





Kilobytes (size of a file). *60,096 KB = 68MB's*

Name ▲	Size	Type	Modified
 ECDL_Slide.ppt	44 KB	Microsoft PowerPoint Presentation	07/07/2004 14:55
 Exercise1A.ppt	35 KB	Microsoft PowerPoint Presentation	07/07/2004 16:46
 Exercise2A.ppt	37 KB	Microsoft PowerPoint Presentation	08/07/2004 13:33
 PowerPoint 2000.doc	68,096 KB	Microsoft Word Document	20/07/2004 11:58

Examples of file sizes.



Often you will also see hardware and software described as supporting a certain number of bits. These numbers refer to how much information the hardware or software can process at any one time. For example, newer 64-bit processors can process 64 bits of data in each clock cycle.



- **Memory**

Volatile: This type of memory loses all its data when the PC is turned off. RAM is volatile memory.

Non-volatile: This type of memory keeps the data it contains even when the PC is switched off.

ROM (Read Only Memory): This is a special type of memory which contains all the information the computer needs to switch itself on, check that all its systems are working and to tell the PC what things are plugged into it. It cannot be changed or overwritten by you, and stays the same even when the PC is switched off. An example of ROM on a PC is the **BIOS** software (Basic Input Output System) that enables the computer to start up and allows components to communicate with each other.

RAM (Random Access Memory): Random access memory is used in a PC to temporarily store data when you are using applications. RAM is also used to store program instructions and feed information to the CPU to process. RAM is not permanent, when you switch off the PC (or shut down), the contents of RAM are lost or emptied. There are two main uses of RAM in a computer system. These are **main memory** and **cache**.

Main memory (or system memory): Main memory is the largest amount of RAM installed on the motherboard of a PC. It is used to run software applications and temporarily store data that is entered by the user. Every piece of software needs a certain amount of main memory to operate efficiently.

Cache: Cache is a very fast type of RAM directly attached to particular components such as the CPU, hard disk or graphics card. Cache enables an amount of data to be copied from the main memory so the component can access it more quickly. Cache balances the ability of relatively slow components (disk drives) to keep fast components (CPU) supplied with a constant stream of data.

- **Disk Storage Devices**

Disk drives are used to **store and transfer** data files. After data is entered into a computer, it must be saved as a file to preserve its contents after the computer is switched off.

A software application must also install files onto the main disk drive in order to run when the user requests its use.



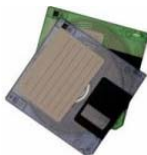
Hard disk: Usually fixed inside the computer and stores large volumes of data, which can be accessed and retrieved quickly. The seek time of a hard disk is much lower and the transfer rate much higher than any other type of disk drive.



The drive consists of a number of rigid magnetic disks in a protective casing. Data is recorded magnetically onto concentric circular tracks that are divided into a number of sectors. An arm moves over the surface of the disk to read the data. At the time of writing this document, hard disk sizes range from 40GB to 180GB for a standard desktop PC.



Floppy disk drive: A floppy disk drive is like a hard disk, but with removable disks called floppies, floppy disks or diskettes. Floppies can be used to transfer small files from one PC to another (up to 1.4MB). Older floppies really were floppy, as they came in soft plastic or card cases. Today's floppies are a bit more sturdy, although the disk itself is very floppy and wobbly (which is why it is housed in a strong plastic case).



Floppy disks are used when you need to transfer a small file from one PC to another. Some drives support 120MB floppy disks (super disks) but these drives are more expensive and the diskettes cannot be read in a standard floppy drive.



ZIP/JAZ drives are another type of floppy drive that use special disks instead of floppy disks. Zip disks can hold about 100 times as much as a floppy disk. JAZ disks can hold much more data. Currently, ZIP and JAZ disks range from 100MB diskettes to around 2GB's.



CD-ROM/DVD-ROM Drive: CD-ROM (Compact Disk – Read Only Memory) drives read data from CD's that can hold up to 800MB's of data (standard sizes are 650MB's and 700MB's). DVD-ROM (Digital Versatile Disk) drives can store up to **17 gigabytes** of data and are designed for video and multimedia applications. Modern PC's are often fitted with DVD-ROM drives as these drives can also read standard CD's.

CD-R, CD-RW, DVD-R and DVD-RW drives allow you to **write** (often referred to as **burn**) your own CD's or DVD's. Both CD-R and DVD-R disks are **Read-Only** after burning and can be read in almost any CD and DVD drive. CD-RW and DVD-RW disks allow you to delete and overwrite (**Re-Write**) data and re-use the disks (however, RW disks are more expensive).



Tape Drives: Another way of backing up large amounts of information is a backup tape. This is a magnetic tape (like a video or audio cassette) which has the files streamed onto it. It usually takes a long time, and is only used for large backups. They are sometimes called data cartridges. You need a backing tape store in order to be able to use them. This works a bit like a tape recorder by allowing you to record information onto data cartridges or retrieve data off them.

- **Multimedia**

Multimedia is used to describe something that uses sound, music, pictures, video, and animation. Most modern PCs are multimedia machines, and need certain hardware to input/output information:



Sound card: A special controller inside the PC that translates sound into a form the computer can understand.

Microphone: So that you can record your voice, for example.

Speakers: So that you can hear the sounds and music playing.

Digital camera: This works like a normal camera, but doesn't use film - instead it lets you transfer the pictures directly into your PC.

- **What Should You Consider When Buying a PC?**

The performance of the PC depends on various factors. When you are buying a PC, consider the following:

- **CPU speed:** This is measured in megahertz (Mhz). The higher the number of megahertz, the faster your PC will run (but the more expensive the CPU).
- **RAM:** This is temporary memory. The more RAM your computer has, the more applications you can run at the same time. Increased RAM also improves system performance.
- **Hard Disk Space:** Hard disk space is measured in bytes. The more bytes your hard disk has, the more data/software you can store.