Chapter 2
Fundamental of Computer Hardware
Lecture 05

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2.5.4 Printers

Printer is an output device which can be used to produce q permanent copy of the output. There are classifications of printer-impact and non-impact printer.

A. Impact Type Printers

Image is produced on a paper by some electromechanical impact device just like the working of a mechanical typewriter. Examples- Dot Matrix Printers, Line Printer, Daisy Wheel Printer.

1. Dot Matrix Printers:

Instead of printing a character at once, these printer issue a group of pins of very small radius to strike the ink ribbon and create a dot at the point of impact. A character or image can be formed by proper arrangement of many such dots.

Advantages:
1. Cheap and easily available
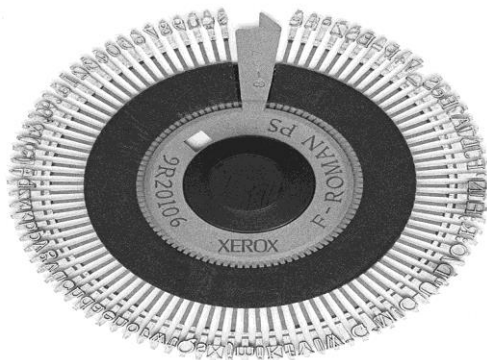2. Can make carbon copy
3. Printing cost low

Disadvantages
1. Not high resolution
2. Noise
3. Pins get bended

2.5.4 Printers

2. Daisy Wheel Printer

These are character printers where a special types wheel called a Daisy Wheel contains the set of characters used in the printing process. The characters are embossed on small metal plates that are mounted on the spokes of a wheel. During printing, the hammer rotate at a high speed and an electromechanical hammer strikes on the appropriate character when it comes under the hammer. The character is struck against an ink ribbon which drives out the ink from the ribbon and make the impression of the character's shape on the paper.
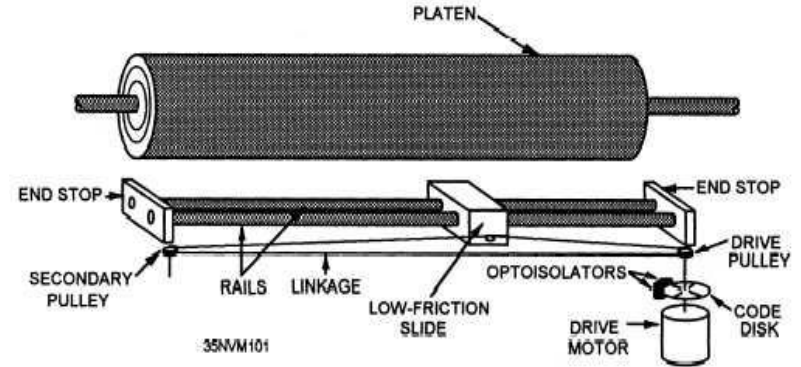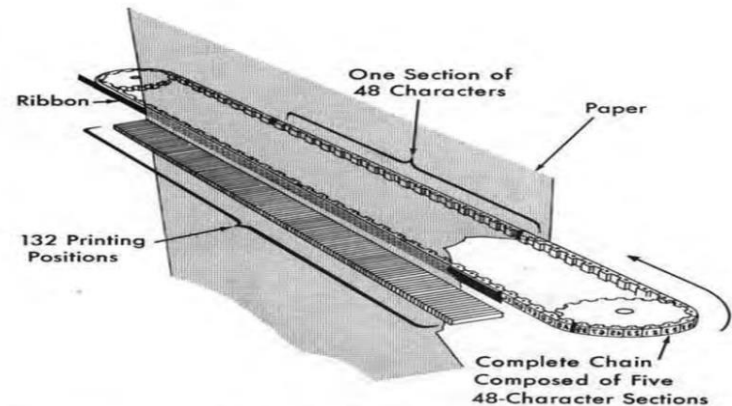
2.5.4 Printers

3. Line Printer

This type of printer is used to print a complete line of text at a time at a very high speed. These printers have a hammer for each column of the page which strike on an ink ribbon at the same time and a line is printed at once.
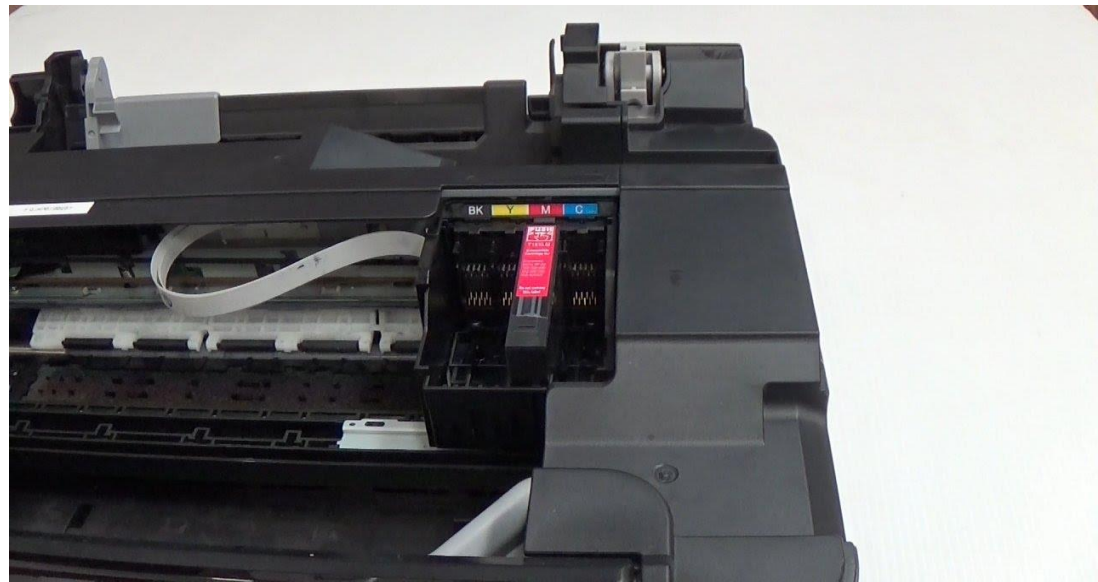
Drum Printer

Chain printer

2.5.4 Printer

B. Non-Impact Type Printer
The image is produced on paper without the need for any impact hammer or ink ribbon.

1. Inkjet Printer
It prints by ejecting microscopic drops of ink through tiny ink nozzles in the print head.

2.5.4 Printers:

B. Non-Impact Type Printer

These non-impact type printers use dry ink (called toner), static electricity and heat to deposit and bond the ink onto the paper. It consists of a drum assembly coated with a photo conducting material on the outer side.

Advantages:
1. Quality printouts
2. Fast
3. Quiet
4. Cost per page is low

Disadvantages:
1. Expensive'
2. Toner is expensive
3. Fairly bulky

2.5.4 Printer
3. Plotter

A plotter is similar to an inkjet printer, but is used for printing on larger papers or continuous paper rolls. Depending upon the working one can have **a drum plotter where the paper is rolled over a drum** and a **flat-bed plotter** where the plotting pens plots on a flat surface over which the paper is placed.
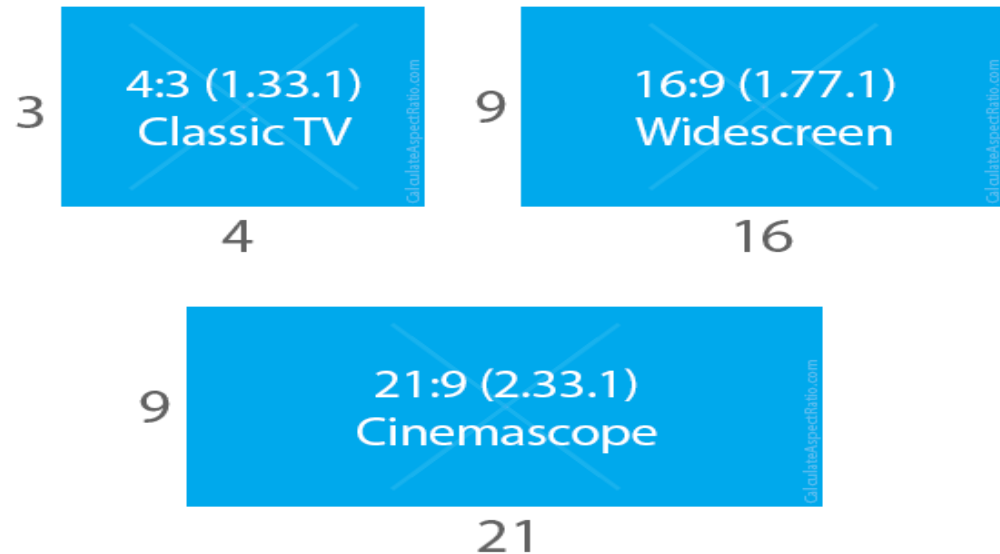
2.5.4 Printer

Uses of Plotter
1. These are usually used for printing engineering drawings likebuilding plans, mechanical drawings, assembly drawings.
2. Can print both black and white and color
3. Focus on drawing line art
4. Produce high quality drawings

2.6 Factors to Consider When Buying a Computer Monitor

When buying a computer monitor, following factors should consider:

1. Size
2. Resolution
3. Aspect Ratio
4. Backlighting
5. Twisted nematic or In-Plane switching (IPS)
6. Video input
7. Ergonomic Flexibility
8. Should I buy one screen or two

2.7 Output Hardware

Output Hardware mainly divided into two types:

1. **Hardcopy output hardware**
   Give the output in a hardcopy like printed in the paper.

2. **Softcopy output hardware**
   Give screen displayed output which is lost when computer is turned off. Enable viewing the work