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How a DVD works:

A DVD stands for Digital Versatile Disk. It is made up of four main layers. The first is a layer of polycarbonate plastic, then an opaque reflective layer, then a transparent film layer and finally the protective plastic layer.



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How a DVD works:

Data is written on a DVD is similar to the data on a CD-Rom. It is also made up of lands and pits, however the DVD lands and pits are much smaller.



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How a DVD works:

The DVD has a read laser, but the laser is much more narrow than a CD-Rom. This is because it uses a smaller wavelength. The read laser also has a magnetic coil around it.



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How a DVD works:

By changing the amount of current sent to the coil, it can focus the laser onto different surfaces.



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How a DVD works: :

To begin reading, the laser is focused on the transparent film layer. The transparent film layer has lands and pits that are read just like a CD-Rom.



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How a DVD works:

But the transparent film only accounts for half of the DVD data. By changing the current in the magnetic coil again, the laser can now focus on the reflective layer.



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How a DVD works:

The laser can now read the lands and pits on the reflective surface.



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How a DVD works:

The spiral tracks of data recorded on the two layers on a DVD turn in different directions. The read head starts by reading the transparent film layer spiral track from the outside of the disk to the center of the disk.



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How a DVD works:

When it reaches the center, the laser will focus on the reflective surface and read the spiral track from the inside of the disk to the outside of the disk.



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How a DVD works:

This design will avoid the delay in the flow of data.



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How a DVD works:

The capacity of a DVD can be doubled, because the layers can be applied to both sides of the disk. But most DVD players have one read laser, so you will have to flip the DVD over to the second side.



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References

How Computer Work: Millenium Edition

by: Ron White, 1999 QUE

