

CD and DVD Formats Explained

There are two types of optical disc: Compact Discs (CDs) and Digital Versatile Discs (DVDs). Although they are split into several sub-formats, the main difference between the two is capacity.

Although they look the same, the newer DVD format can store up to 18Gb of data on a single disc, while CDs are limited to about 650Mb. Here we'll take a look at the different formats.

Compact Discs (CD)

Probably the first type you will come across is the CD-R disc (the R stands for recordable). Nearly all new computers come with a writer that can write to CD-R discs. A 650 MB disk will hold around 130 MP3 music tracks, or around 75 minutes of standard uncompressed music.

CD-Rs can only be written to once and cannot be erased.

CD-RW (CD-ReWritable) have the same capacity as CD-Rs, but they can be erased and re-used to store data over and over again. Except when used in a PC running "Packet Writing" software, they have to be erased before writing new data to the disk.

Packet writing software, like Nero's InCD, allows a CD-RW to be selectively written to and erased, file by file in a similar fashion to a floppy disk. This isn't always seamless though, and there are issues between versions of the software that can make this method of writing data unreliable. Whilst fine for passing files between PCs, it's probably best not to use this for data backup.

There are several secondary CD formats such as Video CD (VCD) and Super Video CD (SVCD) which contain audio and video, like a DVD film but at lower quality (SVCD is slightly higher quality than VCD). These discs can be produced on most PCs and will play on any computer and many DVD players.

Digital Versatile Discs (DVD)

A basic DVD holds 4.7Gb of data, over six times more than the highest capacity CD. This can be extended further by using two layers and nearly doubling its capacity to 8.5Gb (which is the same capacity as the film DVDs). These are usually referred to as dual layer.

There are two main versions of recordable DVD: the DVD-R and DVD+R. These were developed by different groups of companies and are not compatible with each other. However, most modern DVD writers will read and write both types of disc. For older writers which don't make sure which version the device supports before buying discs.

Both can store 4.7Gb of data, as can their rewritable equivalents, DVD+RW and DVD-RW. Again, most modern writers will write all four of the above formats.

Another format you will see is the DVD-RAM. These were mostly used for DVD video recording, but are gradually disappearing, as recorders increasingly use the DVD+ or - format.

There are two new formats appearing as this is being written. These are called Blu-ray and HD-DVD. These have significantly higher capacity, with Blu-ray discs holding up to 54Gb (eight hours of super-high-quality video) and HD-DVD storing up to 30Gb (four hours of similar video).