - floppy disk, c - hard disk

Floppy disk



Floppy disk is divided into tracks & sectors

Hard disk



39

External disk drive

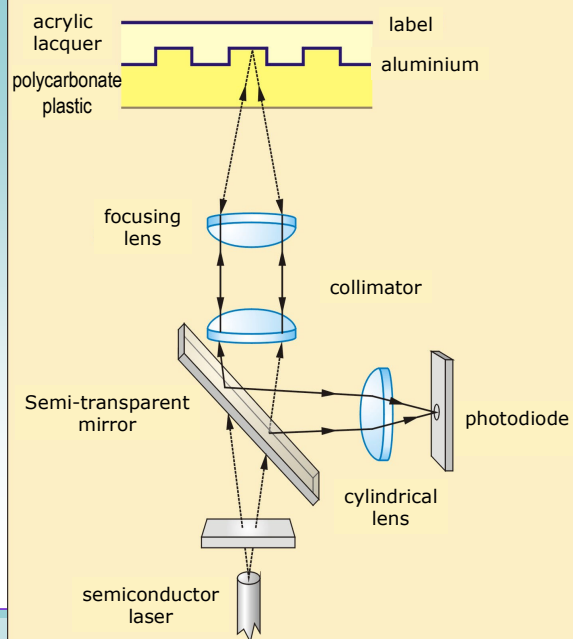


100MB IOmega ZIP

CD drive

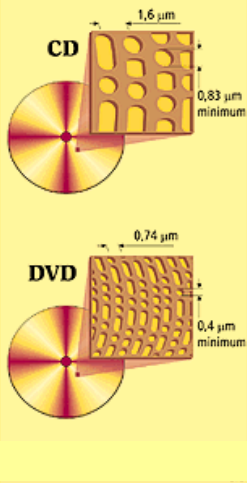


CD reading scheme



CD and DVD discs

Disc structure



Single sided, single layer disc – 4,76 GB



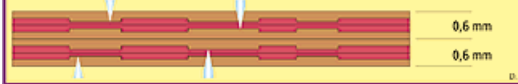
Single sided, double layer disc – 8,56 GB



Double sided, single layer disc – 9,4 GB

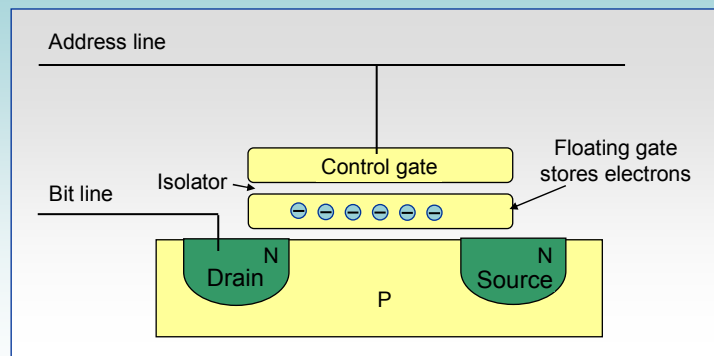


Double sided, double layer disc – 17,1 GB



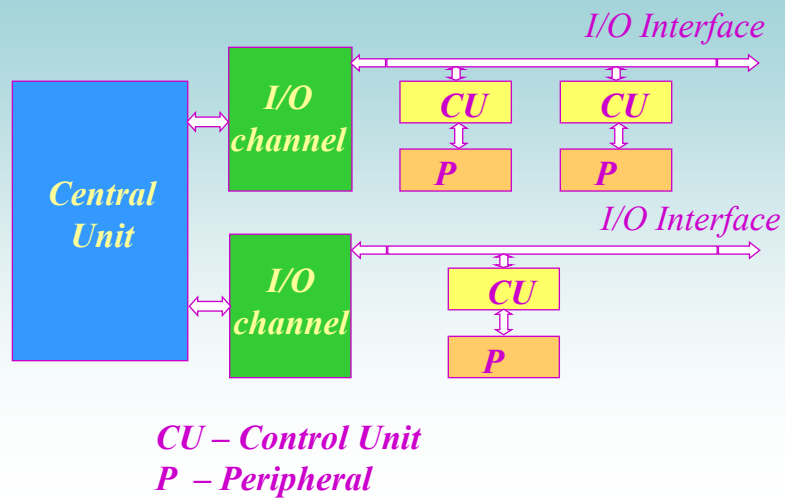
Flash memory

EEPROM - Electrically-Erasable Programmable Read-Only Memory

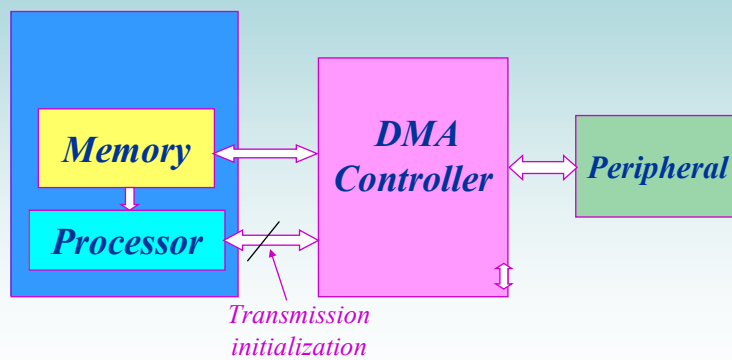


Single transistor flash memory cell

Connecting peripherals to a computer



Direct Memory Access (DMA)



Functional scheme of DMA transmission