



**HD DVD** | Frequently Asked Questions



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### **Q. What is HD DVD?**

- A.** HD DVD, initially called AOD, is the name of one of two major formats competing for the emerging high definition DVD market. The format was developed to enable recording, rewriting, and playback of high-definition video (HD), as well as storing large amounts of data. The format offers approximately three times the storage capacity of traditional DVDs and can hold up to 15GB on a single-layer disc and 30GB on a dual-layer disc.

### **Q. What does HD DVD stand for?**

- A.** HD DVD stands for High Density Digital Versatile Disc.

### **Q. What did AOD stand for?**

- A.** Advanced Optical Disc, which was the codename or nickname given during initial development of the HD DVD format. AOD has since been officially changed and standardized to HD DVD.

## HD DVD FAQs

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### Q. Who are the major backers and companies of HD DVD?

A. The major backers are Toshiba and NEC. Some of the major companies backing HD DVD are:

Hollywood Studios	IT Companies	Consumer Electronics	Media Companies
New Line Cinema	HP	Thomson	Maxell
Paramount Pictures	IBM	Toshiba	JVC
Universal Pictures	Intel	LG	Imation
Viacom	Microsoft		Memorex
Warner Home Video Inc.	NEC		Ritek
			Verbatim

### Q. How big is a HD DVD disc and what does it look like?

- A.** A standard HD DVD disc is 12cm in diameter, the same size and similar appearance as current DVDs and CDs.

### Q. What are the different HD DVD formats?

- A.** Similarly as with conventional CDs and DVDs, HD DVD will be available in a range of formats including ROM/R/RW. The following formats are part of the HD DVD Disc specification:

- **HD DVD-ROM** - read-only format for HD movies, music, software, games, etc.
- **HD DVD-R** - recordable write once format for video recording and PC data storage.
- **HD DVD-RW** - rewritable format for video recording and PC data storage.

There are also plans for a HD DVD hybrid format, which combines HD DVD and DVD on the same disc to enable playback in both HD DVD players and DVD players.

### **Q. How much data can a HD DVD disc hold?**

- A.** A single-layer disc can hold 15GB. A dual-layer disc can hold 30GB. To ensure that the HD DVD disc format is easily extendable (future-proof) it also includes support for multi-layer discs, which should allow the storage capacity to be increased (15GB per layer) by adding more layers to the disc.

### **Q. How much video can you fit on a HD DVD disc?**

- A.** It depends on the video code employed and whether the disc is single or dual layer:

#### **High Definition (HD):**

When recording with MPEG2 compression, a 15GB disc is able to record approximately 1 hour 40 min. or 3 hours 20 min. of High Definition (HD) video on a 30GB disc. \* All record times based on 19.4 Mbps United States ATSC Broadcast Rate and MPEG-2 encoding.

### **Q. Does HD DVD require an Internet connection?**

- A.** No. You will not need an Internet connection for playback of HD DVD movies. The Internet connection will be used for value-added features such as downloading subtitles, movie trailers, web browsing, etc. It will also be required to authorize managed copies of HD DVD movies that can be transferred over a home network.

### **Q. How long will a HD DVD disc last?**

- A.** It is expected to last 30 or more years, when stored at room temperature. Optimum temperature is 68°F and optimum relative humidity is 40%.

### **Q. Will HD DVD recorders replace VCRs?**

- A.** Eventually, as VCRs can't record HDTV programming consumers will soon need to replace them. HD DVD recorders combined with hard drives offer a very flexible alternative for those that want to record HDTV. While HD-DVRs already allow consumers to record HDTV, the amount of HDTV programming that can be recorded and archived is limited by the size of the hard drive. HD DVD recorders will offer a solution to this problem as they allow consumers to record the video to HD DVD discs to free up space on the hard drive. This should make them popular among people that want to archive a lot of their HDTV recordings. HD DVD recorders will also offer many compelling new features not possible with a traditional VCR:

- Random access - instantly jump to any place on the disc
- Searching - quickly browse and preview recorded programs in real-time
- Create play lists - change the order of recorded programs and edit recorded video
- Simultaneous recording and playback of video (enables Time slip/Chasing playback)
- Automatically find an empty space to avoid recording over programs
- Improved picture - ability to record high-definition television (HDTV)
- Improved sound - ability to record surround sound (Dolby Digital, DTS, etc)

### **Q. What type of equipment is needed to play a HD DVD disc?**

- A.** You will need a HD DVD capable player. No existing DVD player will be able to read a HD DVD disc, and there is no software or hardware upgrade that can be performed to enable HD DVD playback. Buying a new player is, therefore, the only choice if you want HD DVD playback.

## HD DVD FAQs

### Q. Are HD DVD players backwards compatible with DVD?

- A.** HD DVD discs are not playable in current DVD players, however, existing DVD media is playable on HD DVD drives that have been specifically manufactured to have backwards compatibility with DVDs.

### Q. What are the technical differences between DVD and HD DVD?

#### DVD/HD DVD Format Comparison Chart

Parameters	DVD	HD DVD
Capacity per layer (GB)	4.7	15
Number of layers	1 or 2	1 or 2
Number of sides	1 or 2	1 or 2
Substrate + cover layer (mm)	0.6 + 0.6	0.6 + 0.6
Laser wavelength (nm)	650	405
Numerical aperture	0.60	0.65
Cartridge	No	No
Hard coating needed	No	No
Complexity to read DVD	-	None
Data transfer rate	11.08Mbps	36Mbps
Video Compression	MPEG-2	MPEG-2, MPEG-4 AVC, SMPTE VC-1
*Recording Time (HDTV)	Single-Layer	1 hour 40 min.
	Dual-Layer	3 hours 20 min.

\* All record times based on 19.4Mbps United States ATSC Broadcast Rate and MPEG-2 encoding.

## HD DVD FAQs

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### **Q. Is HD DVD the same as Blu-ray Disc?**

- A.** No. Blu-ray Disc is the name of a competing next-generation optical disc format developed by the Blu-ray Disc Association (BDA). The format is quite different from HD DVD and also relies on blue-laser technology to achieve a higher storage capacity.

### **Q. What are the capacity differences between HD DVD and Blu-ray Disc?**

- A.** Each next-generation DVD format comes in single-layer and dual-layer formats. For HD DVD, that means capacities of 15GB and 30GB; for Blu-ray Disc, it is 25GB and 50GB.

### **Q. How should a HD DVD disc be cared for?**

- A.** HD DVD discs should be treated basically the same way a DVD or CD is treated. Keep your HD DVDs and the inside of your player free from dust and debris. Be especially careful not to scratch or put fingerprint marks on the recording surface of the disc, and keep them away from extreme temperatures and humidity.

## HD DVD FAQs

### Q. What are the technical differences between HD DVD and Blu-ray Disc?

#### HD DVD/Blu-ray Disc Format Comparison Chart

Parameters	HD DVD	Blu-ray Disc
Capacity per layer (GB)	15	25
Number of layers	1 or 2	1 or 2
Number of sides	1 or 2	1
Substrate + cover layer (mm)	0.6 + 0.6	1.1 + 0.1
Laser wavelength (nm)	405	405
Numerical aperture	0.65	0.85
Cartridge	No	No
Tilt control needed	Yes	No
Hard coating needed	No	Yes
Complexity to read DVD	None	More complex
Data transfer rate	36Mbps	36Mbps
Video Compression	MPEG-2, MPEG-4 AVC, SMPTE VC-1	MPEG-2, MPEG-4 AVC, SMPTE VC-1
*Recording Time (HDTV)	Single-Layer	1 hour 40 min.
	Dual-Layer	3 hours 20 min.
		2 hours 48 min.
		5 hours 36 min.

\* All record times based on 19.4 Mbps United States ATSC Broadcast Rate and MPEG-2 encoding.





For more information, visit our website at [www.maxell.com](http://www.maxell.com).  
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