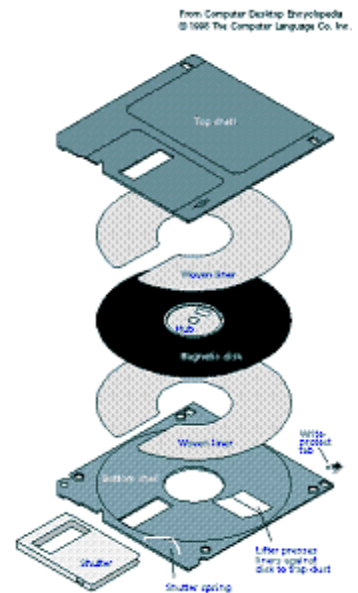


## Stores – where's my data?

1. A **store** is where data, such as a document file or a program file, is held. There are various types of **store** used in and with a computer. Some **stores** are permanent, i.e. once used then they can't be used again, and other **stores** are temporary. Some **stores** are inside the computer and others are external. We shall look at these in turn.
2. The various types of store include temporary ones such as **Floppy Disc**, **Hard Disc** (or Drive), **Memory Stick** and **Random Access Memory (RAM)**. Permanent ones include **CD** or **DVD** though these can also be temporary.
3. The amount of data stored is measured in bytes, Megabytes (or Mbytes, a million bytes) and Gigabytes (or Gbytes, a million Megabytes). For instance 1 Gbyte will hold around 100 million 1 page letters with only text.

4. **Floppy Discs** are becoming less used nowadays. They contain a small amount of data (around 1Mbyte) and so computers are no longer supplied with a **Floppy Disc** drive. But you may have one internal to your computer or an external drive. The **Floppy Disc** consists of a piece of floppy plastic, coated with magnetic material which stores the data in a form which can be read by a magnetic pick-up.



**PTO**

5. A **Hard Disc** consists of a series of magnetically coated platters which spin very fast with pick-ups which can read in the same way as in a **Floppy Disc**. Your computer will have one internally but an external one can be connected e.g. to act as a backup store. Hard Discs can store 10's or 100's of Gbytes.



6. A **Memory Stick** contains a memory chip which stores the data. Often these will plug into the USB port of the computer. They are handy to carry around and can store up to a few Gbytes.



7. A **CD** or **DVD** disc consists of a plastic disc coated with a material which is "burnt" with the data by a laser. Then, by reflecting light from the laser onto a sensor it can be read.



Your computer will probably have a **CD** or **DVD** drive internally but an external one can be connected. There are temporary storage (rewritable) **CDs** or **DVDs** i.e. Read/Write (RW), or permanent storage i.e. Read Only (R) with various types of either of these.

**CDs** can store 100's of Mbytes whereas **DVDs** can store a few Gbytes.

8. A type of store which is less visible to the user is **Random Access Memory (RAM)** consisting of a card of integrated circuits which is internal to the computer and which is volatile i.e. data is lost when the power is switched off. This is the fastest of all memory but is only used by the computer itself which usually contains up to around 1Gbyte of **RAM**.



9. Portable electronic devices such as Cameras, MP3 Players and Mobile Phones use stores to hold their data (pictures or e.g. phone numbers). These come in various sorts such as **CompactFlash** and **SD (Secure Digital)**.



These are similar to a USB **Memory Stick** but with different ways of connecting to the device. They consist of Flash Memory chips and are non-volatile. Currently they can store up to a few 10's of Gbytes of data. They can be read by a computer with a suitable reader attached.

10. So, when you are looking for your data, let's hope it is in a store where you can find it, and don't forget to back it up!



©CERN