


# ABCS OF DVD DRIVE ABBREVIATIONS

The number of different formats available in DVD drives can be confusing to anyone in the market for one. The list is much longer, but to address a few of the common formats, we have DVD-ROM, DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM, DVD+R DL and DVD±RW. Wow! This list of common formats is long enough, no wonder it's confusing!

## What's with all the Formats?!



The reason for various recordable DVD formats is that no one group owns the technology and different Groups have chosen to support one technology over another. There is no industrial standard for manufacturers to reference, so for the time being consumers will have a few choices.

The first thing to address is DVD itself, which stands for Digital Versatile Disc. Some may argue that the V stands for Video, but with the capability to store video, audio, and data files, Versatile is definitely the keyword.

## Start with the Basics

A DVD-ROM drive is the only one we will address that does not record. ROM stands for Read Only Memory, and refers to the typical drive that can merely read DVDs, as well as CDs (all DVD drives can read CDs). The Lite-On LTD-163-DO-R has attributes representative of your typical DVD-ROM drive, and features a maximum DVD read speed of 16x and a maximum CD read speed of 48x.

Before getting into the different recordable formats, let's address the basics of what the R and RW stand for, regardless of whether there is a + or – in the middle. R stands for Recordable, which indicates that the disk may be recorded to only once. RW stands for ReWritable, which indicates that the disc may be recorded to more than once, and are generally rated for 1000 rewrites under good conditions.



The DVD-R/-RW format was developed by Pioneer, and was the first format compatible with stand alone DVD players. The group that promotes the technology calls itself the DVD Forum, which is “an international association of hardware manufacturers, software firms, content providers, and other users” with notable members such as Hitachi, Samsung, and Toshiba. The DVD-R/-RW format is based on CD-RW technology and uses a similar approach to burning discs.



The DVD+R/+RW format is a newer format, also based on CD-RW technology, and compatible with a large percentage of stand alone DVD players. The +R/+RW technology is not supported by the DVD Forum, and its main backing comes from a group called the DVD+RW Alliance. The Alliance “is a voluntary group of industry-leading personal computing manufacturers, optical storage and electronics manufacturers” with members such as Dell, Hewlett Packard, Sony, and Phillips Electronics.



The DVD-RAM format is based on PD-RW (Phase-Differential) drives, and actually uses a cartridge to hold the media (just like its PD-RW predecessor). Some DVD-RAM cartridges are double sided, making them ideal for companies to use as system backup, hence DVD-RAM is usually found only in commercial applications, and most end-users won’t ever need to use or see this type of drive. The DVD-RAM standard is also supported by the DVD Forum just like the DVD-R/RW format. However, because of its

use of a cartridge (limiting its compatibility), and the scarcity and price of the media used, DVD-RAM is a distant third when compared to the DVD+R/+RW and DVD-R/-RW technology.

The +R/+RW and -R/-RW formats are similar, and the main difference DVD+R technology has is the ability to record to multiple layers (with its new DVD+R DL format), where DVD-R can only record to one layer (not all +R drives are capable of dual layer burning, but no -R drives are). The Plextor PX-504U is an example of an external DVD+R/+RW drive capable of recording single layer discs in the +R/+RW format, but also able to read discs recorded by a DVD-R drive.

### **What is DVD±RW?**

DVD±RW is not actually a separate format, but the designation given to drives capable of both -R/-RW and +R/+RW operation. This type of drive is typically called a “Dual Drive” (not to be confused with a “Double Layer” drive) since it can write to both the +R/+RW and -R/-RW formats. The Samsung TS-H552 is a DVD±RW drive capable of reading and writing every format discussed so far, and then some. It takes advantage of DVD+R DL (Double Layer) technology available with the +R format, allowing the appropriate media to store virtually double the 4.37 GB capacity of a typical single layer disc.

The other main thing to consider with DVD burners is selecting the correct media.

Media for DVD-R, DVD-RW, DVD+R and DVD+RW media may all look the same, but they are slightly different in order to match the specific recording formats. The price of media for either format is generally the same, with RW media costing a good deal more than R media of either format. Double Layer media is even more expensive, and is the only way for an owner of DVD+R DL drive to take advantage of the tremendous capacity increase. As the amount of Double Layer drives increase in the market, the price of the DVD+R DL media is expected to fall with increased production of the media. DVD Burners (as these drive are often referred to) can be picky about the media supported, so be sure to choose your media wisely.

### **DVD in a Nutshell**

**DVD-ROM :** Reads DVD discs

**DVD+R :** Writes to DVD+R media (will also typically write to CD-R and CD-RW media)

**DVD+RW :** Writes to DVD+RW media (will also typically write to DVD+R, CD-R and CD-RW media)

**DVD+R DL :** Writes to DVD+R DL (Double Layer) media (will also typically write to DVD+R, DVD+RW, CD-R and CD-RW media; many Double Layer drives are ALSO

dual drives – that is, able to write to BOTH +R/RW and –R/RW media)

**DVD-RAM :** Writes to DVD-RAM cartridges (not in wide use on consumer market – mainly a business format; can also read PD-RW discs. Will not usually be able to write to any other format including CD-R or CD-RW)

**DVD-R :** Writes to DVD-R media (will also typically write to CD-R and CD-RW media)

**DVD-RW :** Writes to DVD-RW media (will also typically write to DVD-R, CD-R and CD-RW media)

**DVD±RW :** Writes to DVD-RW and DVD+RW media (will also typically write to DVD-R, DVD+R, CD-R and CD-RW media; typically called “Dual Drives” since it can burn to two different DVD formats)

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