



Read/Write Head

This is a far more fragile unit than on a floppy disk drive because it has to 'fly' above the surface of the disk

Stepper Motor

A very accurate electric motor that moves the head across the surface of the disk

Controller

This PCB houses the electronics to control the spin speed, position the head and read the data. In addition, there needs to be a sophisticated DOS, either on another board or in the computer's memory

Drive Motor

A DC (direct current) motor and a small generator are mounted on the same shaft that in turn spins the disk. The output from the generator is a measure of the speed of the motor and is fed back to a special controlling circuit. This is how the speed is determined so accurately

five Megabyte platters placed in the same box. The management of all this storage space is achieved by splitting it into a large number of sections. To maintain compatibility with existing software, which expects only to deal with floppy disks, these sections generally approximate to the capacity of a normal floppy. A Winchester disk looks, to the computer at least, like lots of separate floppy disk units.

When a Winchester disk is formatted (that is, the tracks and sectors are first marked out) the DOS (see page 324) must be capable of skipping over the 'bad sectors', which have faults in the magnetic recording surface. The only comparable operation on a home computer is the formatting

used in the Sinclair Microdrive. On a floppy disk, a bad sector would result in the whole disk being scrapped; whereas on a Winchester disk, the formatting program merely notes that the sector is unusable and blocks it off from further use. After all, with five million bytes of space who's going to miss a few hundred?

In keeping with the advances being made in the rest of the computer industry, the Winchester disk is getting smaller in size, and there is now a 5 Megabyte micro-Winchester disk. With such rapid developments in disk storage units, a home computer for less than £500 that features 10 Megabytes of data storage isn't as far away as might have been imagined.