

OUTPUT DEVICES

PRINTERS AND DISPLAY SCREENS

PRINTERS

- A printer is a device that prints your texts or graphics on paper
- Amongst the various types of printers there are:
 - Dot-matrix printers
 - Ink-jet printers
 - Laser printers

DOT-MATRIX PRINTERS

- **A dot-matrix printer** uses a group of pins to create precise dots.

It is very noisy and it has a relatively low resolution (from 72 to 180 dpi – dots per inch)

INK-JET PRINTERS

- **An ink-jet printer** generates an image by spraying tiny, precise drops of ink onto the paper.
It has a relatively high resolution compared to dot-matrix printers (from 300 to 1,200 dpi).
- Standard ink-jet printers use a three-colour cartridge and a black cartridge.
Professional ink-jet printers have five-colour cartridges and a black one.

MULTI-FUNCTION PRINTERS

- Some ink-jet printers can perform more than one task: they can work as a printer, a scanner, a fax and a photocopier: they are referred to as **multi-function printers**.

Some multi-function printers also accept memory cards and print photos directly from a camera.

LASER PRINTERS

- A laser printer uses a laser **beam** to fix the ink on the paper.
- It works like a photocopier and it uses a powder called **toner** which is attracted to paper by an electrostatic charge and then fused on by a hot roller.
- It is faster than an ink-jet printer and it has a higher resolution (from 1,200 to 2,400 dpi)

DISPLAY SCREENS

- There's a **video card** which processes images and send signals to the monitor
- Monitors can be CRT (Cathode Ray Tube) or LCD (Liquid Crystal Display):
 - CRT monitors are similar to a television set; they are cheaper than LCD monitors but are heavier and can emit radiation.
 - LCD monitors are made from flat plates with a liquid crystal solution between them; they offer better quality than CRT monitors and take up less space.

DISPLAY SCREENS

- **SCREEN SIZE:** is measured diagonally (from the top left corner to the bottom right).
- **RESOLUTION:** the clarity of the image depends on the number of **pixels** (picture elements) contained on a display. **Dot pitch** is the distance between the pixels on the screen.

DISPLAY SCREENS

- BRIGHTNESS: the luminance of images
- COLOUR DEPTH: the number of colours a monitor can display
- REFRESH RATE: the frequency at which a monitor renews its image. It is measured in Hertz: if a monitor has a refresh rate of 75 Hz, it means that the screen is scanned 75 times per second