

A Simple Guide To The World Of High Definition Home Theater And



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www.bluraydisc.com

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High definition or "HD" is a technological leap forward from standard definition with up to 6x the picture resolution, so that what you see is sharper and more realistic.

What is high definition and how is it different from standard definition?

Regular TVs and the TV channels you watch at home are typically in standard definition. DVDs are also in standard definition. High definition or "HD" is a technological leap forward from standard definition with up to 6x the picture resolution, so that what you see is sharper and more realistic.

Standard definition is lower quality than high definition. Many older TV sets are standard definition and can only show standard definition content. Many new TVs are called High Definition TVs, or HDTVs. They are capable of showing high definition content. 720p, 1080i, and 1080p are all high definition formats, but 1080p provides the highest picture quality.

How do I get high definition?

TO WATCH BLU-RAY™ YOU NEED...



TO WATCH TV IN HIGH DEFINITION YOU NEED...



Is digital cable or satellite the same thing as high definition?

Not necessarily. "Digital" refers to the way in which content is delivered to your television, in contrast to an analog system. The benefit of a digital delivery system is that it is more efficient and interactive, thus allowing a service provider to offer more channels, pay-per-view options, and electronic program guides.

Digital cable or satellite companies generally will provide channels in standard definition plus a select number of channels in high definition for a fee.

HIGH DEFINITION RESOLUTIONS

What are 720p, 1080i and 1080p, and what's the difference?

These are the names used to describe an HDTV's native resolution, plus the resolution of content – either broadcast or on a disc – that is displayed on the HDTV. 720 or 1080 refers to the number of horizontal lines there are to fill the screen – the more lines, the higher the resolution.

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Standard definition TV by comparison is much lower resolution at 480i. HDTV manufacturers typically offer 720p/1080i and 1080p televisions. High definition cable/satellite and network TV broadcasters can deliver content at a maximum resolution of 720p or 1080i. Blu-ray™ can deliver full 1080p content. Your TV will automatically display the best quality it can, based on the content.

The “p” refers to progressive scanning, while “i” refers to interlaced scanning. Progressive scanning is better than interlaced scanning and produces smoother video that stays sharper particularly during fast-moving scenes. 1080p, also known as “Full HD,” is the highest standard for HDTVs and content.

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Is an EDTV or enhanced definition TV the same as an HDTV?

No, EDTV has a slightly higher picture resolution than a standard definition TV, but it is not capable of displaying content in high definition, and therefore is not considered an HDTV.

Common Television and Content Resolutions

Quality Scale

GOOD

BETTER

BEST

	Standard Definition TV	Standard Definition DVD	Enhanced Definition TV	720p High Definition TV	1080i High Definition TV	1080p High Definition TV/Blu-ray Disc®
Aspect Ratio	Full Screen	Full Screen Widescreen	Widescreen	Widescreen	Widescreen	Widescreen
Resolution (Pixels/Line x Lines)	640 x 480	720 x 480	854 x 480	1280 x 720	1920 x 1080	1920 x 1080
Scanning	Interlaced	Interlaced	Progressive	Progressive	Interlaced	Progressive

HIGH DEFINITION DISPLAYS

When purchasing an HDTV, there are 3 primary technologies to choose from, each with their advantages and disadvantages.

	LCD	PLASMA	REAR PROJECTION
PROFILE	Slim flat panel	Slim flat panel	Very wide and deep
WEIGHT	Lighter in weight than plasma, making them easier to mount on walls	Heavier in weight than LCD, making them more difficult to mount on walls	Moderately heavy, generally kept on the floor
ENVIRONMENT	Good for brightly lit rooms	Good for darkly lit rooms	Good for darkly lit rooms
PICTURE	The best LCDs can produce excellent high definition pictures, but cannot match the deep blacks, color accuracy and subtle gradations of plasma. Slight motion blur, but no risk of burn-in.	Known for deep blacks, accurate color and minimal blurring with fast-motion video. Slight risk of burn-in from static images on screen such as network logos or game backgrounds.	Known for deeper blacks than plasma, accurate color and minimal blurring from fast-motion video. Older models can be vulnerable to burn-in.
VIEWING ANGLES	Wide viewing angle but less than plasma	Wider viewing angles than LCD	Narrower viewing angles than both LCD and plasma
RELATIVE COST	Less expensive than plasma for sizes less than 60 inches	The most expensive option, but difficult to find 1080p in the 40 inch range	Lowest cost of the 3, but requires periodic replacement of parts

What size HDTV is optimal?

That depends on whether you prefer to watch closer or further away from your TV. Generally you want an HDTV size that's half the distance you'll be sitting from the display.



For instance, if your couch is 8 feet (96 inches) away from the location of the HDTV, you'll want an HDTV that's around 48 inches in size.

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What does it mean when an HDTV is called HD Ready?

An "HD Ready" HDTV is a high definition television that does not include a built-in tuner to receive over-the-air broadcasts in high definition through an antenna.

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If you subscribe to HD Cable or HD Satellite, the box provided by the service provider will receive the high definition signal necessary to see high definition on your HDTV. Additionally, you will have no problem watching Blu-ray™ high definition movies with an HD Ready television.

What is an HDMI cable?






This is the preferred type of cable connector for high definition home theater systems.

HDMI or High Definition Multimedia Interface is the most advanced high definition connection available today and can deliver digitally perfect audio and high definition video all on a single cable with no degradation of quality.



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How is an HDMI cable different from other cables?

CONNECTOR	RELATIVE QUALITY	TYPE	DESCRIPTION
	Best	Digital	HDMI (High Definition Multimedia Interface) is the new standard for high definition home theater. Delivers uncompressed 1080p high definition video and up to 7.1 channels of surround sound all in one cable.
	Best	Digital	DVI (Digital Visual Interface) is often used with older HDTVs. It can deliver 1080p high definition video, but does not carry audio like HDMI.
	Better	Analog	Component video splits video information into three separate signals, two for color, and one for brightness. Maximum 720p and 1080i resolution.
	Good	Analog	S-Video This connection is commonly found on many high quality analog and digital AV components such as VCRs, televisions, and video game systems. This type of connection breaks out the video signal into two parts, one for color, the other for brightness.
	Fair	Analog	Composite or RCA video Typically yellow in color, composite video ports are found on a multitude of video components from TVs to camcorders. Color and brightness signals are carried over a single cable.

Information courtesy of Monster Cable, Home Theater Connection Guide.

BENEFITS OF BLU-RAY™ HIGH DEFINITION

What is so great about Blu-ray, and why do I want it?

Blu-ray is a next generation disc format for 1080p high definition content. If you want to get the best in high definition for your HDTV, you want to get Blu-ray. Here are the key benefits of Blu-ray:

HIGH DEFINITION 1080p PICTURE

- Up to 6x better picture resolution than DVD
- Progressive scanning ("p") delivers a smoother image than interlaced ("i") and stays sharper during motion



HIGH DEFINITION SOUND

- Dolby Digital 5.1, commonly used on DVDs, is a lossy audio format – you lose some of the sound quality from the original source.
- Blu-ray provides up to 7.1 channels of lossless high definition audio, for a superior listening experience.



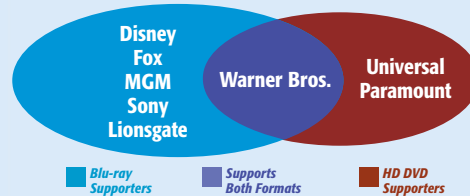
BACKWARDS COMPATIBLE

Standard DVDs play on all existing Blu-ray Disc® players.



OVER 170 COMPANIES SUPPORT BLU-RAY

More Hollywood movies and the top blockbusters are available on Blu-ray.



More of the Top HDTV Manufacturers produce Blu-ray players

- Sony
- Samsung
- Philips
- Panasonic
- Pioneer
- Hitachi
- LG
- Sharp

Four of the most innovative computer brands support Blu-ray

- Apple
- Dell
- Hewlett Packard
- Sony

ADVANCED INTERACTIVITY

- Seamless menus allow you to navigate the disc without ever leaving the movie
- Immerse yourself in your favorite films like never before with advanced interactive features
- In the future, Internet connectivity will deliver new content and enhance your film experience



UNSURPASSED CAPACITY

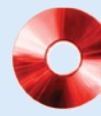
- Blu-ray has 5x more capacity than DVD and 66% more than HD DVD
- This provides more space for content and higher quality video and audio

DVD
VIDEO



9GB

HD DVD



30GB

Blu-ray Disc



50GB

THE DIFFERENCES BETWEEN BLU-RAY™ AND HD DVD

Both formats produce 1080p video and support advanced interactivity and backwards compatibility for DVDs. They both also utilize the same audio and video codecs, which control how sound and picture are encoded and decoded for playback. However, Blu-ray does have some important advantages.

BLU-RAY HAS MORE MOVIES TO CHOOSE FROM

Many more of your favorite films, including those from Disney, will only be available in high definition on Blu-ray since Blu-ray has support from 6 of 8 major Hollywood studios.

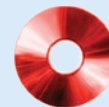


These movies now available or coming soon on Blu-ray Disc®.

BLU-RAY HAS MORE STORAGE CAPACITY

Additionally, Blu-ray has 66% greater storage capacity than HD DVD, which allows more high definition content to fit on the disc.

HD DVD



30GB

Blu-ray Disc



50GB

BLU-RAY HAS A HIGHER VIDEO BIT RATE (MAX)

The bit rate is the amount of information that is processed and displayed on your HDTV. Blu-ray has a maximum video bit rate that is 36% higher than HD DVDs. Combined with a higher storage capacity, Blu-ray can produce a higher quality 1080p picture that is sharper and more detailed.



HIGHER STORAGE CAPACITY



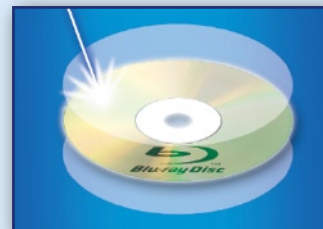
HIGHER VIDEO BIT RATE



CAN PRODUCE BETTER 1080p PICTURE

BLU-RAY HAS ADVANCED DURABILITY

Blu-ray utilizes a hard-coat protective layer that resists scratches, dust and fingerprints that cause discs to skip, freeze or not play. This is a feature that is not available on HD DVD and current DVDs.



FREQUENTLY ASKED QUESTIONS

What do I need to watch Blu-ray Disc® high definition movies?

- HDTV (preferably 1080p)
- HDMI cable – for the best picture quality
- Blu-ray™ player or PLAYSTATION®3
- Blu-ray movies



Can I play DVDs on a Blu-ray Disc player?

Yes, your DVDs will play on all existing Blu-ray Disc players.

Will the PLAYSTATION®3 play Blu-ray™ movies?

Yes, the PLAYSTATION®3 includes a built-in Blu-ray drive that plays Blu-ray Discs. Additionally, a standard remote control similar to a DVD remote can be purchased separately.

Can I play a Blu-ray Disc on a DVD player?

No. Blu-ray Discs play on Blu-ray players, PLAYSTATION®3, or Blu-ray drives for computers and will not play on DVD players.

What if I already own an HDTV that's 720p, do I need to buy a 1080p HDTV if I want to watch Blu-ray?

No. While your 720p won't maximize the native 1080p picture of your Blu-ray discs, the high definition picture produced by your television and Blu-ray player will still look very good.

Do I need an Internet connection to watch Blu-ray?

No. An internet connection is not needed to watch Blu-ray.

Are Blu-ray movies available in full frame?

Blu-ray movies are delivered in the original theatrical aspect ratio, which is widescreen. Since all HDTVs are also widescreen format, generally your movies will fill up the screen. However, depending on the film, sometimes you will see small black bars on the top and bottom of your screen, but significantly smaller than you would see when watching a widescreen movie on a standard definition TV.

If I play a DVD on an HDTV, will the picture be HD?

No. Playing a DVD on an HDTV would be a standard definition picture, since DVDs are standard definition. You need a Blu-ray player, HDMI or DVI cable from your player to your HDTV, and high definition content from a Blu-ray disc in order to see a high definition picture.

I have a DVD player that upscales to 1080p; will it look as good as a Blu-ray Disc?

No. An upscaling DVD simulates a 1080p picture by doubling the number of lines displayed on your HDTV. Since the content on the DVD is not high definition, it will not match the picture quality or clarity of true 1080p source content on a Blu-ray Disc.

What is the Digital TV transition I've heard about?

On February 17, 2009, television stations will stop all analog broadcasts and only broadcast digitally. Older analog TVs receiving over-the-air programming will still work after that date, but owners of these TVs will need to buy converter boxes to watch television. Households that subscribe to cable or satellite service will not be affected by this transition.