

Re: What is positive or negative DVD

Source:

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.general/2005-02/1138.html>

From: Tony Norman (*Norman_at_discussions.microsoft.com*)

Date: 01/27/05

Date: Wed, 26 Jan 2005 20:32:35 -0700

Here is some information I just found on

<http://www.anandtech.com/guides/viewfaq.html?i=118>

The differences between the different types of DVD Re-Write Formats.

Date: Oct 6, 2003

Category: General Hardware

Author(s): Eug

Currently there are many writeable and rewriteable DVD formats on the market, and this can be confusing to the average consumer. These DVD formats include:

DVD-RAM

DVD-R

DVD-RW

DVD+R

DVD+RW

DVD-RAM

DVD-RAM is a sanctioned format of the DVD Forum, a consortium of companies involved in the development of DVD standards. DVD-RAM was a format originally aimed primarily as a data solution, but it is now becoming popular as a video format used by some brands of standalone (non-PC) DVD recorders. DVD-RAM is a very robust data storage solution, theoretically allowing greater than 100000 rewrites per disc.

Early PC-based DVD-RAM recorders used 2.6 GB discs (or double-sided 5.2 GB discs), but current drives also use 4.7 GB discs (or double-sided 9.4 GB discs). DVD-RAM discs are traditionally housed within cartridges, so that the media is well-protected. Originally, the cartridges could not be opened, but newer Type II and Type IV cartridges can be opened, an important feature for those who wish to read these discs in DVD-RAM compatible DVD-ROM drives or standalone DVD players. In addition, some DVD-RAM discs are now sold without cartridges.

In addition to support of the usual DVD UDF formats, DVD-RAM also allows fully integrated OS-level random read/write access similar to hard drives, with both Windows XP (with FAT32) and Mac OS X (with FAT32 or HFS+), as well as on-the-fly write verification.

The main drawback of the DVD-RAM format is its limited read compatibility by DVD-ROM drives and standalone DVD players. DVD-RAM read support with these units is increasing however, partially because of the increasing popularity of home standalone DVD-RAM recorders in home theatre systems.

DVD-R and DVD-RW

DVD-R and DVD-RW are also both formats of the DVD Forum. Both formats generally use 4.7 GB discs, although some professional DVD-R drives use 3.95 GB discs.

DVD-R is a write-once recordable format which allows excellent compatibility with both standalone DVD players and DVD-ROM drives. There are two main types of DVD-R discs: DVD-R for General Use and DVD-R for Authoring. Most consumer DVD-R burners use the cheaper General Use discs, while some professional burners use Authoring discs. The correct media type appropriate for the recorder must be used when burning a DVD-R. However, once written, the discs should be readable in either drive type. (General Use DVD-R is designed to prevent backup of encrypted commercial DVDs.)

DVD-RW media uses rewriteable discs which are rated for more than 1000 rewrites in ideal situations. The majority of standalone DVD players will play video recorded on DVD-RW discs, but the compatibility is not as high as with DVD-R.

Current DVD-RW recorders also record to DVD-R. However, the reverse was not always true. Some older DVD-R recorders were not capable of writing to DVD-RW discs (although some were able to read DVD-RW discs burned with other drives).

DVD-RW and DVD-R have heavy penetration into the professional multimedia market as well as the general consumer market. For instance, the Apple SuperDrive, found in many pro and consumer Mac computers, is simply a DVD-R/DVD-RW (and CD-R/CD-RW) capable burner.

DVD+R and DVD+RW

These two formats are backed by the DVD+RW Alliance. While these formats are not supported by the DVD Forum, several members of the DVD+RW Alliance are also members of the DVD Forum. These discs are very similar to DVD-R and DVD-RW in design, usage, and compatibility.

DVD+RW, like DVD-RW, is a rewriteable 4.7 GB format, and overall it has similar functionality to DVD-RW. The level of compatibility of standard DVD+RW discs in standalone DVD players is similar to that of DVD-RW. The rewritability of DVD+RW is also said to be similar to that of DVD-RW,

allowing up to 1000 rewrites.

One potential advantage of the DVD+RW format is Mount Rainier (DVD+MRW) drag-and-drop file access support planned for Longhorn, a future version of Windows slated for release in 2005. Older DVD+RW drives do not support this function, but newer drives may. While DVD+MRW is arguably not as robust a data solution as DVD-RAM, DVD+MRW potentially will offer higher read compatibility in current DVD-ROM drives.

DVD+R is a format that was introduced to consumers in early 2002. The first generation +RW recorders did not support DVD+R recording, and likely cannot be upgraded to do so. However, all current models of DVD+RW recorders also support DVD+R recording. Compatibility of +R discs in standalone DVD players is similar to that of DVD-R.

Can I have it all?

Support of combinations of several of the formats are available in many current drives. Recorders that conform to the DVD Forum's DVD Multi Recorder standard will record to DVD-RAM, DVD-R, and DVD-RW. Other recorders also record to both +R/+RW and DVD-R/DVD-RW. Some drives are even able to record to all of the DVD Forum and DVD+RW Alliance formats. In addition to the various DVD formats, most drives will also record to CD-R and CD-RW discs.

So what should I buy then?

This is a very difficult question. The choice largely depends on one's usage environment and preferences.

DVD-RAM discs cannot be used in most standalone DVD players and DVD-ROM drives, and this has historically made this format less attractive for the average home user. However, the integrated OS-level drag-and-drop read/write data support of DVD-RAM makes it very attractive for some users, especially now that most current DVD-RAM burners also support DVD-R burning for video applications. DVD-RAM capable PC drives will also be ideal for those whom already own DVD-RAM based camcorders or standalone DVD-RAM recorders.

DVD-R/DVD-RW drives currently have the highest market penetration, both with PCs and Macs. As previously mentioned, DVD-R enjoys high compatibility with standalone DVD players. In addition, the low cost of DVD-RW is attractive to many for backup purposes. Furthermore, most standalone DVD players will read DVD-RW as well, although the compatibility rate is lower than with DVD-R.

DVD+R/DVD+RW is gaining market share, and these discs appear to have similar compatibility on standalone DVD players as DVD-R/DVD-RW discs. Similarly, current functionality with these drives is similar to DVD-R/DVD-RW drives, both for data and for video applications, and they likely are equally reliable.

And of course, as mentioned earlier, many multiformat drives exist (albeit often at higher cost).

What about external DVD recorders?

DVD recorders exist in SCSI and IDE formats. Most external DVD recordable drives are essentially IDE drives with USB 2 or Firewire 1394a bridges and custom housing. These drives can be purchased as complete drives, but one may purchase a standard IDE DVD burner for use in a third party USB 2 or Firewire enclosure. Besides ease of installation, an external drive offers the ability to use a single drive with multiple computers.

Compatibility of external drives is not guaranteed with all software, however.

Can I record DVDs with my laptop?

Yes! Some laptops now include DVD burners as the primary optical drive. If one does not have an internal DVD burner, one may use an external drive, connected to a Firewire or USB 2 port on the laptop. This port can be either built-in or on an add-in PCMCIA adapter card.

How fast can I burn my discs?

The fastest desktop burners (as of September 2003) are 8X for DVD+/-R and 4X for DVD+/-RW. Laptop DVD burners usually have a 2X maximum DVD burn speed.

Can I use a DVD burner to make backups of commercial DVDs?

Making backups of DVDs one does not own or making backups for resale is illegal. However, it may be legal to make backups of one's own DVDs for personal use. For example, some families may wish to backup children's DVDs, in order to protect them from damage caused by mishandling.

Many may be familiar with the process of CD backups, which simply involves a direct copy of a CD to a CD-R. Unfortunately, the backup process for DVDs is usually a much more complex process, for a number of reasons.

- 1.. Most DVDs have encryption. In order to backup the video data on a DVD (which is located in the VIDEO_TS folder), one must first decrypt the disc to a computer's hard drive. Various software exists on various platforms to perform the decryption.

- 2.. Most commercial DVDs utilize dual-layer discs, which can hold more than the 4.7 GB of a single DVD recordable disc. Both layers of dual-layer discs are readable by a DVD player's laser from one side of the disc. (In contrast, double-sided discs must be flipped over in order for a DVD player to read both sides.) Unfortunately, while double-sided DVD recordable discs do exist, dual-layer DVD recordable discs do not. Thus, in order to backup a dual-layer disc, one must either compress or reencode the video data to fit on a single 4.7 GB DVD, remove various portions of the disc (such as trailers or extra audio tracks), or else split the disc onto two DVDs.

Various software is available to perform these functions, and some will allow one to keep all the original menus and titles. Note that if the video is simply extracted and burned to a disc as a video data file, a DVD player

will not recognize the disc. In order for a disc to be read in a DVD player, there must be proper formatting of the data within the VIDEO_TS folder.

3.. Care must be given to ensure that the burning software is configured properly to create discs for DVD Video. If the burning software is set to wrong type of DVD file system, the disc will not be recognized by standalone DVD players (even if the disc is playable on a computer).

How come my 4.7 GB disc isn't really 4.7 GB?

Like hard drives, 1 GB on a DVD recordable disc equals 1 000 000 000 (109) bytes. In contrast, a computer considers 1 GB to be 1 073 741 824 (230) bytes. Thus, a 4.7 GB disc is seen by a computer as having approximately 4.37 GB.

```
--
-Tony Norman
"Police Cruiser" <icstude@advinc.com> wrote in message
news:O4ZTm9BBFHA.2112@TK2MSFTNGP14.phx.gbl...
>I have also asked that question.
> I have been told that 'Some' DVD Players will only recognize '+' CDRWs and
> others will only recognize '-'
> CDRWs. Also been told that 'most new DVD players'
> will recognize both types. FWIW
> "Tony Norman" <Tony.Norman@discussions.microsoft.com> wrote in message
> news:%23nk9d4BBFHA.3588@TK2MSFTNGP11.phx.gbl...
>>I personally don't know the difference, but I called my OEM (eMachines) on
>>this one (a while in time ago, as I was planning on upgrading as well),
>>and to be on the safe side, he (the representative) said to just get a
>>DVD+/-RW so that it is both, and it most likely won't matter either way.
>>
>> -Notice, I did NOT quote anybody (no " " marks), so if anything there is
>> wrong, you can blame me, and not try to blame anyone from eMachines. :P
>>
>> --
>> -Tony Norman
>>
>>
>> "Ourania" <campetti@myway.com> wrote in message
>> news:54BBFC7A-C9B1-4F99-941C-3B43D3DF9887@microsoft.com...
>>>I went to purchase some DVDs and the salesperson asked me if I need a
>>>positive
>>>+ or negative- DVD. What is the difference and how can I find out what
>>> DVD I
>>> need to buy.
>>> I'm new to computers.
>>> Thanks
>>> --
>>> or
>>
>>
>
>
```