

## Blu-Ray Disc Revolution – A Useful Guide

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BLU-RAY DISC BRINGS MENUS, GRAPHICS AND SPECIAL FEATURES TO A WHOLE NEW LEVEL. IT REPRESENTS A HUGE LEAP FORWARD IN THE DVD VIEWING EXPERIENCE.

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### Introduction

Blu-ray, also known as Blu-ray Disc (BD), is the name of a next-generation optical disc format. The format was developed to enable recording, rewriting and playback of high-definition audio and video (HD), as well as storage for large amounts of data. The format offers more than five times the storage capacity of traditional DVDs and can hold up to 25GB on a single-layer single-sided disc and 50GB on a dual-layer single-sided disc (production of dual-layer dual-sided discs which increase the maximum storage capacity of a Blu-Ray Disc to 100gigabytes are also in effect) This extra capacity combined with the use of advanced video and audio codecs will offer consumers an unprecedented HD experience.

### Why you should buy your Blu-ray player at Bravo AV

We have a wide selection of Blu-ray players with competitive pricing. But more importantly we offer expert system evaluation and installation. For you to get the maximum performance out of your Blu-ray player you need to have the right HDMI cabling and equipment. Bravo AV is there to help with all of these aspects. Bravo technicians have years of experience and hold numerous certifications.

### Why do they call it Blu-ray?

Because Blu-ray Disc players use a blue -laser beam to read data from discs, rather than the older red lasers used for DVDs. A blue laser can be focused more tightly, so disc makers can pack more data on a disc the same size as a DVD.

### Audio and Video Codecs

A Codec is a mathematical algorithm used to compress large data signals into small spaces with minimal perceived loss of information.

Blu-ray will support all the latest audio and video codecs. (See the table at the bottom for all the codecs supported)

### Will Blu-ray require an Internet connection?

No, you will not need an Internet connection for basic playback of Blu-ray movies. The Internet connection will only be needed for value-added features such as downloading new extras, watching recent movie trailers, web browsing, etc. It will also be required to authorize managed copies of Blu-ray movies that can be transferred over a home network.

### Will Blu-ray replace DVDs?

Yes, that is the expectation. The Blu-ray format has received broad support from the major movie studios as a successor to today's DVD format. They have released over 1,000 titles in the Blu-ray format. Many studios have also announced that they will begin releasing new feature films on Blu-ray Disc day-and-date with DVD, as well as a continuous slate of catalog titles every month.

### Will Blu-ray be backwards compatible with DVD?

Yes, so you don't have to worry about your existing DVD collection becoming obsolete. The Blu-ray Disc Association (BDA) expects every Blu-ray Disc device to be backward compatible with DVDs.

**To recap: You do not need to go out and replace your DVD collection.**

### Why should I upgrade from DVD to Blu-ray?

The simple answer is High Definition TV (HDTV.) If you've ever seen high-definition (HD) video on an HDTV, then you know just how incredibly sharp the picture is and how vivid the colors are. In fact, HD offers five times the amount of detail compared to standard-definition (SD). That's where Blu-ray offers up to 50GB of storage capacity and enables playback, recording and rewriting of HD in all of the HD resolutions including 1080p. The format also supports high-definition audio formats and lossless audio.

In addition to the greater video and audio quality, the extra storage capacity also means there will be plenty of room for additional content and special features. This combined with the new BD-J interactivity layer adopted by Blu-ray will bring the menus, graphics and special features to a whole new level. The advanced interactivity combined with the networking features of Blu-ray will also allow content producers to support new innovative features such as downloading extras, updating content via the web, and watching live broadcasts of special events.

Thanks to the greatly enhanced HD video and audio quality as well as the advanced interactivity and networking features, Blu-ray represents a huge leap forward in the DVD viewing experience and will offer consumers a stunning HD experience.

### Can you really see the difference between Blu-ray and DVD?

People can easily see Blu-ray's improvement in picture quality because the video resolution, called "1080p" constantly (or progressively, hence the p) redraws 1,080 lines across the screen (each line containing 1,920 pixels), surpassing the best HDTV broadcast or cable signals. "

### What do I need to watch Blu-ray?

To start, you need a BD player, an HDTV and a good HDMI cable to connect them.

## Blu-ray versus HD movie downloads?

Current movie downloads can take two hours or more to arrive, and even those labeled high definition do not match the quality of Blu-ray. Blu-ray is going to give you to the best-looking high-definition video quality you'll see anywhere — better than video-on-demand or downloading, or HD cable, or even HD satellite. Blu-ray offers the best video and audio quality available, with the most advanced bonus features.

<b>Parameters</b>	<b>Blu-ray</b>	<b>DVD</b>
Storage capacity	25GB (single-layer) 50GB (dual-layer)	4.7GB (single-layer) 8.5GB (dual-layer)
Laser wavelength	405nm (blue laser)	650nm (red laser)
Numerical aperture (NA)	0.85	0.60
Disc diameter	120mm	120mm
Disc thickness	1.2mm	1.2mm
Protection layer	0.1mm	0.6mm
Hard coating	Yes	No
Track pitch	0.32µm	0.74µm
Data transfer rate (data)	36.0Mbps (1x)	11.08Mbps (1x)
Data transfer rate (video/audio)	54.0Mbps (1.5x)	10.08Mbps (<1x)
Video resolution (max)	1920×1080 (1080p)	720×480/720×576 (480i/576i)
Video bit rate (max)	40.0Mbps	9.8Mbps
Video codecs	MPEG-2 MPEG-4 AVC SMPTE VC-1	MPEG-2 - -
Audio codecs	Linear PCM Dolby Digital Dolby Digital Plus Dolby TrueHD DTS Digital Surround DTS-HD	Linear PCM Dolby Digital DTS Digital Surround - - -
Interactivity	BD-J	DVD-Video