

The following is a very Basic description of the component parts of a Hard Disk Drive.

### **Head Actuator.**

The actuator moves the arm that holds the read/write heads. The actuator must align the read/write heads precisely with the data tracks on the surface of the rotating platters.

### **Read/Write Heads**

The Read Write heads are attached to the head actuator. The read write heads fly above the platters using a cushion of air created by the spinning platters. The fly height of the heads is typically nanometres above the platter surface. The magnetization of the recording media is perpendicular orientation. This improves the areal density of the recording media and the response of the pick-up as it moves over the magnetic patterns and facility a faster rotational speed and data access times.

### **Controller Card.**

The hard drive controller is attached on the exterior of the hard drive chassis. It contains DSP (Digital Signal Processors) chips that control dataflow, etc. It also contains cache modules to keep frequently used data close at hand.

### **Magnets.**

The head actuator needs to move within a strong magnetic field that allows it transition and settle precisely over tracks on the surface of the recording media platters. The magnetic field does not affect that of the platters as the magnetic field on the magnets lie on a vertical axis. If they were on a horizontal axis, the field would stretch onto the platters and adversely affect the data.

