



Output Devices

Higher National Diploma in Information Technology

Output Devices

Devices which uses to give the output processed data are called Output Devices

Examples:

Monitor, Printer, Projector and Plotter



Peripheral Devices

All the input and output devices are considered as “Peripheral Devices.”

Monitor

Highly used output device.

Each and every computer has a monitor.

This is also called Visual Display Unit (VDU)

Categories of Monitors

- Flat Screen Monitors
- CRT Monitors



Flat Panel Display

Advantages:

It uses less space from the desk

Draws less amount of power

Less weight and easy for handling

Higher picture quality

Disadvantages:

Cost of a flat screen is high

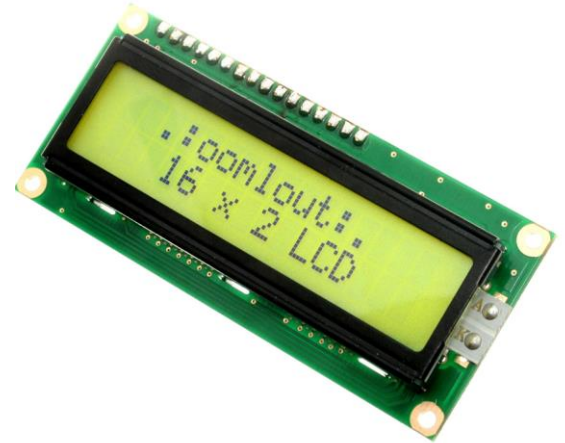
Maintenance and repairing the screen is quite difficult



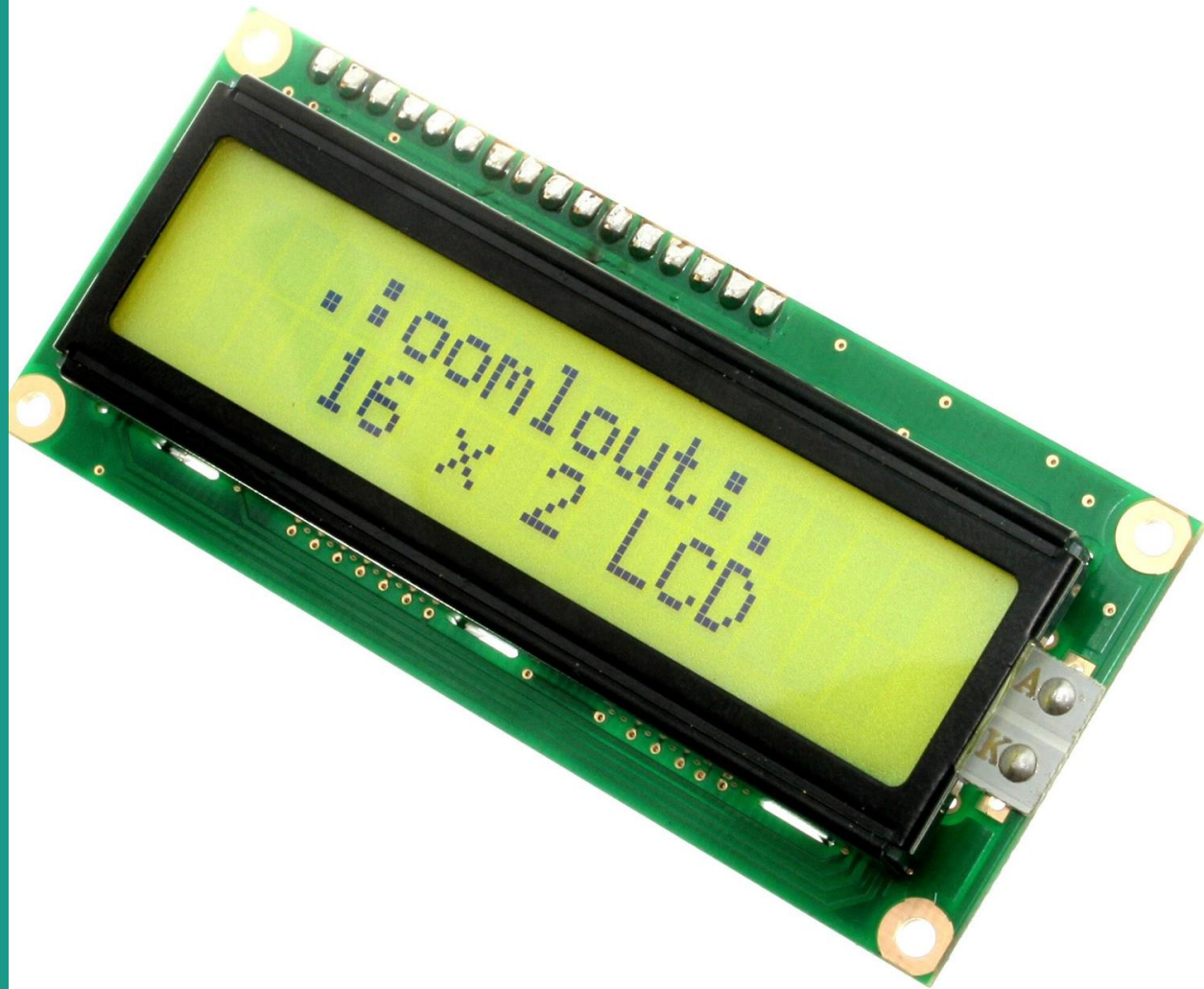
Flat Panel Display

There are Three types available:

1. Plasma Display Panel (PDP)
2. Light Emitting Diode Display (LED) Display
3. Liquid Crystal Display (LCD) Display



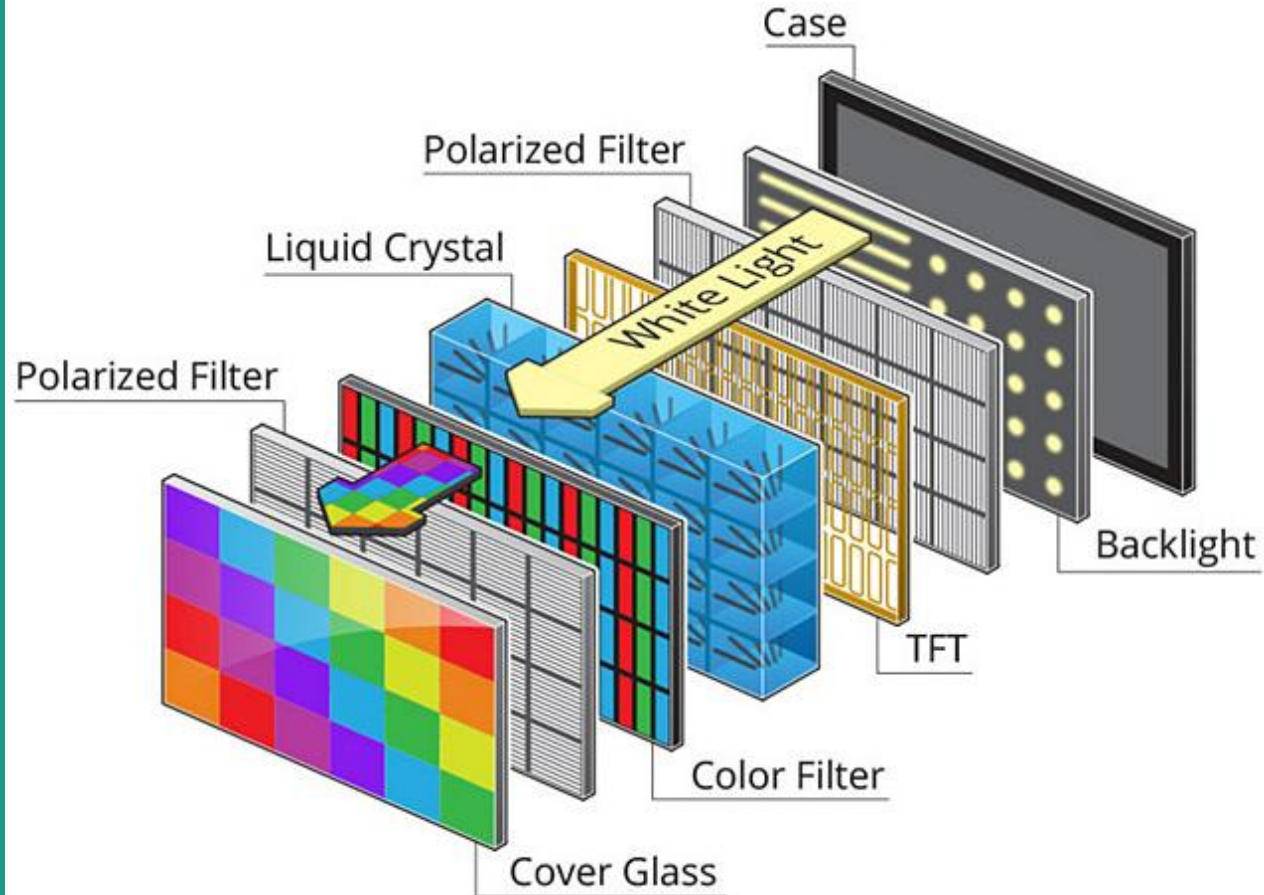
LCD Screen



LCD

Flat panel display that uses the light modulating capacity of liquid crystals.

Energy-efficient



LCD

Advantages & Disadvantages

Advantages

Lower power consumption related to CRT

Less heavy relate to CRT

Provide a richer, true black than the LCD TVs.

Disadvantages

Not good in producing black and very dark grays

Lower contrast than CRTs due to a poor black-level.

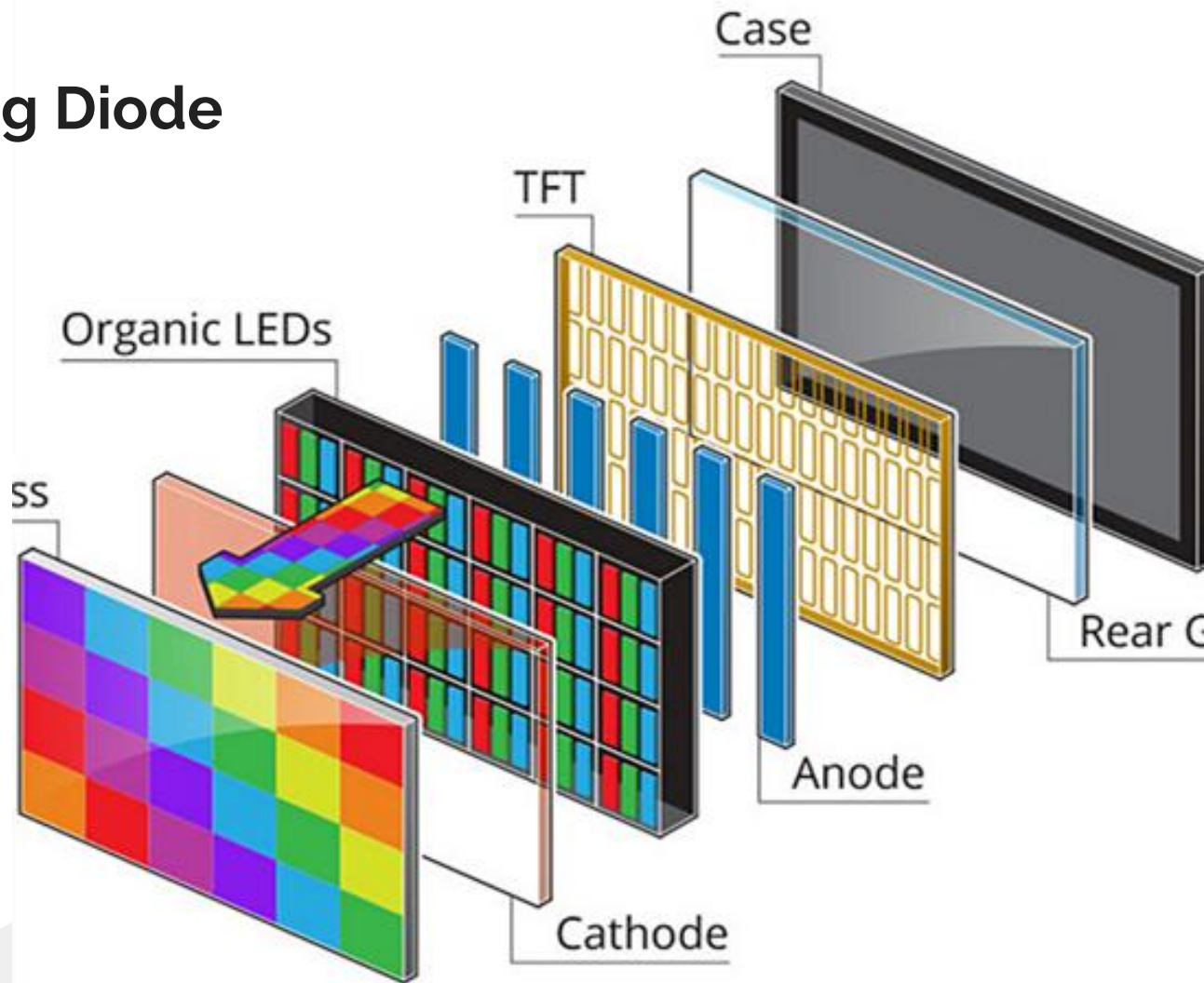
Expensive than CRT, LCDs and Plasma TVs

LED Screen



LED - Light Emitting Diode display

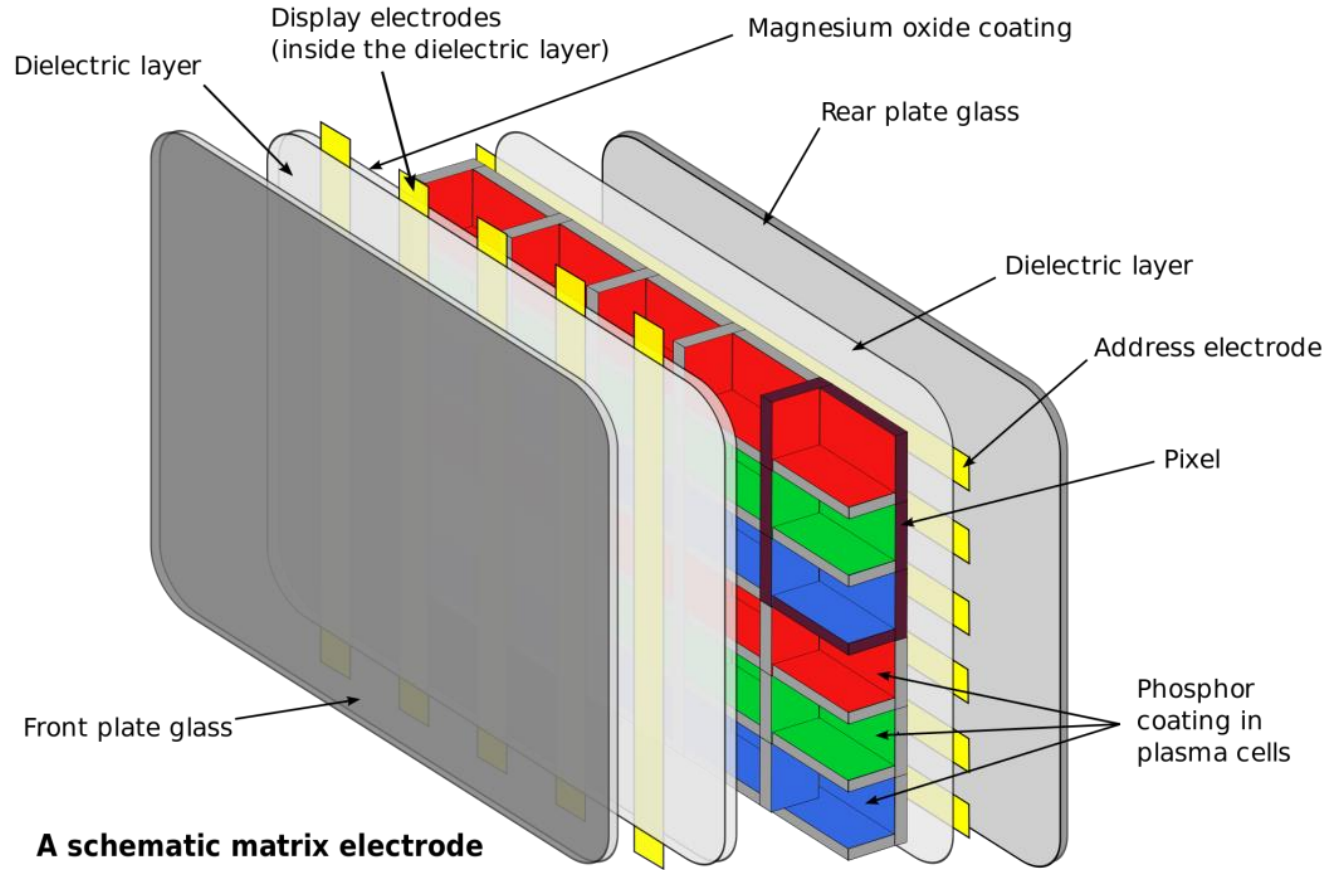
A flat panel display, which uses an array of light-emitting diodes as pixels for a video display.





Plasma Display

Use small cells containing electrically charged ionized gases, which are plasmas



A schematic matrix electrode configuration in an AC PDP

Plasma

Advantages & Disadvantages

Advantages

Better contrast than LCD

Less expensive than LCD

Less heavy relate to CRT

Lower power consumption related to CRT

Disadvantage

Heavier than LCD

Does not work as well at high altitudes above 6,500 feet (2,000m) due to pressure differential between the gases

More power consumption than to LCD and LED

Screen glares when used in daylight

CRT Display

CRT Stands for Cathode Ray Tube.

It is a specialize vacuum tube with fluorescent coating. When electron beam collide with fluorescent screen illusion will occur.

Finally image will be produced on the screen

It has a glass screen



CRT (Cathode Ray Tube)

Disadvantages:

It uses a large space from the desk

Difficult to handle due to the high weight

Draws high current and power

Picture quality and resolution is less than flat screens

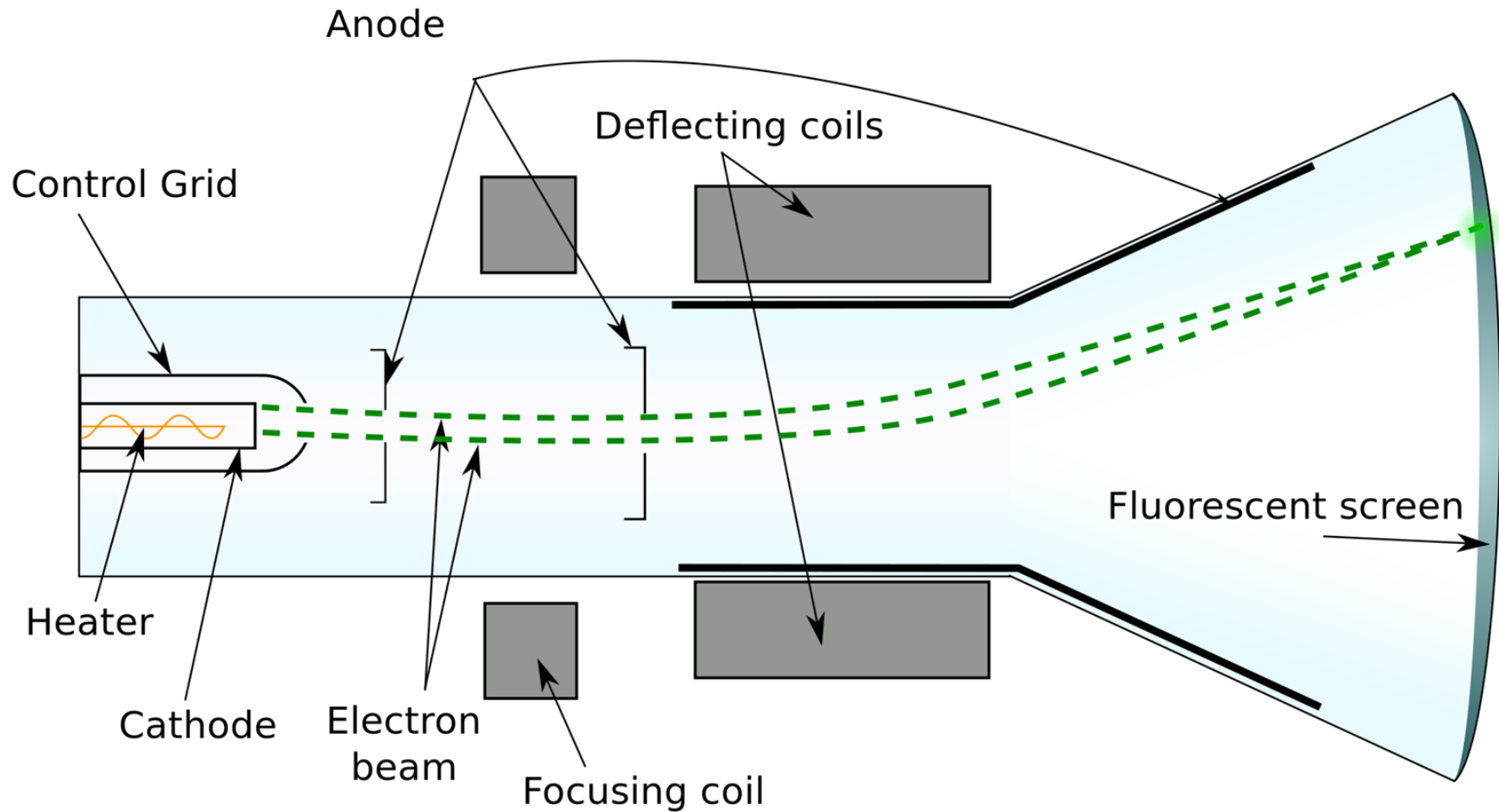
Contain heavy metals which will affect to environment

Advantages

Cost is less compared to Flat Screen displays

Possible to display both color and grayscale images





Projector

Output device used to output information to the user

Also called multimedia projector



Plotter

Used to print large size printouts such as building plans.

Used in :

printing vector graphics.

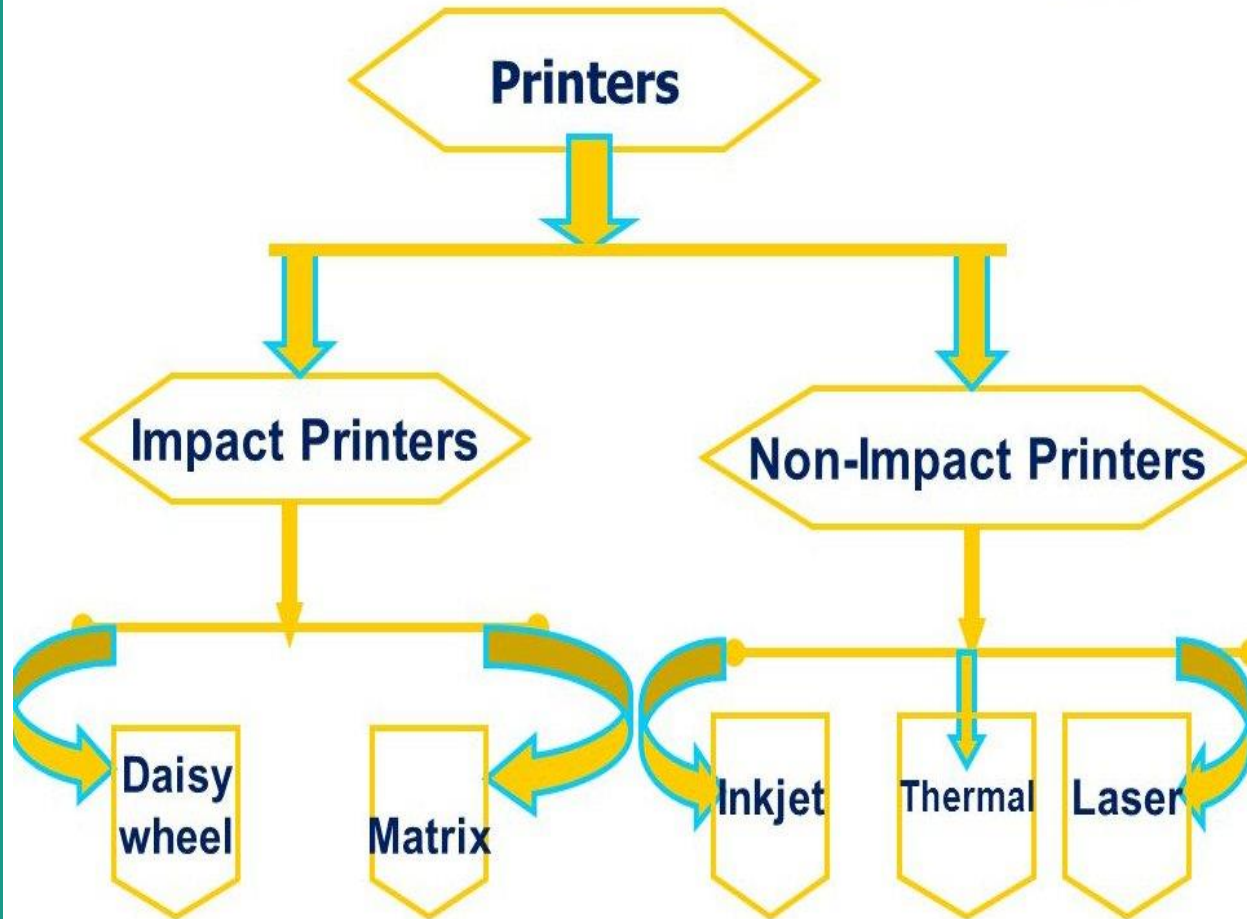
computer-aided design



Printers



Printer Types



Impact Printers

Printer head will collide against the ribbon to make an impact. Those printers are called Impact Printers

These printers have a mechanism that touches the paper to create the output.

Non - Impact Printers

Printer head will not collide against the ribbon. These printers are called Non-Impact printers

These printers do not touch the paper when creating the output



Laser Printer

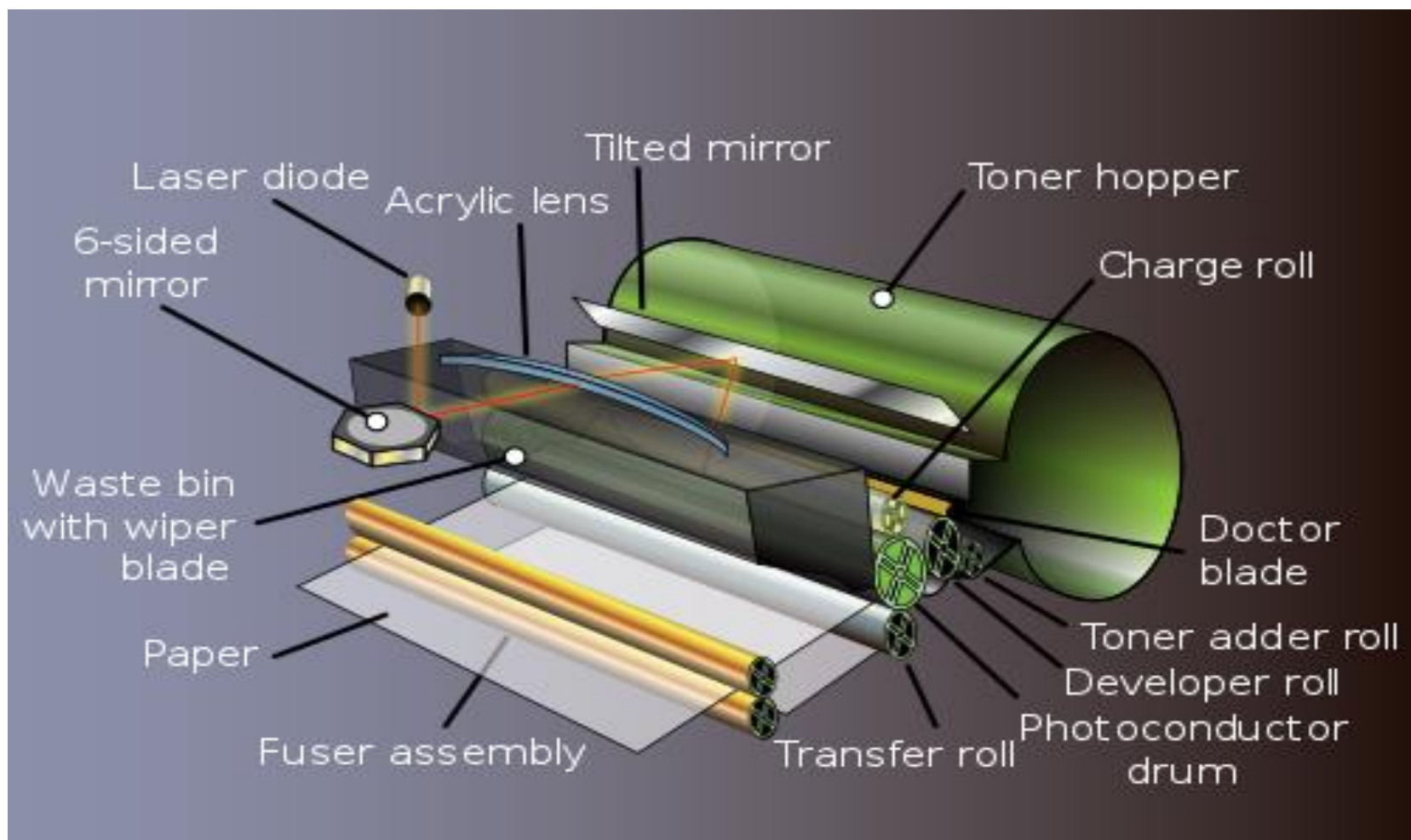
A laser beam projects an image of the page to be printed onto an electrically-charged, drum

Powdered ink (toner) particles are then attracted to the charged areas of the drum that have not been laser-beamed.

The drum then transfers the image onto paper which is passed through the machine by direct contact

High-quality printouts can be taken







Laser Printer

Advantages

High resolution printouts can be taken

High-speed printouts can be obtained.(pages per minute)

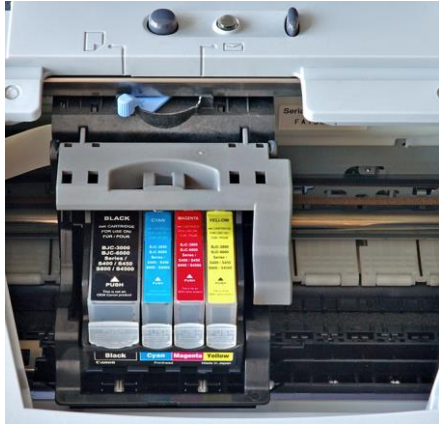
Printouts cannot be damaged with water or any other liquid

Disadvantages

Energy usage for a printout is higher

Cost per printout is higher

Toner used to make printouts effects to health



Bubble Jet Printer

Magnetic ink is sprayed through the head of the printer. Ink is sprayed to paper



Ink Jet / Bubble jet Printer

Advantages

High resolution printouts can be taken

High-speed printouts can be obtained.(pages per minute)

Cost per print out is cheap than laser printer

Color images and black and white images can be printed with good quality

Disadvantages

Ink of the printout can be dissolved with water or any liquid



Daisy Wheel Printer

metal wheel with the shape of each character and presses the wheel against a ribbon, which in turn makes an ink stain in the shape of the character on the paper.

Daisy Wheel Printer

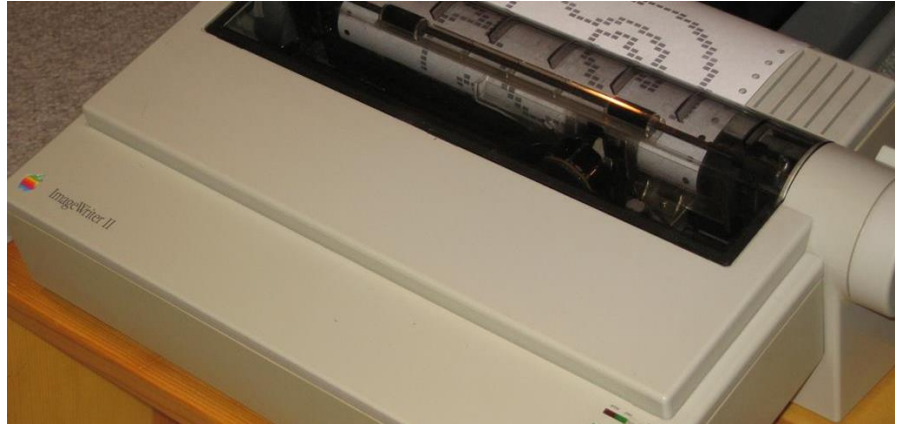
metal wheel with the shape of each character and presses the wheel against a ribbon, which in turn makes an ink stain in the shape of the character on the paper.

Produce letter-quality print but cannot print graphics.

Fast

Good character quality

No images



Creates characters by striking pins against an ink ribbon.

Each pin makes a dot, and combinations of dots form characters and illustrations.



Dot Matrix Printer

Advantages

Cost per printout is very low

Maintenance cost is low

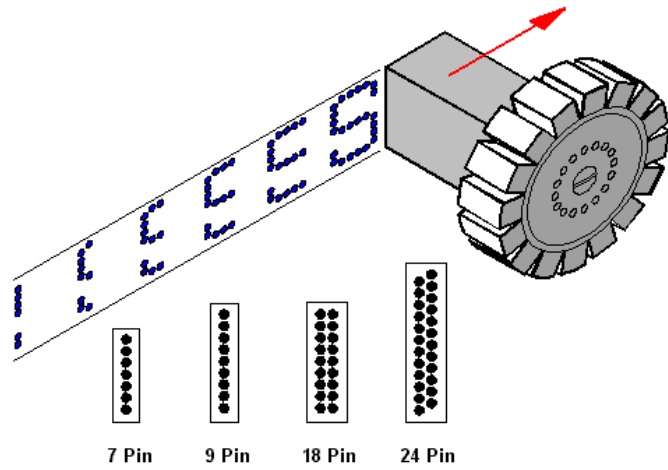
Disadvantages

Noise generated by the printer is higher

Speed of printing is slow

Quality of the printout has a low resolution

Initial cost of a printer is higher than ink jet printers



Creates characters by striking pins against an ink ribbon. Each pin makes a dot, and combinations of dots form characters and illustrations.

Line Printer

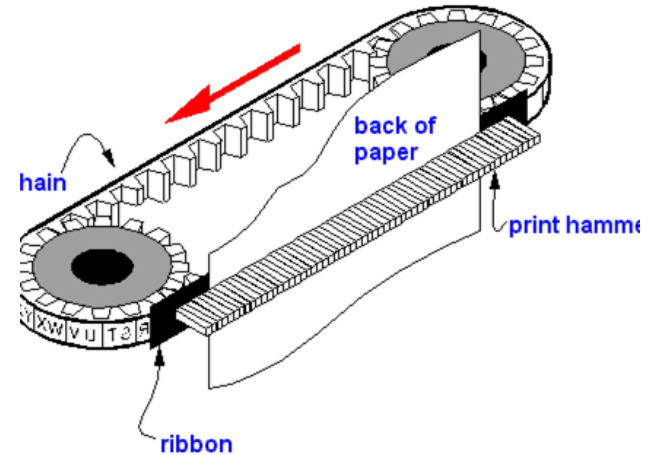
Contains a chain of characters or pins that print an entire line at one time. Line printers are very fast, but produce low-quality print.

Used for larger documents

Good character quality

No images

Fast



Thermal Printer

Specially chemical treated paper is used for the printing task.

Head is heated and runs throughout the paper and makes the printout

