

HDD: Hard Disk Drive, as we all know is a secondary memory component. We also call it a storage drive since it is used for long term storage of data and programs. It is mounted in the mounting rack inside of the CPU cabinet and is connected with the motherboard on IDE (Integrated Drive Electronics) port.

Physically an HDD is made up of one or many Magnetic disks mounted in a concentric shaft inside of a steel case. Generally this case is what we call the HDD.

Following are the parts of an HDD that we have to discuss about-

- Disk
- Platters
- Tracks
- Sectors
- Cylinders
- R/W head
- Cabling and interface

Disk: The magnetic plates assembled in a shaft in concentric way. Many disks of different capacities can be assembled in a single HDD.

Platters: Platter is a single recording surface on a disk. Since there are two surfaces of each disk, total surfaces are- (no. of disks x 2). But total recording surfaces are-

$$((\text{no. of disks} \times 2) - 2)$$

For example, an HDD having 4 disks will have-

$$((4 \times 2) - 2) = 6 \text{ platters}$$

We subtract 2 because the upper surface of topmost disk and the lower surface of lowest disk are not used for recording.

Tracks: Tracks are concentric rings formed on the surface of a disk in order to arrange the data being stored. Tracks are of increasing radius from centre to circumference.

Sectors: Sectors are smaller divisions of tracks. This is to facilitate effective addressing system for files in the HDD.

Cylinders: A group of tracks on all disks having same radius is known as a cylinder. There may be a hierarchy of cylinders since all tracks are concentric.

Assignments:

- 1.** What is HDD? What is it made up of?
- 2.** Briefly discuss about Tracks, Sectors and Cylinders.