

Computers

Storage, storage units & accessing

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Data storage devices

- A **data storage device** is a device for recording (storing) information (data). Recording can be done using virtually any form of energy, spanning from manual muscle power in handwriting, to acoustic vibrations in phonographic recording, to electromagnetic energy modulating magnetic tape and optical discs.
- A storage device may hold information, process information, or both. A device that only holds information is a recording medium. Devices that process information (data storage equipment) may either access a separate portable (removable) recording medium or a permanent component to store and retrieve information.

Storage unit – Hard disk

- A **hard disk drive (HDD)**, commonly referred to as a **hard drive**, **hard disk**, or **fixed disk drive**, is a non-volatile storage device which stores digitally encoded data on rapidly rotating platters with magnetic surfaces.
- Early HDDs had removable media; however, an HDD today is typically a sealed unit (except for a filtered vent hole to equalize air pressure) with fixed media.



Storage unit – Floppy disk



- A **floppy disk** is an obsolete data storage medium that is composed of a disk of thin, flexible ("floppy") magnetic storage medium encased in a square or rectangular plastic shell.
- Floppy disks are read and written by a **floppy disk drive** or **FDD**, the initials of which should not be confused with "fixed disk drive," hard disk drive.
- Invented by IBM, floppy disks in 200 mm, 133 mm, and the newest and most common 90 mm formats enjoyed many years as a popular and ubiquitous form of data storage and exchange, from the mid-1970s to the late 1990s.

Storage unit - CD

- A **Compact Disc** is an optical disc used to store digital data, originally developed for storing digital audio. The CD, available on the market since October 1982, remains the standard physical medium for sale of commercial audio recordings to the present day.
- Standard CDs have a diameter of 120 mm and can hold up to 80 minutes of audio. There is also the Mini CD, they are sometimes used for CD singles, storing up to 24 minutes of audio.
- The technology was later adapted and expanded to include data storage CD-ROM, CD-R, CD-RW, Super Audio CD, Video Compact Discs, Super Video Compact Discs, PhotoCD, PictureCD, CD-i, and Enhanced CD.



Storage unit - DVD



- **Digital Versatile Disc** or "**Digital Video Disc**" is a popular optical disc storage media format. Its main uses are video and data storage. Most DVDs are of the same dimensions as CDs but store more than six times as much data.
- Variations of the term *DVD* often describe the way data is stored on the discs so we have: DVD-ROM, DVD-R and DVD+R. DVD-RW, DVD+RW and DVD-RAM.
- DVD-Video and DVD-Audio discs respectively refer to properly formatted and structured video and audio content. Other types of DVDs, including those with video content, may be referred to as DVD-Data discs.

Storage unit - USB

- **Universal Serial Bus (USB).**
- USB was designed to allow many peripherals to be connected using a single standardized interface socket and to improve the plug-and-play capabilities by allowing hot swapping, that is, by allowing devices to be connected and disconnected without rebooting the computer or turning off the device.
- Other convenient features include providing power to low-consumption devices without the need for an external power supply and allowing many devices to be used without requiring manufacturer specific, individual device drivers to be installed.
- USB was originally designed for personal computers, but it has become commonplace on other devices such as PDAs and video game consoles.
- As of 2008, there are about 2 billion USB devices in the world.



Storage unit – Memory card

- A **memory card** or **flash memory card** is a solid-state electronic flash memory data storage device used with digital cameras, handheld and Mobile computers, telephones, music players, video game consoles, and other electronics.
- They offer high re-record-ability, power-free storage, small form factor, and rugged environmental specifications.
- There are many different types of memory cards and jobs they are used for.



Accessing

- Different storage units have different accessing times for the data stored on them. That depends on the type of the unit, quality of the storage device and connection between the parts.
- It is possible to limit accessibility to certain data stored on the devices. That can be made with password, lock-downs, encrypting etc.

Sources and literature

- <http://en.wikipedia.org/wiki/>
- <http://www.mlacom.si>
- Articles about computers and informatics