

Blu-ray Disc Player

user manual

imagine the possibilities

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To receive a more complete service,
please register your product at
www.samsung.com/register



Key features

Blu-ray Disc Features

Blu-ray Discs support the highest quality HD video available in the industry - Large capacity means no compromise on video quality. Furthermore, a Blu-ray Disc has the same familiar size and look as a DVD.

The following Blu-ray Disc features are disc dependant and will vary.

Appearance and navigation of features will also vary from disc to disc.

Not all discs will have the features described below.

Video highlights

The BD-ROM format supports three highly advanced video codecs, including AVC, VC-1 and MPEG-2.

HD video resolutions are also available:

- 1920 x 1080 High Definition
- 1280 x 720 High Definition

For High-Definition Playback

To view high-definition contents on a Blu-ray Disc, an HDTV (High Definition Television) is required.

Some Blu-ray Discs may require you to use the product's HDMI OUT to view high-definition content.

The ability to view high-definition content on Blu-ray Discs may be limited depending on the resolution of your TV.

Interactivity

Certain Blu-ray Discs may contain Animated menus and Trivia games.

User Browsable Slideshows

With Blu-ray Discs, you can browse through various still pictures while audio plays in the background.

Subtitles

Depending on what is contained on the Blu-ray Disc, you may be able to select different font styles, sizes and colours for the subtitles. Subtitles may also be animated, scrolled or faded in and out.

BD-LIVE

You can use a Blu-ray Disc supporting BD-LIVE to download content provided by the disc manufacturer through a network connection.

Blu-ray Disc Player Features

Internet@TV

You can download various for-a-fee or free-of-charge applications through a network connection.

With these, you can access Internet services and content such as news, weather forecasts, stock market quotes, games, movies and music.

Safety Information

Warning

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER (OR BACK).
NO USER-SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
This symbol indicates "dangerous voltage" inside the product that presents a risk of electric shock or personal injury.	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	This symbol indicates important instructions accompanying the product.

Do not install this equipment in a confined space such as a bookcase or similar unit.

WARNING

- To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.
- To prevent injury, this product must be securely attached to the floor/wall in accordance with the installation instructions.

CAUTION

Blu-ray Disc Player USES AN INVISIBLE LASER BEAM WHICH CAN CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE Blu-ray Disc Player CORRECTLY AS INSTRUCTED.

CAUTION

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

This product satisfies CE regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances, such as radios and televisions, use shielded cables and connectors for connections.

IMPORTANT NOTE

The mains lead on this equipment is supplied with a molded plug incorporating a fuse. The value of the fuse is indicated on the pin face of the plug.

If it requires replacing, a fuse approved to BS1362 of the same rating must be used.

Never use the plug with the fuse cover omitted if the cover is detachable. If a replacement fuse cover is required, it must be of the same colour as the pin face of the plug. Replacement covers are available from your dealer.

If the fitted plug is not suitable for the power points in your house or the cable is not long enough to reach a power point, you should obtain a suitable safety approved extension lead or consult your dealer for assistance.

However, if there is no alternative to cutting off the plug, remove the fuse and then safely dispose of the plug. Do not connect the plug to a mains jack, as there is a risk of shock hazard from the bared flexible cord.

To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

The product unit accompanying this user manual is licenced under certain intellectual property rights of certain third parties. This licence is limited to private non-commercial use by end-user consumers for licenced contents.

No rights are granted for commercial use.

The licence does not cover any product unit other than this product unit and the licence does not extend to any unlicensed product unit or process conforming to ISO/IEC 11172-3 or ISO/IEC 13818-3 used or sold in combination with this product unit. The licence only covers the use of this product unit to encode and/or decode audio files conforming to the ISO/IEC 11172-3 or ISO/IEC 13818-3. No rights are granted under this licence for product features or functions that do not conform to the ISO/IEC 11172-3 or ISO/IEC 13818-3.

Safety Information

Precautions

Important Safety Instructions

Read these operating instructions carefully before using the unit. Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



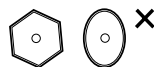
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Disc Storage & Management

Disc Handling

Disc Shape

- Use discs with regular shapes. If an irregular disc (a disc with a special shape) is used, this product may be damaged.



Holding discs

- Avoid touching the surface of a disc where recording is performed.



Blu-ray Discs

- If the product is not used for a long period of time, remove the Blu-ray Disc from the product and store it in its case.
- Be careful not to leave fingerprints or scratches on the surface of the Blu-ray Disc.

DVD-VIDEO, Audio CD (CD-DA)

- Wipe off dirt or contamination on the disc with a soft cloth.

Disc Storage

Be careful not to damage the disc because the data on these discs is highly vulnerable to the environment.

- Do not keep under direct sunlight.
- Keep in a cool ventilated area.
- Store vertically.
- Keep in a clean protection jacket.
- If you move your product suddenly from a cold place to a warm place, condensation may generate on the operating parts and lens and cause abnormal disc playback. If this occurs, wait for two hours before connecting the plug to the power outlet.

Then insert the disc and try to play back again.

Handling Cautions

- Do not write on the printed side with a ball-point pen or pencil.
- Do not use record cleaning or antistatic sprays. Also, do not use volatile chemicals, such as benzene or thinner.
- Do not apply labels or stickers to discs. (Do not use discs fixed with exposed tape adhesive or leftover peeled-off stickers.)
- Do not use scratch-proof protectors or covers.
- Do not use discs printed with label printers available on the market.
- Do not load warped or cracked discs.
- Before connecting other components to this product, be sure to turn them all off.
- Do not move the product while a disc is being played as the disc may be scratched or broken, or the product's internal parts may be damaged.
- Do not put a flower vase filled with water or any small metal objects on the product.
- Be careful not to put your hand into the disc tray.
- Do not place anything other than the disc in the disc tray.
- Exterior interferences such as lightning and static electricity can affect the normal operation of this product. If this occurs, turn the product off and on again with the **POWER** button, or disconnect and then reconnect the AC power cord to the AC power outlet. The product will operate normally.

- Be sure to remove the disc and turn off the product after use.
- Disconnect the AC power cord from the AC outlet when you don't intend to use the product for long periods of time.
- To clean a disc, wipe it in a straight line from the inside to the outside of the disc.
- Do not expose the product to any liquid.
- When the AC plug is connected to a wall outlet, the product will still draw power (standby mode) when it is turned off.
- Apparatus must not be exposed to dripping or splashing and no objects filled with liquids, such as vases, should be placed on the apparatus.
- The main plug is used as a disconnect device and shall stay readily operable at any time.



Maintenance of Cabinet

For safety reasons, be sure to disconnect the AC power cord from the AC outlet before cleaning.

- Do not use benzene, thinner, or other solvents for cleaning.
- Wipe the cabinet with a soft, dry cloth.

Restrictions on Playback

- This product may not respond to all operating commands because some Blu-ray, DVD and CD discs allow specific or limited operation and features during playback. Please note that this is not a defect in the product.
- Samsung cannot assure that this product will play every disc bearing the Blu-ray Disc, DVD or CD logo because disc formats evolve, and problems and errors may occur during the creation of Blu-ray Disc, DVD, CD software and/or the manufacture of discs. Please contact the SAMSUNG customer care center if you have questions or encounter difficulty in playing Blu-ray, DVD, or CD discs in this product. Also, refer to rest of this user manual for additional information on playback restrictions.

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Getting Started

Before using the User Manual

Disc Types and Contents that can be played.

Term	Logo	Icon	Definition
BD-ROM			This indicates a function available on a BD-ROM.
BD-RE/-R			This indicates a function available on a BD-RE/-R disc recorded in the BD-RE format.
DVD-VIDEO			This indicates a function available on a DVD-VIDEO.
DVD-RW(V)			This indicates a function available on recorded DVD+RW or DVD-RW(V)/DVD-R/+R discs that have been recorded and finalized.
DVD-R			
DVD+RW			
DVD+R			
Audio CD			This indicates a function available on an audio CD-RW/-R (CD-DA format).
MP3 WMA	-		This indicates a function available in a CD-RW/-R, DVD-RW/-R disc or a USB storage media containing MP3 or WMA contents.
JPEG	-		This indicates a function available in a CD-RW/-R, DVD-RW/-R disc or a USB storage media containing JPEG contents.
DivX MKV MP4	-		This indicates a function available in a CD-RW/-R, DVD-RW/-R disc or a USB storage media containing DivX, MKV, MP4 contents.

NOTE

- The product may not play certain CD-RW/-R and DVD-R due to the disc type or recording conditions.
- If a DVD-RW/-R disc has not been recorded properly in DVD video format, it will not be playable.

Disc types that cannot be played

- HD DVD
- DVD-ROM/PD/MV-Disc, etc
- DVD-RAM
- Super Audio CD (except CD layer)
- DVD-RW(VR mode)
- CVD/CD-ROM/CDV/CD-G/CD-I/LD (CD-Gs play audio only, not graphics.)
- 3.9 GB DVD-R Disc for Authoring.

 NOTE

- Some commercial discs and DVD discs purchased outside your region may not be playable with this product. When these discs are played, either "This disc can not be played." or "Cannot read this disc. Please check the regional code of the disc." will be displayed.
- Playback may not work for some types of discs, or when specific operations, such as angle change and aspect ratio adjustment, are being performed. Information about the discs is written in detail on the disc box. Please refer to this if necessary.
- Do not allow the disc to become dirty or scratched. Fingerprints, dirt, dust, scratches or deposits of cigarette smoke on the recording surface may make it impossible to use the disc for playback.
- When a BD-J title is played, loading may take longer than a normal title, or some functions may perform slowly.
- This product may not respond to all operating commands because some Blu-ray, DVD and CD discs allow specific or limited operation and features during playback. Please note that this is not a defect in the product.
- Samsung cannot assure that this product will play every disc bearing the Blu-ray Disc, DVD or CD logo because disc formats evolve, and problems and errors may occur during the creation of Blu-ray Disc, DVD, CD software and/or the manufacture of discs. Please contact the SAMSUNG customer care centre if you have questions or encounter difficulty when playing Blu-ray, DVD, or CD discs in this product. Also, refer to rest of this user manual for additional information on playback restrictions.

Blu-ray Disc Compatibility

Blu-ray Disc is a new and evolving format. Accordingly, disc compatibility issues are possible. Not all discs are compatible and not every disc will play back. For additional information, refer to the Compliance and Compatibility Notice section of this user manual.

Disc Types

BD-ROM

This Blu-ray disc can only be played back. This product can play back pre-recorded commercial BD-ROM discs.

BD-RE/-R

This Blu-ray disc can be recorded and played back.

This product can play back a BD-RE/-R disc recorded by other compatible Blu-ray disc recorders.

DVD-VIDEO

- This product can play back pre-recorded commercial DVD discs (DVD-VIDEO discs) with movies.
- When switching from the first layer to the second layer of a dual-layered DVD-VIDEO disc, there may be momentary distortion in the image and sound. This is not a malfunction of the product.

DVD-RW

This product can play back a DVD-RW disc recorded and finalized with a DVD video recorder. Ability to play back may depend on recording conditions.

DVD-R

This product can play back a DVD-R disc recorded and finalized with a DVD Video recorder. Ability to play back may depend on recording conditions.

DVD+RW

- This product can play back a DVD+RW disc recorded with a DVD Video recorder. Ability to play back may depend on recording conditions.

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DVD+R

- This product can play back a DVD+R disc recorded and finalized with a DVD Video recorder. Ability to play back may depend on recording conditions.

Audio CD (CD-DA)

- This product can play back CD-DA format audio CD-RW/-R discs.
- The product may not be able to play some CD-RW/-R discs due to the condition of the recording.

CD-RW/-R

- Use a 700MB (80 minutes) CD-RW/-R disc. If possible, do not use a 800MB (90 minutes) or above disc, as the disc may not play back.
- If the CD-RW/-R disc was not recorded as a closed session, you may experience delays when playing back the beginning of the disc or all recorded files may not play.
- Some CD-RW/-R discs may not be playable with this product, depending on the device which was used to burn them. For contents recorded on CD-RW/-R media from CDs for your personal use, playability may vary depending on contents and discs.

Supported File Formats

Video File Support

File Extension	Container	Video Codec	Audio Codec	Resolution
*.avi	AVI	DivX 3.11/4.x/5.1/6.0	MP3 AC3 DTS WMA PCM	1920x1080
		XviD		1920x1080
		MP4v3		1920x1080
		H.264 BP/MP/HP		1920x1080
*.mkv	MKV	VC-1 AP	MP3 AC3 DTS	1920x1080
		DivX 5.1/6.0		1920x1080
		XviD		1920x1080
		H.264 BP/MP/HP		1920x1080
*.wmv	WMV (wmv9)	VC-1 AP	WMA	1920x1080
		VC-1 SM		1920x1080
*.mp4	MP4	MP4 (mp4v)	AAC	1920x1080
		H.264 BP/MP/HP		1920x1080
*.mpg *.mpeg	PS	MPEG1	MP1, 2 AC3 DTS	1920x1080
		MPEG2		1920x1080
		H.264 BP/MP/HP		1920x1080

Music File Support

File Extension	Container	Audio Codec	Support Range
*.mp3	MP3	MP3	-
*.wma	WMA	WMA	Compliant with WMA version 10 * Sampling rates (in kHz) - 8, 11, 16, 22, 32, 44.1, 48 * Bit rates - All bit-rates in the range 5kbps to 384kbps

AVCHD (Advanced Video Codec High Definition)

- This product can playback AVCHD format discs. These discs are normally recorded and used in camcorders.
- The AVCHD format is a high definition digital video camera format.
- The MPEG-4 AVC/H.264 format is capable of compressing images at higher efficiency than that of the conventional image compressing format.
- Some AVCHD discs use the "x.v.Color" format.
- This product can playback AVCHD discs using "x.v.Color" format.
- "x.v.Color" is a trademark of Sony Corporation.
- "AVCHD" and the AVCHD logo are trademarks of Matsushita Electronic Industrial Co., Ltd. and Sony Corporation.

NOTE

- Some AVCHD format discs may not play, depending on the recording condition. AVCHD format discs need to be finalized.
- "x.v.Color" offers a wider colour range than normal DVD camcorder discs.
- Some DivX, MKV and MP4 format discs may not play, depending on the video resolution and frame rate condition.

Region Code

Both the product and the discs are coded by region. These regional codes must match in order to play the disc. If the codes do not match, the disc will not play.

The Region Number for this product is described on the bottom panel of the product.

Disc Type	Region Code	Area
Blu-ray		North America, Central America, South America, Korea, Japan, Taiwan, Hong Kong and South East Asia.
		Europe, Greenland, French territories, Middle East, Africa, Australia and New Zealand.
		India, China, Russia, Central and South Asia.
DVD-VIDEO		The U.S., U.S. territories and Canada
		Europe, Japan, the Middle East, Egypt, South Africa, Greenland
		Taiwan, Korea, the Philippines, Indonesia, Hong Kong
		Mexico, South America, Central America, Australia, New Zealand, Pacific Islands, Caribbean
		Russia, Eastern Europe, India, most of Africa, North Korea, Mongolia
		China

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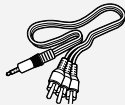
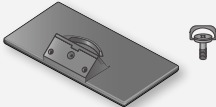
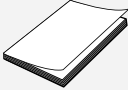
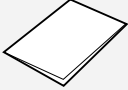
Getting Started

Logos of Discs that can be played

			
Blu-ray Disc	DTS-HD Master Audio	DivX	BD-LIVE
			
Dolby TrueHD	PAL broadcast System in U.K., France, Germany, etc.		Java

Accessories

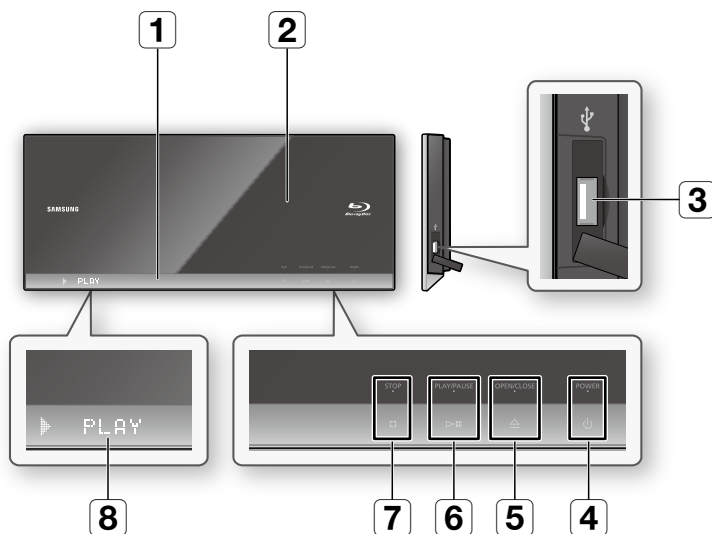
Check for the supplied accessories below.

		
Audio/Video cable	Adapter	Cover-Jack
		
Assy Bracket-Set & Bracket-Wall	Assy Holder-Stand	Remote Control
		
Batteries for Remote Control (AAA Size)	User Manual	Quick Guide
		
		Cleaning Cloth

NOTE

- Use only the provided audio/video cable that comes with this product.
The signal from an external source may not be output properly if using other audio/video cable for the connection.
If you lost this cable, visit the nearest Samsung service centre for purchasing the cable.

Top Panel



- To make use of the touch buttons on the top panel, press the dotted area corresponding to the button symbol.

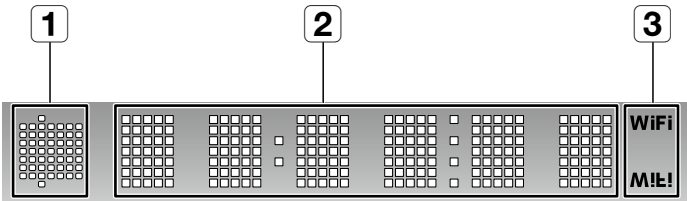
1	REMOTE CONTROL SENSOR	Detects signals from the remote control.
2	DISC TRAY	Opens to accept a disc.
3	USB HOST	A USB memory flash stick can be connected here and used as storage when connected to BD-LIVE. It can also be used for software upgrades and MP3/JPEG/DivX/MKV/MP4 playback.
4	POWER BUTTON	Turns the product on and off.
5	OPEN/CLOSE BUTTON	Opens and closes the disc tray.
6	PLAY/PAUSE BUTTON	Plays a disc or pauses playback.
7	STOP BUTTON	Stops disc playback.
8	DISPLAY	Displays the playing status, time, etc.

Getting Started

 NOTE

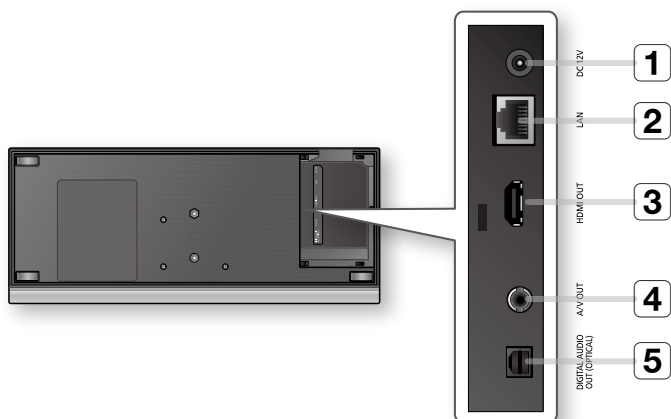
- Software upgrades using the USB Host jack must be performed with a USB memory flash stick only.
- A USB device consuming more than 500mA requires a separate power supply device for normal operation.
- A USB HDD device cannot be used for BD Data storage (BD-LIVE).
- Do not place an object on the top or left side of this product.
Otherwise, the door on the top panel will open, which may cause damage to the product or a malfunction.
- Do not touch the disc lens inside the door. Otherwise, it may cause a malfunction.
- When the door on the top panel is open for 2 minutes, the door closes and the product turns off automatically.

Top Panel Display



1	IN DISC INDICATOR	Lights when a disc is inserted or played back.
2	CURRENT TIME AND STATUS INDICATOR	Displays the play time and the current status.
3	WIFI INDICATOR	Lights when the wireless network is connected.

Bottom Panel

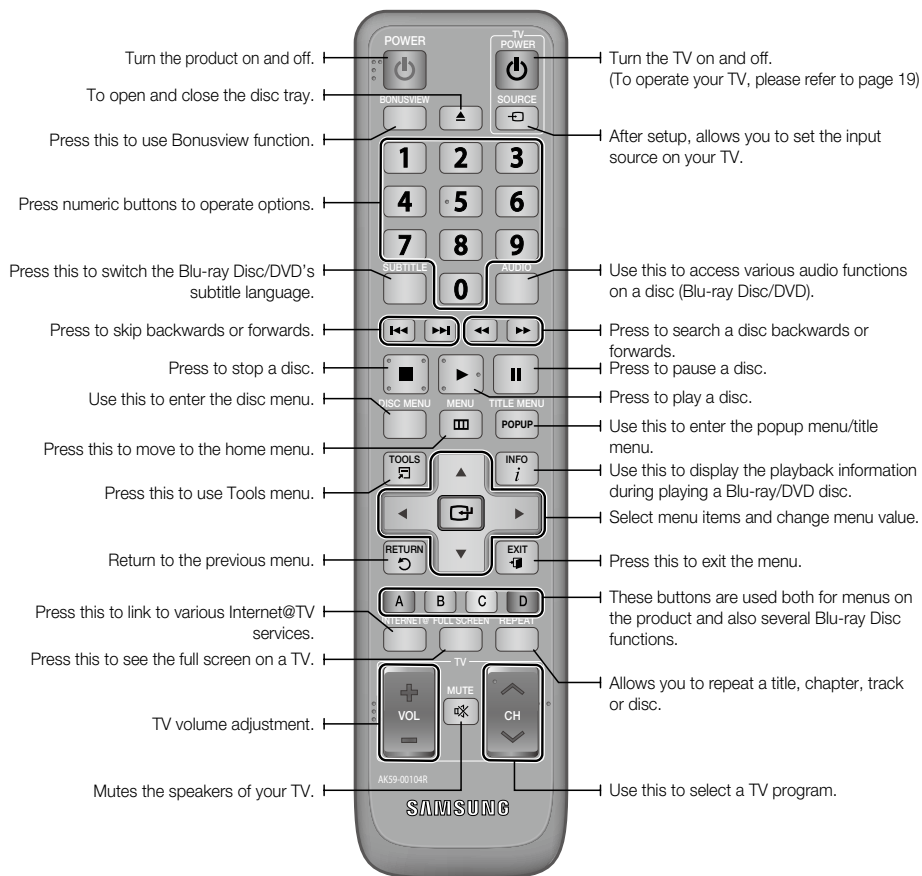


1	DC 12V	Connects to power supply.
2	LAN	Can be used for network based services (See pages 52~57), BD-LIVE and software upgrades using a network connection.
3	HDMI OUT	Using an HDMI cable, connect this HDMI output terminal to the HDMI input terminal on your TV for the best quality picture or to your receiver for the best quality sound.
4	A/V OUT	Connects the input of external equipment using a audio/video cable.
5	DIGITAL AUDIO OUT	Connects to a receiver.

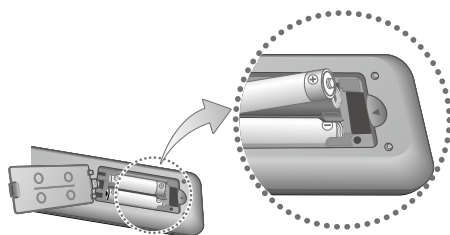
Getting Started

Remote Control

Tour of the Remote Control



Installing batteries



NOTE

- If the remote does not operate properly :
 - Check the polarity +/– of the batteries (Dry-Cell)
 - Check if the batteries are drained.
 - Check if remote sensor is blocked by obstacles.
 - Check if there is any fluorescent lighting nearby.

! CAUTION

- The rechargeable battery incorporated in this product is not user replaceable. For the information on its replacement, go to your service provider.

Setting the Remote Control

You can control certain functions of your TV with this remote control.

Button	Function
TV POWER	Used to switch the television on and off.
TV SOURCE	Used to select an external source connected to the TV.
TV VOL (+/-)	Used to adjust the volume of the television.
TV CH (▲/▼)	Used to select the desired channel.
TV MUTE	Used to toggle the sound on and off.

NOTE

- The functions listed above will not necessarily work on all televisions. If you encounter problems, operate the television directly.

To determine whether your television is compatible, follow the instructions below.

1. Switch your television on.
2. Point the remote control towards the television.
3. Press and hold the **TV POWER** button and enter the two-figure code corresponding to the brand of your television by pressing the appropriate number buttons.
If your television is compatible with the remote control, it will switch off.
It is now programmed to operate with the remote control.

NOTE

- If several codes are listed for your television brand, try each one in turn until you find one that works.
- If you replace the remote control's batteries, you must set the brand code again.

Controllable TV Codes

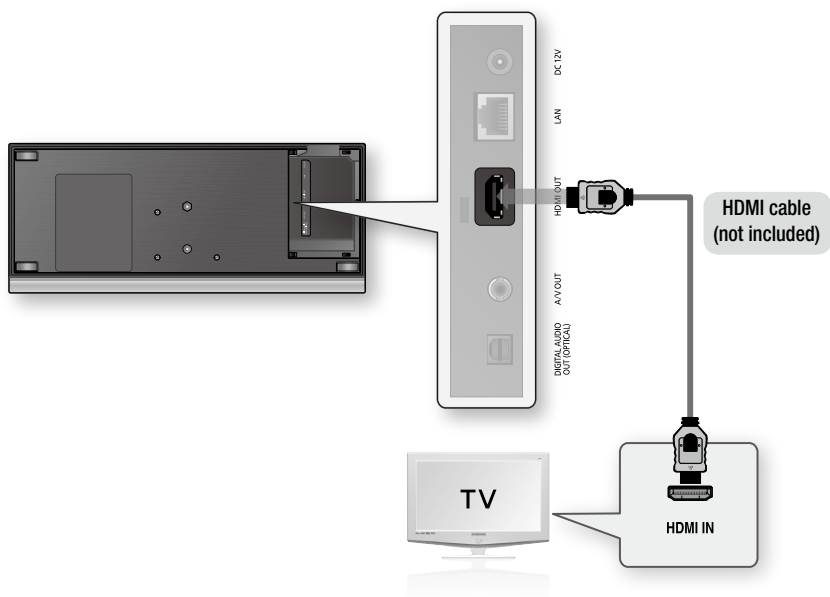
Brand	Code	Brand	Code
SAMSUNG	TV POWER+01, +02, +03, +04, +05, +06, +07, +08, +09	NOBLEX	TV POWER+66
AIWA	TV POWER+82	NOKIA	TV POWER+74
ANAM	TV POWER+10, +11, +12, +13, +14, +15, +16, +17, +18	NORDMENDE	TV POWER+72, +73, +75
BANG & OLUFSEN	TV POWER+57	PANASONIC	TV POWER+53, +54, +74, +75
BLAUPUNKT	TV POWER+71	PHILIPS	TV POWER+06, +55, +56, +57
BRANDT	TV POWER+73	PHONOLA	TV POWER+06, +56, +57
BRIONVEGA	TV POWER+57	PIONEER	TV POWER+58, +59, +73, +74
CGE	TV POWER+52	RADIOLA	TV POWER+06, +56
CONTINENTAL EDISON	TV POWER+75	RADIOMARELLI	TV POWER+57
DAEWOO	TV POWER+19, +20, +23, +24, +25, +26, +27, +28, +29, +30, +31, +32, +33, +34	RCA	TV POWER+45, +46
EMERSON	TV POWER+64	REX	TV POWER+74
FERGUSON	TV POWER+73	SABA	TV POWER+57, +72, +73, +74, +75
FINLUX	TV POWER+06, +49, +57	SALORA	TV POWER+74
FORMENTI	TV POWER+57	SANYO	TV POWER+41, +42, +43, +44, +48
FUJITSU	TV POWER+84	SCHNEIDER	TV POWER+06
GRADIENTE	TV POWER+70	SELECO	TV POWER+74
GRUNDIG	TV POWER+49, +52, +71	SHARP	TV POWER+36, +37, +38, +39, +48
HITACHI	TV POWER+60, +72, +73, +75	SIEMENS	TV POWER+71
IMPERIAL	TV POWER+52	SINGER	TV POWER+57
JVC	TV POWER+61, +79	SINUDYNE	TV POWER+57
LG	TV POWER+06, +19, +20, +21, +22, +78	SONY	TV POWER+35, +48
LOEWE	TV POWER+06, +69	TELEAFA	TV POWER+73
LOEWE OPTA	TV POWER+06, +57	TELEFUNKEN	TV POWER+67, +73, +75, +76
MAGNAVOX	TV POWER+40	THOMSON	TV POWER+72, +73, +75
METZ	TV POWER+57	THOMSON ASIA	TV POWER+80, +81
MITSUBISHI	TV POWER+06, +48, +62, +65	TOSHIBA	TV POWER+47, +48, +49, +50, +51, +52
MIVAR	TV POWER+52, +77	WEGA	TV POWER+57
NEC	TV POWER+83	YOKO	TV POWER+06
NEWSAN	TV POWER+68	ZENITH	TV POWER+63

Connections

Connecting to a TV

Case 1 : Connecting to a TV with an HDMI Cable - Best Quality (Recommended)

1. Using an HDMI cable, connect the **HDMI OUT** terminal on the bottom of the product to the **HDMI IN** terminal of your TV.
2. Turn on the product and TV.
3. Press the input selector on your TV remote control until the HDMI signal from the product appears on your TV screen.
 - If you have set the remote control to operate your TV (See page 19), press the **TV SOURCE** button on the remote control and select HDMI as the external source of the TV.

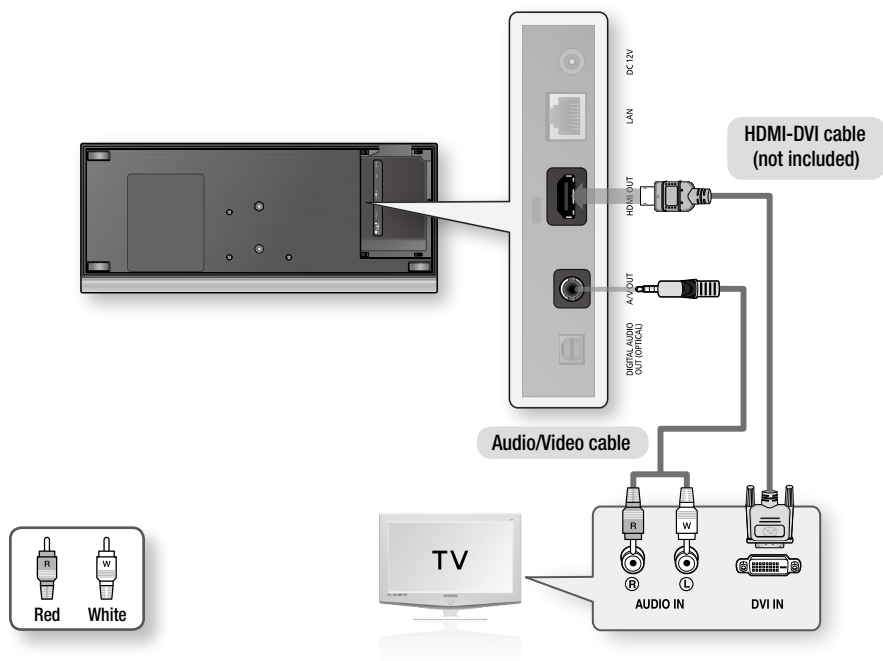


NOTE

- An HDMI cable outputs digital video/audio, so you don't need to connect an audio cable.
- If the product is connected to your TV in HDMI 720p, 1080i, 1080p output mode, you must use a High speed (category 2) HDMI cable.
- HDMI outputs only a pure digital signal to the TV.
If your TV does not support HDCP (High-bandwidth Digital Content Protection), random noise appears on the screen.
- Depending on your TV, certain HDMI output resolutions may not work. Please refer to the user manual of your TV.
- When you connect the product to the TV using the HDMI cable for the first time or to a new TV, the HDMI output resolution will be automatically set to the highest supported by the TV.
- Please do not use very thick HDMI cable which lacks flexibility when you are installing this unit.

Case 2 : Connecting to a TV with DVI Cable - Best Quality (Recommended)

1. Using an HDMI-DVI cable, connect the **HDMI OUT** terminal on the bottom of the product to the **DVI IN** terminal of your TV.
2. Using the audio/video cable, connect the **A/V OUT (yellow)** terminals on the bottom of the product to the **AUDIO IN (red and white)** terminals of your TV.
3. Turn on the product and TV.
4. Press the input selector on your TV remote control until the DVI signal from the product appears on your TV screen.
 - If you have set the remote control to operate your TV (See page 19), press the **TV SOURCE** button on the remote control and select HDMI as the external source of the TV.



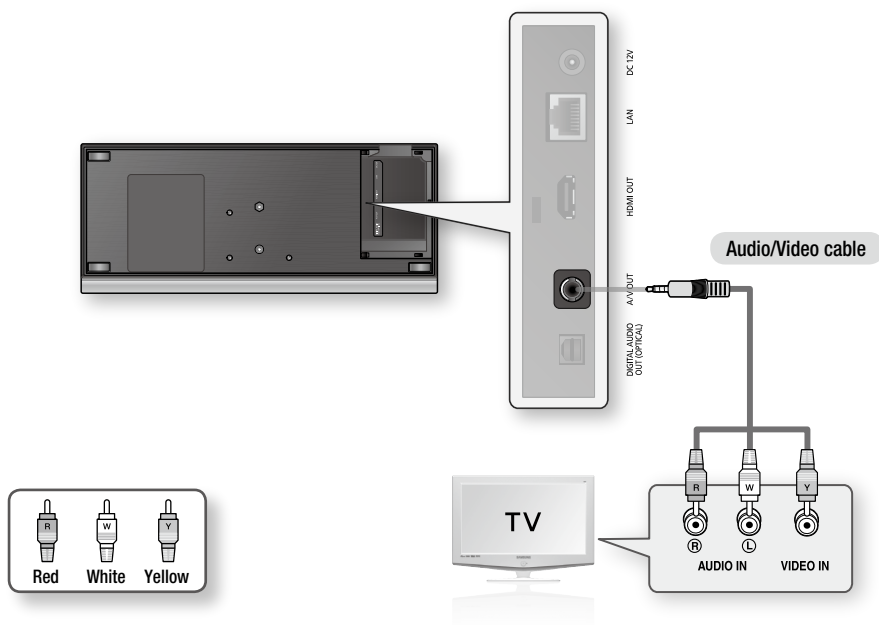
NOTE

- HDMI outputs only a pure digital signal to the TV. If your TV does not support HDCP (High-bandwidth Digital Content Protection), random noise appears on the screen.
- Depending on your TV, certain HDMI output resolutions may not work. Please refer to the user manual of your TV.
- When you connect the product to the TV using the HDMI-DVI cable for the first time or to a new TV, the HDMI output resolution will be automatically set to the highest supported by the TV.

Connections

Case 3 : Connecting to a TV (Video) - Good Quality

1. Using the audio/video cable, connect the **A/V OUT (yellow)** terminals on the bottom of the product to the **VIDEO IN (yellow)** / **AUDIO IN (red and white)** terminals of your TV.
2. Turn on the product and TV.
3. Press the input selector on your TV remote control until the "VIDEO" signal from the product appears on the TV screen.
 - If you have set the remote control to operate your TV (See page 19), press the **TV SOURCE** button on the remote control and select VIDEO as the external source of the TV.



NOTE

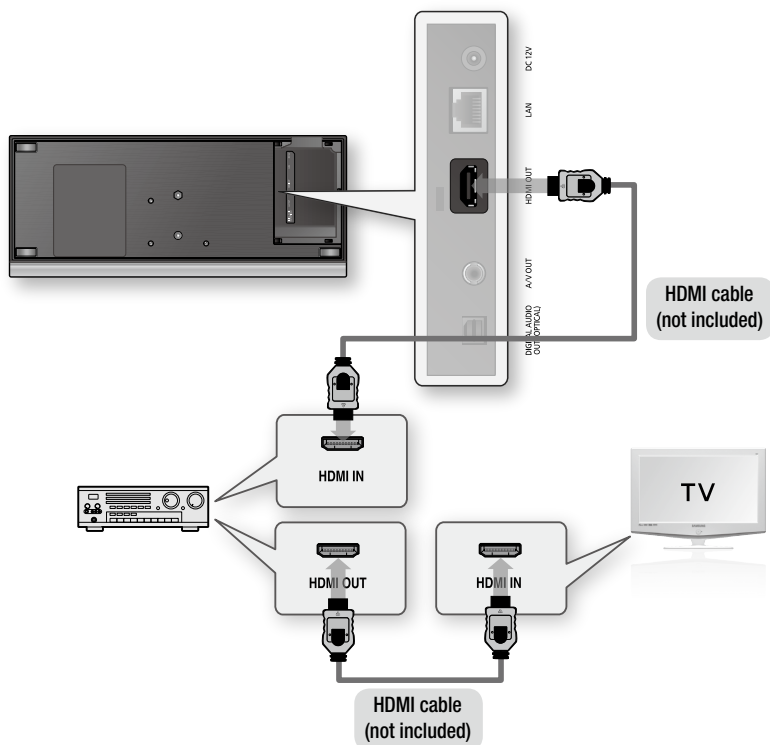
- Noise may be generated if the audio cable is placed too close to the power cable.
- If you want to connect to an Amplifier, please refer to the Amplifier connection pages. (See pages 23~24)
- The number and position of terminals may vary depending on your TV set. Please refer to the user manual of your TV.

Connecting to an Audio System

- Please turn the volume down when you turn on the Amplifier. Sudden loud sound may cause damage to the speakers and your ears.
- Please set the audio in the menu screen according to the Amplifier. (See pages 33~35)
- The position of HDMI terminals may vary depending on the Amplifier. Please refer to the user manual of your Amplifier.

Case 1 : Connecting to an Audio System (HDMI Supported Amplifier) - Best Quality (Recommended)

1. Using an HDMI cable, connect the **HDMI OUT** terminal on the bottom of the product to the **HDMI IN** terminal of your Amplifier.
2. Using an HDMI cable, connect the **HDMI OUT** terminal of the Amplifier to the **HDMI IN** terminal of your TV.
3. Turn on the product, TV and Amplifier.
4. Press the input select button of the Amplifier to select the external input in order to hear sound from the product. Refer to your Amplifier's user manual to set the Amplifier's audio input.



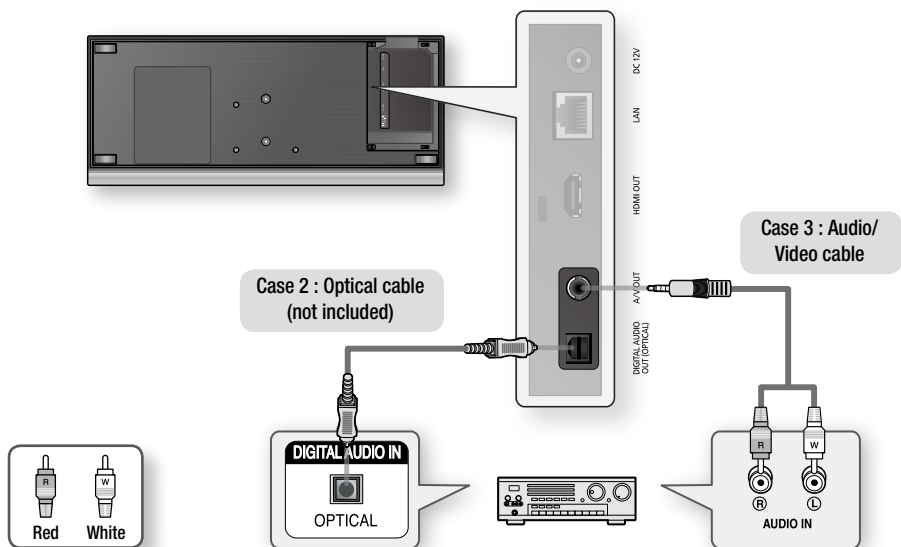
Connections

Case 2 : Connecting to an Audio System (Dolby Digital, DTS Amplifier) - Better Quality

1. Using an optical cable, connect the **DIGITAL AUDIO OUT (OPTICAL)** terminal on the bottom of the product to the **DIGITAL AUDIO IN (OPTICAL)** terminal of your Amplifier.
2. Using the video signal cable(s), connect the **HDMI** or **A/V OUT** terminals on the bottom of the product to the **HDMI** or **VIDEO IN** terminal of your TV. (See pages 20~22)
3. Turn on the product, TV and Amplifier.
4. Press the input select button of the Amplifier to select the external input in order to hear sound from the product. Refer to your Amplifier's user manual to set the Amplifier's audio input.

Case 3 : Connecting to an Audio System (2 Channel Amplifier) - Good Quality

1. Using the audio/video cables, connect the **A/V OUT (yellow)** terminals on the bottom of the product to the **AUDIO IN (red and white)** terminals of your Amplifier.
2. Using the video signal cable(s), connect the **HDMI** or **A/V OUT** terminals on the bottom of the product to the **HDMI** or **VIDEO IN** terminal of your TV. (See pages 20~22)
3. Turn on the product, TV and Amplifier.
4. Press the input select button of the Amplifier to select the external input in order to hear sound from the product. Refer to your Amplifier's user manual to set the Amplifier's audio input.



NOTE

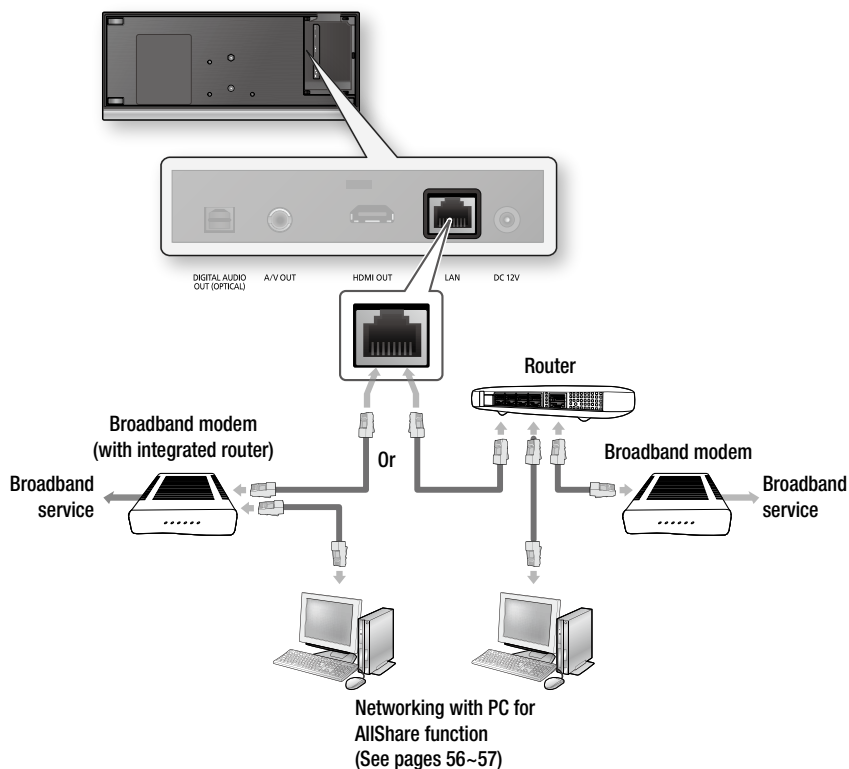
- If you connect using a digital optical cable (Case 2), you will hear discs with PCM audio soundtracks through the front two speakers only.

Connecting to the Network

This product enables you to view network based services (See pages 52~57) such as Internet@TV and BD-LIVE, as well as receive software upgrades through a network connection. We recommend using an AP (Access Point) or IP router for the connection. For more information on the router connection, refer to the user manual of the router or contact the router manufacturer for technical assistance.

Cable Network

1. Using the Direct LAN Cable (UTP cable), connect the LAN terminal of the product to the LAN terminal of your modem.
2. Set the network options. (See pages 37~41)



NOTE

- Internet access to Samsung's software update server may not be allowed, depending on the router you use or the ISP's policy. For more information, contact your ISP (Internet Service Provider).
- For DSL users, please use a router to make a network connection.
- For the AllShare function, a PC must be connected in the network as shown in the figure. The connection can be wired or wireless.

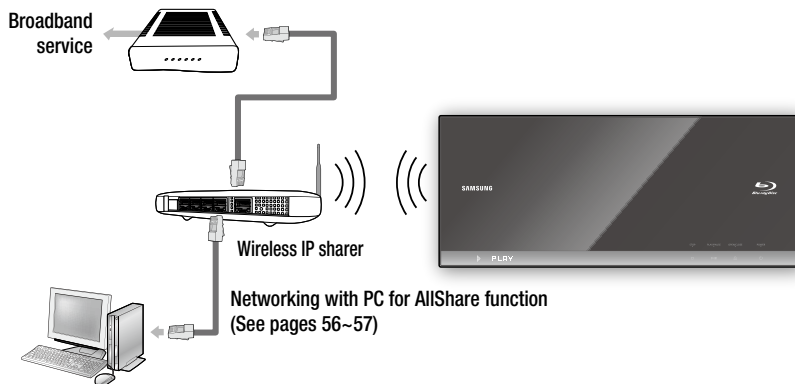
Connections

Wireless Network

You can connect to a network with a Wireless IP sharer.

A wireless AP/IP router is required to make a wireless network connection.

To set the network options, see pages 37~41.



NOTE

- To use a wireless network, your product must be connected to a wireless IP sharer. If the wireless IP sharer supports DHCP, your product can use a DHCP or static IP address to connect to the wireless network.
- This product supports IEEE 802.11B, IEEE 802.11G, IEEE 802.11N. When you play the video over IEEE 802.11B/G connection, the video may not be played smoothly.
- Select a channel for the wireless IP sharer that is not currently being used. If the channel set for the wireless IP sharer is currently being used by another device nearby, this will result in interference and communication failure.
- If Pure High-throughput (Greenfield) 802.11n mode is selected and the Encryption type is set to WEP, TKIP or TKIP-AES (WPS2Mixed) for your AP, this product will not support a connection in compliance with new Wi-Fi certification specifications.
- If your AP supports WPS (Wi-Fi Protected Setup), you can connect to the network via PBC (Push Button Configuration) or PIN (Personal Identification Number). WPS will automatically configure the SSID and WPA key in either mode.
- Connection Methods : You can setup the wireless network connection 3 ways.
 - PBC (WPS)
 - Auto Setup (Using the Auto Network Search function)
 - Manual Setup
- Wireless LAN, by its nature, may cause interference, depending on the use condition. (AP performance, distance, obstacles, interference by other radio devices, etc).
- Set the wireless IP sharer to Infrastructure mode. Ad-hoc mode is not supported.
- When applying the security key for the AP (wireless IP sharer), only the following is supported.
 - 1) Authentication Mode : WEP, WPAPSK, WPA2PSK
 - 2) Encryption Type : WEP, AES
- For the AllShare function, a PC must be connected in the network as shown in the figure. The connection can be wired or wireless.

Putting on the Cover-Jack

To access the connection terminals, slide the cover jack off the product.
Replace it when you are finished making connections.



Installing the Blu-ray Disc Player

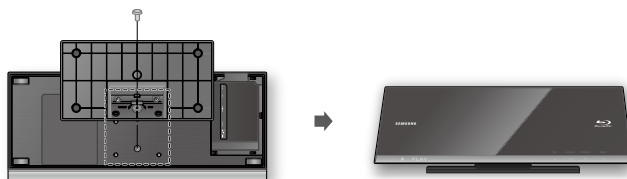
You can install your product on a stand or hang it on the wall.
When installing the product, please make sure that enough space is left to open the door.
If you do not, product will not operate normally.

Installation Precautions

- If you install your player on a wall, the wall must be flat and vertical.
- Avoid installing the product in areas with high temperature or humidity, or on a wall that cannot sustain the weight of the set.
- Check the strength of the wall. If the strength of the wall is insufficient to support the product, make sure to reinforce the wall before installing.
- Check the composition of the wall. If the wall is made of plaster board, marble, or iron board, purchase and use the appropriate molliers and fixing screws.
- Cables connecting to external devices are to be connected to the product before you install it.
- To prevent electric shock, be sure to turn off the product before you install it.
- Do not hang on the installed product and avoid hitting it.
- Secure the unit firmly to the wall so that it does not fall off. If the unit falls off, it may result in injury or in damage to the product.
- If you install the product on a wall, please make sure that a child does not pull any of connecting cables, as it may cause the product to fall.

Case 1 : Installing on the stand

To install on the Stand, insert the Stand Holder into the bottom slot of the Blu-ray Disc player and turn the screw clockwise to fix it.



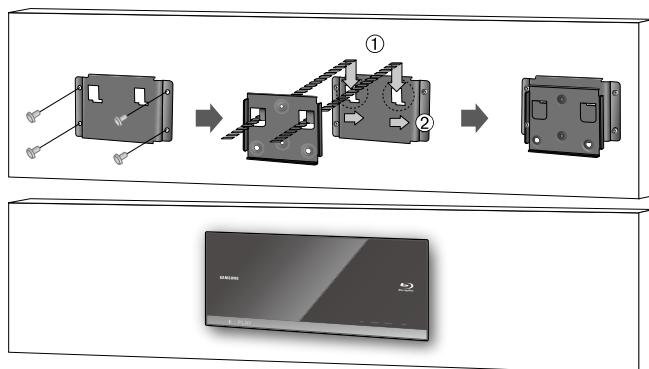
Connections

Case 2 : Installing on a wall

1. Insert the Bracket-Set into the bottom slot of the Blu-ray Disc player and turn the two screws clockwise to fix it.



2. Place the Wall Bracket on the wall so that the arrow side faces upward and use four screws (not included) to fix it on the wall. Drive the screws into a stud or into mollys for secure support.
 - ① After the Bracket-Set is installed, slide and insert the Blu-ray Disc player into the appropriate slots of the Wall Bracket.
 - ② For secure installation, slide the bracket to the right after inserting it.



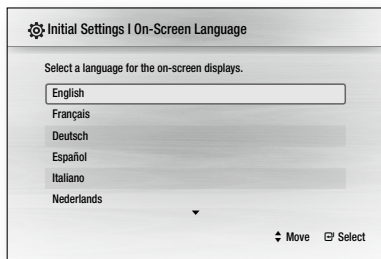
NOTE

- Screws for the wall bracket are not included. Purchase screws (and mollys) appropriate for your type of wall.

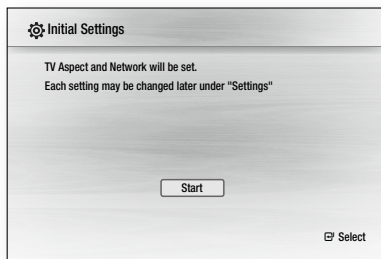
Setup

Before Starting (Initial Settings)

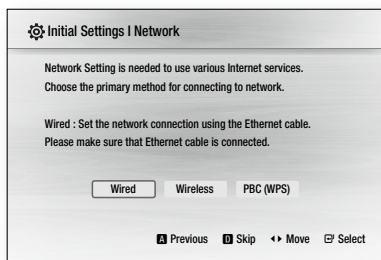
1. Turn on your TV after connecting the product. (When the product is connected to TV for the first time, product will turn on automatically and the Initial Settings screen will be displayed.)



2. Press the ▲▼ buttons to select the desired language, then press the ENTER button.
3. Press the ENTER button to select **Start**.



4. Press the ▲▼ buttons to select the desired TV aspect ratio, then press the ENTER button. (See page 31)



5. Press the ◀▶ buttons to select the desired Network Settings : **Wired**, **Wireless** or **PBC (WPS)**, and then press the ENTER button. If you do not know your Network Settings, press the **BLUE (D)** button on your remote instead to skip Network Settings here, finish the Initial Settings, and go to the Home menu. If you selected a Network Setting, go to pages 37~41 for more information about the Network settings. When done, go to Step 6.
6. Press the OK button. The home menu will be displayed. For more information about the Home menu, please see page 30.

• Home Menu



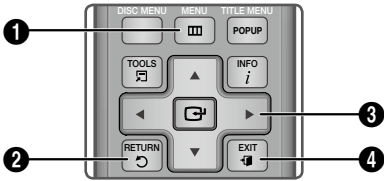
NOTE

- When the product is connected to TV for the first time, the product will turn on automatically. This is not a malfunction.
- The home menu will not be displayed if you do not configure the initial settings.
- If you press the **BLUE (D)** button during the network setup, you can access the home menu even if the network setup is not completed yet.
- When you return to home menu, the full screen mode will be cancelled automatically.
- If you want to display Initial Setting screen again in order to make changes, press the **STOP** (■) button on the top panel of the product for more than 5 seconds with no disc inserted.
- Use the HDMI cable to connect the product to an **Anynet+(HDMI-CEC)**-compliant Samsung TV. If the TV uses a language supported by the product, that language will be set to a preferred language automatically. For this to work, the **Anynet+(HDMI-CEC)** feature should be set to **On** in both the TV and the product.

Setup

- If the product is left in the stop mode more than 5 minutes without being used, a screen saver will appear on your TV. If the product is left in the screen saver mode for more than 25 minutes, the power will automatically turn off.

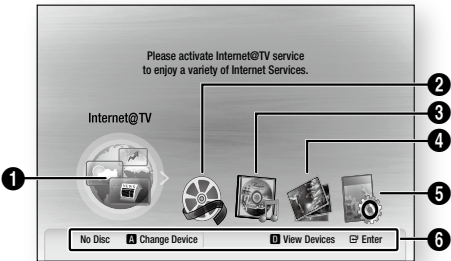
Setting the Menu



1	MENU Button : Press to move to the Home menu.
2	RETURN Button : Return to the previous menu.
3	ENTER / DIRECTION Button : Move the cursor or select an item. Select the currently selected item. Confirm the setting.
4	EXIT Button : Press to exit the menu.

1. Press the **POWER** button.
The Home Menu will appear.

• Home Menu



1	Selects the Internet@TV.
2	Selects the Videos.
3	Selects the Music.
4	Selects the Photos.

5	Selects the Settings.
6	Displays buttons available.

2. Press the **◀▶** buttons to select **Settings**, then press the **ENTER** button.
3. Press the **▲▼** buttons to select the desired submenu, then press the **ENTER** button.
4. Press the **▲▼** buttons to select the desired item, then press the **ENTER** button.
5. Press the **EXIT** button to exit the menu.

NOTE

- When the product is connected to the network, select **Internet@TV** from the home menu. Download desired content from **Samsung Apps**. (See page 55)
- The access step may differ depending on the selected menu.
- The OSD (On Screen Display) may change in this product after upgrading the software version.

Display

You can configure various display options such as the TV aspect ratio, resolution, etc.

TV Aspect

Depending on the type of television you have, you may want to adjust the screen setting. (aspect ratio)

• 16:9 Normal



Certain movies (4:3 source) will be displayed in 4:3 Pillarbox (black bars on sides of picture) if 16:9 normal is selected.

• 16:9 Wide



You can view the full 16:9 picture on your widescreen TV.

• 4:3 Letter Box



Select when you want to see the total 16:9 ratio screen a Blu-ray Disc/DVD supplies, even though you have a TV with a 4:3 ratio screen. Black bars will appear at the top and bottom of the screen.

• 4:3 Pan-Scan



Select when you want to see the 16:9 video supplied by the Blu-ray Disc/DVD without the black bars on top and bottom, even though you have a TV with a 4:3 ratio screen (extreme left and right portion of the movie picture will be cut off).

NOTE

- Depending on the disc type, some aspect ratios may not be available.
- If you select an aspect ratio and option which is different than the aspect ratio of your TV screen, then the picture might appear to be distorted.
- If you select the 4:3 Pan-Scan or 4:3 Letter Box, the **FULL SCREEN** button on the remote control will not work.

- If you select the 16:9 Normal, your TV may display 4:3 Pillarbox.
If this occurs, the **FULL SCREEN** button on the remote control will not work.

BD Wise (Samsung Products only)

BD Wise is Samsung's latest inter-connectivity feature.

When you connect Samsung products with BD Wise to each other via HDMI, the optimum resolution will be set automatically.

- On** : The original resolution of the BD/DVD disc will be output to the TV.
- Off** : The output resolution will be fixed according to the Resolution previously set, regardless of the resolution of the disc.

NOTE

- If you want to change the resolution in BD Wise, you must set BD Wise to **Off** in advance.
- If you set off the BD Wise, the resolution of the connected TV will be adjusted to its maximum resolution automatically.
- If the product is connected to a device that does not support BD Wise, you can not use the BD Wise function.
- For proper operation of BD Wise, set the BD Wise menu of both the product and the TV to **On**.

Resolution

Sets the output resolution of the HDMI video signal. The number in 1080p, 1080i, 720p, 576p/480p, 576i/480i indicates the number of lines of video. The i and p indicate interlace and progressive scan, respectively.

- Auto** : It automatically checks and sets the optimal resolution.
- BD Wise** : Automatically sets the optimal resolution when connected via HDMI to a TV with the BD Wise feature. (The BD Wise menu item appears only if BD Wise is set to On.)
- 1080p** : Outputs 1080 lines of progressive video.
- 1080i** : Outputs 1080 lines of interlaced video.
- 720p** : Outputs 720 lines of progressive video.
- 576p/480p** : Outputs 576/480 lines of progressive video.
- 576i/480i** : Outputs 576/480 lines of interlaced video.

Setup

Resolution according to the output mode

• Blu-ray Disc playback

Setup \ Output	HDMI connected		HDMI not connected
	HDMI Mode	VIDEO Mode	VIDEO Mode
Auto	Optimal Resolution	576i/480i	-
1080p, Movie Frame(24Fs) off	1080p@60F	576i/480i	-
1080p/1080i, Movie Frame(24Fs) on	1080p@24F	576i/480i	-
1080i, Movie Frame(24Fs) off	1080i	576i/480i	576i/480i
720p	720p	576i/480i	576i/480i
576p/480p	576p/480p	576i/480i	576i/480i
576i/480i	-	-	576i/480i

• DVD playback

Setup \ Output	HDMI connected		HDMI not connected
	HDMI Mode	VIDEO Mode	VIDEO Mode
Auto	Optimal Resolution	576i/480i	-
1080p	1080p@60F	576i/480i	-
1080i	1080i	576i/480i	576i/480i
720p	720p	576i/480i	576i/480i
576p/480p	576p/480p	576i/480i	576i/480i
576i/480i	-	-	576i/480i

NOTE

- If the connected TV does not support Movie Frame or the selected resolution, the message "If no pictures are shown after the selection, please wait for 15 seconds. And then, the resolution will be reverted to the previous value automatically. Would you like to make a selection?" will be displayed. If you select **Yes** and the resolution is not supported, the TV's screen will be blank. Please wait 15 seconds and the resolution will revert to the previous value automatically.

- If the screen is blank, press and hold the **STOP** (■) button on the top of the product for more than 5 seconds (no disc inserted). All settings are restored to the factory default. Follow the steps on the previous page to access each mode and select the Display Setup that your TV will support.
- When the factory default settings are restored, all stored user BD data is deleted.
- The Blu-ray Disc must have the 24 frame feature in order to use the Movie Frame (24Fs) mode.

HDMI Format

You can optimize the colour setting from the HDMI output by selecting a connected device Type.

- **TV** : Select if connected to a TV via HDMI.
- **Monitor** : Select if connected to a Monitor via HDMI.

Movie Frame (24Fs)

Setting the Movie Frame (24Fs) feature to **On** allows you to adjust the product's HDMI output to 24 frames per second for improved picture quality. You can enjoy the Movie Frame (24Fs) feature only on a TV supporting this frame rate. This menu can only be selected in 1080i or 1080p HDMI output resolution modes.

- **On** : Movie Frame (24Fs) functions will work.
- **Off** : Movie Frame (24Fs) functions will not work.

NOTE

- If your TV does not support Movie Frame (24Fs) function, the pop-up message will be displayed.

Progressive Mode

Set to improve picture quality when viewing DVDs.

- **Auto** : Select to have the product automatically set the best picture for the DVD you're watching.
- **Video** : Select for the best picture quality from concert or TV show DVDs.

Still Mode

Set the type of picture shown when you pause DVD playback.

- **Auto** : Automatically set the best still picture depending on the content.
- **Frame** : Select when pausing a scene with a little action.
- **Field** : Select when pausing a scene with a lot of action.

HDMI Deep Color

Set to output the picture from the HDMI OUT jack with Deep Colour or without. Deep Colour allows more accurate colour reproduction with deeper colour depth.

- **Auto** : The picture will be output with Deep Colour to the connected TV which supports HDMI Deep Colour.
- **Off** : The picture will be output without Deep Colour.

Audio

Digital Output

Lets you set the audio output format according to the capabilities of your amplifier. (For more details, see the digital output selection on the next page.)

- **PCM**
- **Bitstream(Re-encode)**
- **Bitstream(Audiophile)**

NOTE

- Be sure to select the correct Digital Output or you will hear no sound or a loud noise.
- If the HDMI device (Receiver, TV) is not compatible with a compressed format (Dolby digital, DTS), the audio signal outputs as PCM.
- Secondary and Effect audio will not be heard with regular DVDs.
- Some Blu-ray Discs do not have Secondary and Effect audio.
- This Digital Output setup does not affect the analogue (L/R) audio or HDMI audio output to your TV. It affects the optical and HDMI audio output when connected to a receiver.
- If you play MPEG audio soundtracks, audio signal outputs PCM regardless of Digital Output Selections (PCM or Bitstream).

Setup

Digital Output Selection

Setup		PCM		Bitstream (Re-encode)	Bitstream (Audiophile)	
Connection		HDMI Receiver	Optical	HDMI Receiver or Optical	HDMI Receiver	Optical
Audio Stream on Blu-ray Disc	PCM	Up to 7.1ch	PCM 2ch	DTS re-encoded	PCM	PCM 2ch
	Dolby Digital	Up to 5.1ch	PCM 2ch	DTS re-encoded	Dolby Digital	Dolby Digital
	Dolby Digital Plus	Up to 7.1ch	PCM 2ch	DTS re-encoded	Dolby Digital Plus	Dolby Digital
	Dolby TrueHD	Up to 7.1ch	PCM 2ch	DTS re-encoded	Dolby TrueHD	Dolby Digital
	DTS	Up to 6.1ch	PCM 2ch	DTS re-encoded	DTS	DTS
	DTS-HD HRA	Up to 7.1ch	PCM 2ch	DTS re-encoded	DTS-HD HRA	DTS
	DTS-HD MA	Up to 7.1ch	PCM 2ch	DTS re-encoded	DTS-HD MA	DTS
Audio Stream on DVD	PCM	PCM 2ch	PCM 2ch	PCM 2ch	PCM 2ch	PCM 2ch
	Dolby Digital	Up to 5.1ch	PCM 2ch	Dolby Digital	Dolby Digital	Dolby Digital
	DTS	Up to 6.1ch	PCM 2ch	DTS	DTS	DTS
Definition for Blu-ray Disc	Any	Decodes Primary, Secondary and Effect audio streams together into PCM audio.		Decodes Primary, Secondary and Effect audio streams together into PCM audio, then reencodes the PCM audio into DTS bitstream.	Outputs only the Primary audio soundtrack (main soundtrack of the movie) so that your receiver can decode the audio bitstream. You will not hear Secondary and Effect audio.	

Blu-ray Discs may include three audio streams.

- Primary Audio : The audio soundtrack of the main feature
- Secondary Audio : Additional soundtrack such as director or actor's commentary.
- Interactive Audio : Plays Interactive sounds when selected. Interactive Audio is different on each Blu-ray Disc.

PCM Downsampling

Select whether to downsample 96KHz signals.

- **On** : Select when the Amplifier connected to the product is not 96KHz compatible. 96KHz signals will be down converted to 48KHz.
- **Off** : Select when the Amplifier connected to the product is 96KHz compatible.

NOTE

- Even when PCM Downsampling is set to **Off**, some discs will only output downsampled audio through the optical digital outputs.

HDMI

- If your TV is not compatible with compressed multi-channel formats (Dolby Digital, DTS), the product may output PCM 2ch downmixed audio even though you set Bitstream (either Re-encode or Audiophile) on your setup menu.
- If your TV is not compatible with PCM sampling rates over 48kHz, the product may output 48kHz downsampled PCM audio even though you set PCM Downsampling to **Off**.

Dynamic Range Control

You can listen at low volumes but still hear dialog clearly.

This is only active when a Dolby Digital signal is detected.

- **Auto** : The Dynamic Range Control will be set automatically based on the information provided by the Dolby TrueHD Soundtrack.
- **On** : When Movie soundtracks are played at low volume or from smaller speakers, the system can apply appropriate compression to make low-level content more intelligible and prevent dramatic passages from getting too loud.
- **Off** : You can enjoy the movie with the standard Dynamic Range.

Downmixing Mode

Set whether to downmix the multi-channel audio into fewer channels.

- **Normal Stereo** : Downmixes the multi-channel audio into two channel stereo. Choose when connected to equipment that does not support virtual surround functions such as Dolby Pro Logic.
- **Surround Compatible** : Downmixes multi-channel audio into surround compatible stereo. Choose when connected to equipment that supports virtual surround functions such as Dolby Pro Logic.

DTS Neo:6

You can enjoy multi-channel sound from a simple 2-channel audio source.

- **Off** : Outputs a 2-channel audio signal through the front speakers only.

- **Cinema** : Select if you want to play 2-channel movie sound over multi-channels.
- **Music** : Select if you want to play 2-channel music sound over multi-channels.

NOTE

- If you are using an HDMI receiver, this option is available when you set Digital Output setup as PCM.

System

Initial Settings

By using Initial Settings, you can set the language, TV aspect ratio, Network Settings, etc.

For more information on the settings, refer to the corresponding section in this user manual. (See pages 29~43)

Internet@TV Screen Size

Set the Internet@TV Screen to the optimal size.

- **Size 1** : Display smaller application icons. You may see some black on sides of screen.
- **Size 2** : Display normal application icons. The image may be too large for your TV screen.
- **Size 3** : Display larger application icons. The image may be too large for your TV screen.

Anynet+(HDMI-CEC)

Anynet+ is a convenient function that offers linked operations with other Samsung products with the Anynet+ feature.

To operate this function, connect this product to a Samsung TV with an HDMI cable.

You can operate this product using a Samsung TV remote control and start disc playback simply by pressing the **PLAY** () button on the TV's remote control.

For more information, please see the TV user manual.

- **On** : Anynet+ function is on.
- **Off** : Anynet+ function is off.

Setup

NOTE

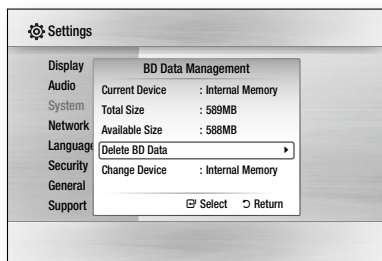
- This function is not available if the HDMI cable does not support CEC.
- If your Samsung TV has an *AnyNet+* logo, then it supports the AnyNet+ function.
- Depending on your TV, certain HDMI output resolutions may not work.
Please refer to the user manual of your TV.

BD Data Management

Lets you manage the downloaded contents from a Blu-ray Disc that supports the BD-LIVE service. You can check the device information including the storage size, delete the BD data or change the Flash memory device.

Change Device allows you to select either the product's Internal Memory or External Memory (connected USB Device).

If the data to be stored from BD-LIVE is greater than the size of the remaining memory or the Internal Memory is full, connect an External USB device, and then select External Device in the menu.



Description of Device(Storage) Information on the Product

- **Total Size** : Total size of the Device (Storage).
- **Available Size** : Available size of the Device (Storage).

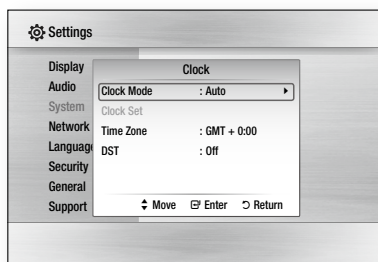
NOTE

- In the external memory mode, disc playback will be stopped if you disconnect the USB device in the middle of the playback.

- Only those USB devices formatted in the FAT file system (DOS 8.3 volume label) are supported. We recommend you use USB devices that support the USB 2.0 protocol with 4 MB/sec or faster read/write speed.
- A USB HDD device cannot be used for BD Data storage (BD-LIVE).
- The Resume Play function may not work after formatting the storage device.
- The total size of BD Data Management may differ, depending on the conditions.

Clock

Set time-related functions.



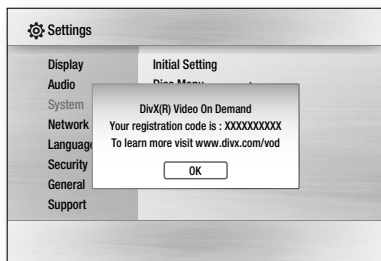
- **Clock Mode** : You can set it to **Auto** or **Manual**.

If you select **Manual**, the **Clock Set** menu will be activated and **DST** will be deactivated.

- **Clock Set** : You can specify the current time and date manually.
- **Time Zone** : You can specify the time zone that is applicable to your area.
- **DST** : You can set DST (Daylight Saving Time) on or off.

DivX(R) Registration

View the DivX(R) VOD Registration Code to purchase and play DivX(R) VOD content.

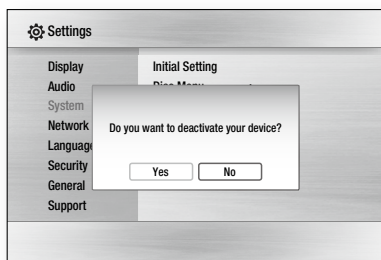


NOTE

- This option is not activated if you select **OK**. To activate this option, please activate DivX(R) Deactivation.

DivX(R) Deactivation

Select this to get a new registration code.



NOTE

- You can operate this function when the DivX(R) Registration function is deactivated.

Network Setup

To begin setting up the network connection for your product, follow these steps:

1. In the Home menu, press the ◀▶ buttons to select the **Settings**, and then press the **ENTER** button.
2. Press the ▲▼ buttons to select **Network**, and then press the **ENTER** button.
3. Press the ▲▼ buttons to select **Network Settings**, and then press the **ENTER** button.
4. Press the ▲▼ buttons to select **Network Type**, and then press the **ENTER** button.
5. Press the ▲▼ buttons to select **Wired** or **Wireless**, and then press the **ENTER** button.
6. Go to the next section.

Network Settings

Please contact your ISP to find out if your IP address is static or dynamic. If it is dynamic, we recommend using the Auto setting. This is the easiest and will work in the majority of cases. If it is static, you must use the manual set up procedure. Directions for wired networks are below. Directions for wireless networks are after the directions for wired networks.

Wired Network

1. In the Network Settings menu, press the ▲▼ buttons to select **Network Setting**, and then press the **ENTER** button. The Internet Protocol Setup screen appears.
2. Press the ▶ button, then select **Auto** or **Manual**, and then press the **ENTER** button.

Setup

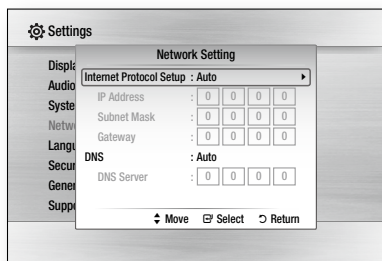
Setting Up a Wired Connection - Auto

1. If you selected **Auto**, the Network Function acquires and fills in the values for IP Address, Subnet Mask, etc., automatically.



NOTE

- This process can take up to five minutes.



2. After the Network Function has acquired the network values, press the **RETURN** button. Then, run a Network Test to ensure the product has connected to your network (See page 41).
3. If the Network Function does not acquire the network values or you selected Manual, go to the directions for Manual Setup.

Setting Up a Wired Connection - Manual

If the Auto Setting does not work, you'll need to set the Network Setting values manually.

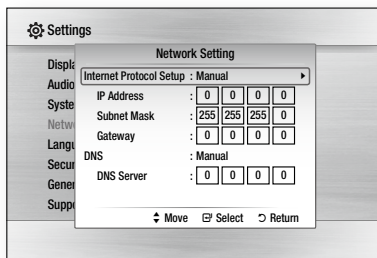
To get the Network setting values from most Windows computers, follow these steps:

1. Right click the Network icon on the bottom right of the screen.
2. In the pop-up menu, click Status.
3. On the dialog that appears, click the Support tab.
4. On the Support tab, click the Details button. The Network settings are displayed.

To enter the Network settings into your product, follow these steps:

1. On the Internet Protocol Setup screen, press the **ENTER** button.
2. Press the **▲▼** buttons to select **Manual**, and then press the **ENTER** button.

3. Press the **▼** button to go to the first entry field (IP Address).



4. Use the number buttons on your remote to enter numbers.
5. When done with each field, use the **►** button to move successively to the next field. You can also use the other arrow buttons to move up, down, and back.
6. Enter the **IP Address**, **Subnet Mask**, and **Gateway** values.
7. Press the **▼** button to go to **DNS**.
8. Press the **▼** button to go to the first DNS entry field. Enter the numbers as above.
9. Press the **RETURN** button on your remote.
10. Run a Network Test to ensure the product has connected to your network (See page 41).

Wireless Network

You can setup the wireless network three ways:

- Using PBC (WPS)
- Using the Auto Network Search function.
- Manually.

Each method is described below.

Setting Up the Wireless Network Connection - PBC (WPS)

The easiest way to set up the wireless network connection is using the PBC (WPS) function. If your wireless router has a PBC (WPS) button, follow these steps:

1. In the Network Settings menu, press the **▲▼** buttons to select **Network Setting**, and then press the **ENTER** button. The Internet Protocol Setup screen appears.
2. Press the **RED (A)** button on the remote control.
3. Press the **PBC (WPS)** button on your router within two minutes. Your product displays the Network Selection Screen, and automatically acquires all the network setting values it needs and connects to your network. When it is done, it displays an **OK** button. Press the **ENTER** button on your remote.
4. After the network connection is set up, press the **RETURN** button to exit the Network Setting screen.

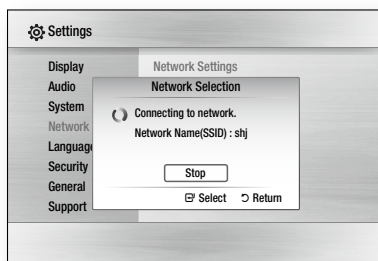
Setting Up the Wireless Network Connection - Auto Network Search

Most wireless networks have an optional security system that requires devices that access the network to transmit an encrypted security code called an Access or Security Key. The Security Key is based on a Pass Phrase, typically a word or a series of letters and numbers of a specified length you were asked to enter when you set up security for your wireless network. If you use this method of setting up the network connection, and have a Security Key for your wireless network, you will have to enter the Pass Phrase during the setup process.

Setting Up the Network Connection

To set up the wireless connection using Auto Network Search, follow these steps:

1. In the Network Settings menu, press the **▲▼** buttons to select **Network Setting**, and then press the **ENTER** button. The Internet Protocol Setup screen appears.
2. Press the **▲▼** buttons to select the **Internet Protocol Setup**, and then press the **ENTER** button.
3. Press the **▲▼** buttons to select **Auto** or **Manual**, and then press the **ENTER** button.
4. If you selected **Auto**, press the **▲** button to go to **Access Point Selection**, and then press the **ENTER** button. The Network function searches for available wireless networks. When done, it displays a list of the available networks.



5. In the list of networks, press the **▲▼** buttons to select a network, and then press the **ENTER** button.
6. If the PIN/Security pop-up appears, go to Step 7. If the Network Connecting Screen appears, go to Step 11.
7. Press the **▲▼** buttons to select PIN or Security. For most home networks, you would select Security (for Security Key).
8. On the Security screen, enter your network's Pass Phrase.

NOTE

- You should be able to find the Pass Phrase on one of the set up screens you used to set up your router or modem.

Setup

9. To enter the Pass Phrase, follow these general directions:
 - Press the number keys on your remote to enter numbers.
 - Use the arrow keys on your remote to move from button to button on the Security Key screen.
 - To enter letters, move to the button labelled a/A/1/★, and then press the **ENTER** button. Each time you press the **ENTER** button, you change the kind of characters you can enter (a/A/1/★).
 - To enter a letter, press the number button that corresponds to the letter. Pressing the button repeatedly changes the letter.
 - To delete the last letter or number you entered, move to the **Delete** button, and then press the **ENTER** button.
 - To clear all entered letters and numbers, move to the Clear key, and then press the **ENTER** button. You can also just press the **RED (A)** button on your remote.
10. When done, press the **YELLOW (C)** button on your remote, or move to the **Done** button, and then press the **ENTER** button. The Network Connecting screen appears.
11. Wait until the connection confirmation message is displayed, and then press the **ENTER** button. The Network Settings screen reappears.
12. To test the connection, press the ▼ button to select **Network Test**, and then press the **ENTER** button.

Setting Up the Wireless Network Connection - Manual

If the Auto Setting does not work, you need to enter the Network setting values manually.

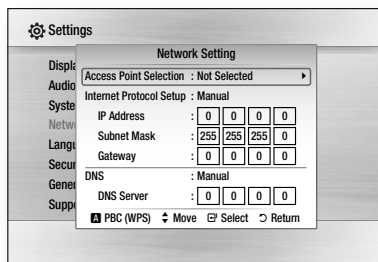
To get the Network setting values from most Windows computers, follow these steps:

1. Right click the Network icon on the bottom right of the screen.
2. In the pop-up menu, click Status.
3. On the dialog that appears, click the Support tab.

4. On the Support tab, click the Details button. The Network settings are displayed.

To Enter the Network settings into your product, follow these steps:

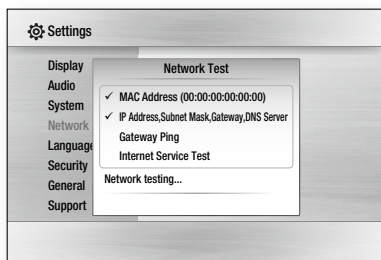
1. On the Internet Protocol Setup screen, press the **ENTER** button.
2. Press the ▲▼ buttons to select **Manual**, and then press the **ENTER** button.
3. Press the ▼ button to go to the first entry field (IP Address).



4. Use the number buttons to enter numbers.
5. When done with each field, use the ► button to move successively to the next field. You can also use the other arrow buttons to move up, down, and back.
6. Enter the **IP Address**, **Subnet Mask**, and **Gateway** values.
7. Press the ▼ to go to **DNS**.
8. Press the ▼ button to go to the first DNS entry field. Enter the numbers as above.
9. When done, press the ▲ button to return to Access Point Selection. Select the network, and then press the **ENTER** button.
10. Go to Step 6 in the Automatic Wireless procedure above, and follow the directions from that point on.

Network Test

Use this menu to connect the wired network or check whether your network connection is working or not.



Network Status

Check whether a connection to the network and the Internet have been established.

BD-LIVE Internet Connection

Select whether to allow an Internet connection when you are using the BD-LIVE service.

- **Allow (All)** : The Internet connection is allowed for all BD-LIVE contents.
- **Allow (Valid Only)** : The Internet connection is allowed only for BD-LIVE contents containing a valid certificate.
- **Prohibit** : No Internet connection is allowed for any BD-LIVE content.

NOTE

■ What is a valid certificate?

When the product uses BD-LIVE to send the disc data and a request to the server to certify the disc, the server uses the transferred data to check if the disc is valid and sends the certificate back to the product.

- The Internet connection may be restricted while you are using BD-LIVE contents.

Language

You can select the language you prefer for the Home menu, disc menu, etc.

- **On-Screen Menu** : Select the language for the on-screen displays.
- **Disc Menu** : Select the language for the disc menu displays.
- **Audio** : Select the language for disc audio.
- **Subtitle** : Select the language for disc subtitles.

NOTE

- The selected language only appears if it is supported on the disc.

Security

When you operate this menu for the first time, the password setup screen appears.

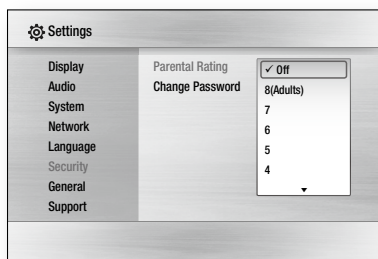
Enter the desired 4-digit password using the number buttons.

Parental Rating

The Parental Rating works in conjunction with Blu-ray Disc/DVDs that have been assigned a rating, which helps you control the types of Blu-ray Disc/DVDs that your family can watch.

To use this function, select a rating level that restricts the product to playing discs with ratings appropriate for your family.

A larger number indicates that the program is intended for adult audiences only. When you select a rating number, you should select the highest rating number you want the product to be able to play. For example, if you select Level 6, the product will play discs rated 6 and below, and will not play discs rated Level 7 or 8.



Setup

Change Password

Change the 4-digit password used to access security functions.

If you forgot your password

1. Remove the disc.
2. Press and hold the **STOP** () button on the top panel for 5 seconds or more.
All settings will revert to the factory settings.

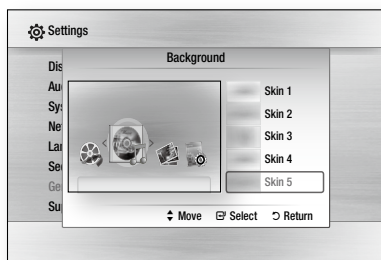
NOTE

- When the factory default settings are restored, all user BD data is deleted.

General

Background

Change the background theme of the menu screen.



Energy Saving

You can reduce power consumption by setting the top panel to turn off automatically when there is no operation for 5 seconds.

- **On** : The top panel automatically turns off when there is no operation for 5 seconds.
- **Off** : Energy Saving function is off.

Front Display

Change the brightness of the top panel.

- **Auto** : Dim during playback.
- **Dim** : Dim the display window.
- **Bright** : Brighten the display window.

Power On/Off Sound

Play a melody when the product is turned on and off.

- **On** : Turn Power Sound On.
- **Off** : Turn Power Sound Off.

Panel Message

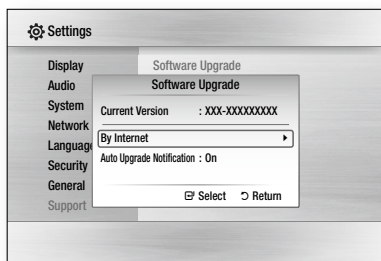
Select which display panel will be active according where you installed your product.

- **Top** : View panel messages on the top of your product.
Select if you hung your product on the wall.
- **Front** : View panel messages on the front of your product.
Select if you placed your product on a table, in an entertainment centre or similar flat surface.

Support

Software Upgrade

This menu allows you to upgrade software for performance improvements or additional services. You can check the current software version, upgrade using the internet and set the Auto upgrade notification. If the product is properly connected to the network by cable or wirelessly, the product will automatically connect to Samsung's website each time it is turned on and download update files if any valid upgrade exists.



1. To select **By Internet**, press the **ENTER** button.
A popup message appears if an update is available, asking if you want to upgrade.
2. If you select **Yes**, the product turns off automatically, restarts, and then begins the upgrade. (Never turn the product on manually here.)
3. The update progress popup appears.
When the update is complete, the product turns off again automatically.
4. Press the **POWER** button to turn on the product.

NOTE

- The Update will be completed when the product turns off after restarting, and then downloading. Press the **POWER** button to turn on the updated product for your use.
Never turn the product off or on manually during the update process.
- Samsung Electronics shall take no legal responsibility for product malfunction caused an unstable internet connection or consumer negligence during software upgrade.

You can also update the software in two other ways:

- **USB** : Visit www.samsung.com/bluraysupport, then download and store the latest software (RUF file) onto a USB flash drive. Connect the USB flash drive to the USB port of the product (the disc tray must be empty) to update the software, then follow the on-screen instructions.
- **CD/DVD** : Visit www.samsung.com/bluraysupport, download and write the latest software (RUF file) onto a disc. Insert and play the disc in the product to start the update, then follow the on-screen instructions.

NOTE

- The USB and CD software updates work the same as the By Internet update once the update begins.
- Never perform a software upgrade using the USB Host jack with a disc in the product. Remove the disc first.
- If you want to cancel the upgrade while in the process of downloading the upgrade data, press the **ENTER** button.
- When the system upgrade is done, check the software details in the software Upgrade menu.
- Do not turn off the product during the System Upgrade, as it may cause the product to not work properly.
- Software upgrades using the USB Host jack must be performed with a USB memory flash stick only.

Contact Samsung

Provide contact information for assistance with your product.

Basic Functions

Playing a Disc

Playback

1. Press the **OPEN/CLOSE** () button to open the disc tray.
2. Place a disc gently into the tray with the disc's label facing up.
3. Press the **OPEN/CLOSE** () button to close the disc tray.
4. Press the **PLAY** () button.

Playback related buttons

PLAY ()	Starts playback.
STOP ()	Stops playback. • If you press the button once : The stop position will be memorized. • If you press the button twice : The stop position will be not memorized.
PAUSE ()	Pauses playback.

-  **NOTE**
- For some discs, pressing the **STOP** () button once may not memorize the resume position.

Disc Structure

The contents of disc are usually divided as below.

• Blu-ray Disc, DVD-VIDEO



• Audio CD (CD-DA)



• MP3, WMA, DivX, MKV and MP4



Using the Disc menu/Title menu/Popup menu

Using the Disc Menu

- 
1. During playback, press the **DISC MENU** button on the remote control. 
 2. Press the **▲▼◀▶** buttons to make the desired selection, then press the **ENTER** button.

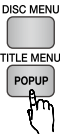
-  **NOTE**
- Depending on the disc, the menu items may differ or this menu may not be available.

Using the Title Menu

- 
1. During playback, press the **TITLE MENU** button on the remote control. 
 2. Press the **▲▼◀▶** buttons to make the desired selection, then press the **ENTER** button.

-  **NOTE**
- Depending on the disc, the menu items may differ or this menu may not be available.

Playing the Title List

- 
1. During playback, press the **DISC MENU** or **TITLE MENU** button. 
 2. Press the **▲▼** buttons to select an entry you want to play from Title List, then press the **ENTER** button.

-  **NOTE**
- If your disc has the playlist, press the **GREEN (B)** button to go to the Playlist.

Using the Popup Menu



1. During playback, press the **POPUP MENU** button on the remote control.
2. Press the **▲▼◀▶** buttons or **ENTER** button to select the desired menu.



NOTE

- Depending on the disc, the menu items may differ or this menu may not be available.

Using the Search and Skip Functions

During play, you can search quickly through a chapter or track, and use the skip function to jump to the next selection.

Searching for a Desired Scene



- During playback, press the **SEARCH** (**◀▶**) button.
Each time you press the **SEARCH** (**◀▶**) button, the playback speed changes as follows.

BD-ROM, BD-RE-R, DVD-RW-R, DVD-RW/+R, DVD-VIDEO	▶▶ 1 → ▶▶ 2 → ▶▶ 3 → ▶▶ 4 → ▶▶ 5 → ▶▶ 6 → ▶▶ 7 ◀◀ 1 → ◀◀ 2 → ◀◀ 3 → ◀◀ 4 → ◀◀ 5 → ◀◀ 6 → ◀◀ 7
DivX, MKV, MP4	▶▶ 1 → ▶▶ 2 → ▶▶ 3 ◀◀ 1 → ◀◀ 2 → ◀◀ 3

- To return to normal speed playback, press the **PLAY** (**▶**) button.

NOTE

- No sound is played during search mode.

Skipping Chapters



- During playback, press the **SKIP** (**◀▶**) button.
If you press the **SKIP** (**▶▶**) button, the disc moves to the next chapter.
If you press the **SKIP** (**◀◀**) button, the disc moves to the beginning of the chapter. One more press makes the disc move to the beginning of the previous chapter.

Slow Motion Play/Step Motion Play

Slow Motion Play



- In pause mode, press the **SEARCH** (**▶▶**) button.
Each time you press the **SEARCH** (**▶▶**) button, the playback speed is reduced as follows:
▶▶ 1/8 ▶▶ 1/4 ▶▶ 1/2
- To return to normal speed playback, press the **PLAY** (**▶**) button.

NOTE

- No sound is played during slow mode.
- Slow motion operates only in the forward direction.

Step Motion Play



- In pause mode, press the **PAUSE** (**⏏**) button.
Each time the **PAUSE** (**⏏**) button is pressed, a new frame appears.
- To return to normal speed playback, press the **PLAY** (**▶**) button.

NOTE

- No sound is played during step mode.
- Step motion operates only in the forward direction.

Basic Functions

Repeat Playback

Repeat the Title or Chapter



Repeat the disc title or chapter.

Depending on the disc, the Repeat function may not be available.

1. During playback, press the **REPEAT** button on the remote control.



2. Press the **▲▼** buttons to select **Chapter** or **Title**, then press the **ENTER** button.



3. To return to normal play, press the **REPEAT** button again.
4. Press the **▲▼** buttons to select **Off**, then press the **ENTER** button.

Repeat the Section



1. During playback, press the **REPEAT** button on the remote control.



2. Press the **▲▼** buttons to select **Repeat A-B**.



3. Press the **ENTER** button at the point where you want repeat play to start (A).

4. Press the **ENTER** button at the point where you want repeat play to stop (B).
5. To return to normal play, press the **REPEAT** button again.
6. Press the **ENTER** button.

NOTE

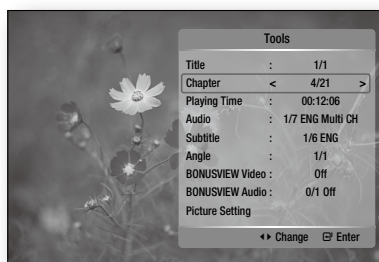
- If you set point (B) before 5 seconds has elapsed, the prohibition message will appear.

Using the TOOLS button

During playback, you can operate disc menu by pressing the **TOOLS** button.



Tools Menu Screen



NOTE

- Depending on the disc, the Tools menu may differ.

Moving to a Desired Scene Directly



1. During playback, press the **TOOLS** button.
2. Press the **▲▼** buttons to select **Title**, **Chapter** or **Playing Time**.
3. Enter the desired **Title**, **Chapter** or **Playing Time** using the number buttons, then press the **ENTER** button.

Selecting the Audio Language



You can also operate this function by pressing the **AUDIO** button on the remote control.



1. During playback, press the **TOOLS** button.
2. Press the **▲▼** buttons to select **Audio**.
3. Press the **◀▶** buttons to select the desired audio language.

NOTE

- The **◀▶** indicator will not be displayed on the screen if the BONUSVIEW section does not contain any BONUSVIEW audio settings.
- Information about the primary / secondary mode will also be displayed if the Blu-ray Disc has a BONUSVIEW section.
Use the **◀▶** button to switch between primary and secondary audio modes.
- This function depends on which audio languages are encoded on the disc, and may not be available.
- A Blu-ray Disc can contain up to 32 audio languages and a DVD up to 8.
- Some Blu-ray Discs may allow you to select either the multi-channel LPCM or Dolby digital audio soundtrack in English.
- If you press the **AUDIO** button on the remote control, the Audio bar is displayed.
Press the **RETURN** button to remove the Audio bar.

NOTE

- Depending on the Blu-ray Disc / DVD, you may be able to change the desired subtitle in the Disc Menu. Press the **DISC MENU** button.
- This function depends on which subtitles are encoded on the disc, and may not be available on all Blu-ray Discs/DVDs.
- A Blu-ray Disc can contain up to 255 subtitle languages and a DVD up to 32.
- Information about the primary / secondary mode will also be displayed if the Blu-ray Disc has a BONUSVIEW section.
- This function changes both the primary and secondary subtitles at the same time.
- The total number of subtitles is the sum of the primary and secondary ones.
- If you press the **SUBTITLE** button on the remote control, the subtitle bar is displayed.
Press the **RETURN** button to remove the subtitle bar.

Changing the Camera Angle



When a Blu-ray Disc/DVD contains multiple angles of a particular scene, you can use the **ANGLE** function.

1. During playback, press the **TOOLS** button.
2. Press the **▲▼** buttons to select **Angle**.
3. Press the **◀▶** buttons to select the desired Angle.

Selecting the Subtitle Language



You can also operate this function by pressing the **SUBTITLE** button on the remote control.



1. During playback, press the **TOOLS** button.
2. Press the **▲▼** buttons to select **Subtitle**.
3. Press the **◀▶** buttons to select the desired subtitle language.

Selecting the Picture Setting



This function lets you adjust video quality when your product is connected to a TV via HDMI.

1. During playback, press the **TOOLS** button.
2. Press the **▲▼** buttons to select **Picture Setting**, then press the **ENTER** button.
3. Press the **◀▶** buttons to select the desired **Picture Setting**, then press the **ENTER** button.

Basic Functions

- **Dynamic** : Choose this setting to increase Sharpness.
- **Normal** : Choose this setting for most viewing applications.
- **Movie** : This is the best setting for watching movies.
- **User** : You can adjust the sharpness and noise reduction functions respectively.

Setting BONUSVIEW



The BONUSVIEW feature allows you to view additional content (such as commentaries) in a small screen window while the movie is playing. This function is only available if the disc has the Bonusview feature.

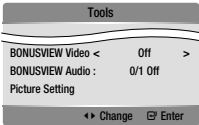
You can also operate this function by pressing the **BONUSVIEW** button on the remote control.



1. During playback, press the **TOOLS** button.
2. Press the **▲▼** buttons to select **BONUSVIEW Video** or **BONUSVIEW Audio**.
3. Press the **◀▶** buttons to select the desired bonusview.

NOTE

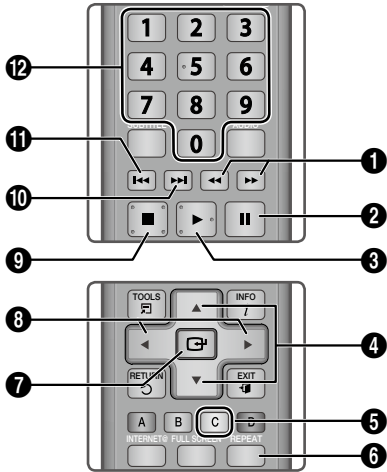
- If you switch from BONUSVIEW Video, BONUSVIEW Audio will change automatically in accordance with BONUSVIEW Video.



Listening to Music



Buttons on the Remote Control used for Music Playback



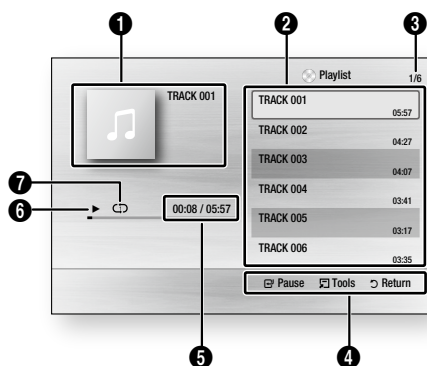
- | | |
|----|--|
| 1 | SEARCH buttons : Fast Play.
(Audio CD (CD-DA) only) |
| 2 | PAUSE button : Pauses playback. |
| 3 | PLAY button : Plays the currently selected track. |
| 4 | ▲▼ buttons : Selects a track in the Music List or Playlist. |
| 5 | YELLOW (C) button : Select or deselect a track in the music list. |
| 6 | REPEAT button : Selects the play mode in the Playlist. |
| 7 | ENTER button : Plays and pauses the selected track. |
| 8 | ◀▶ buttons : Jump Play.
(except for Audio CD (CD-DA)) |
| 9 | STOP button : Stops a track. |
| 10 | SKIP button : During playback, moves to the next page in the Music List or moves to the next track in the Playlist. |

11	SKIP button : During playback, moves to the previous page in the Music List or moves to the previous track in the Playlist. If you press this button after three seconds of playback in the Playlist, the current track is replayed from the beginning. But, if you press this button within three seconds after playback starts in the Playlist, the previous track is played.
12	NUMBER buttons : During the Playlist playback, press the desired track number. The selected track is played.

Playing an Audio CD (CD-DA)/MP3

1. Insert an Audio CD (CD-DA) or an MP3 Disc into the disc tray.
 - Audio CDs (CD-DA) play automatically.
 - To start an MP3 disc, press the ◀▶ buttons to select **Music**, then press the **ENTER** button.

Audio CD (CD-DA)/MP3 Screen Elements



1	Displays the music information.
2	Displays the playlist.
3	Display the current track/total tracks.
4	Displays control buttons available.

5	Shows the current play time/total play time.
6	Displays the current playback status
7	Displays the repeated playback status.

2. Press the ▲▼ buttons to select the track you want to play, and then press the **ENTER** button.

Repeat an Audio CD (CD-DA)/MP3

1. During the Playlist playback, press the **REPEAT** button. 
2. Select the desired play mode by pressing the **REPEAT** button repeatedly.

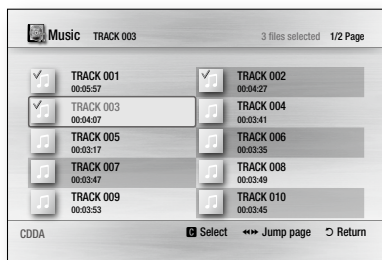
Off	Audio CD (CD-DA)/MP3	Tracks on a disc are played in the order in which they were recorded on the disc.
(CD) Track	Audio CD (CD-DA)	Current track is repeated.
(CD) One	MP3	Current track is repeated.
(CD) All	Audio CD (CD-DA)/MP3	All tracks are repeated.
(CD) Shuffle	Audio CD (CD-DA)/MP3	The random option plays a disc's tracks in random order.

Playlist

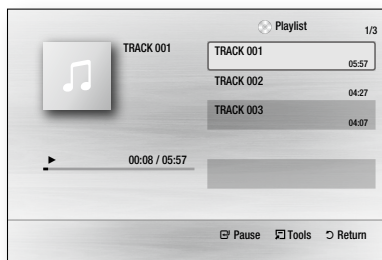
1. Insert an Audio CD (CD-DA) or an MP3 Disc into the disc tray.
 - Audio CDs (CD-DA) play automatically.
 - To start an MP3 disc, press the ◀▶ buttons to select **Music**, then press the **ENTER** button.
2. To move to the Music List, press the **STOP** (■) or **RETURN** button.
The Music List screen is displayed.

Basic Functions

- Press the **▲▼◀▶** buttons to move desired track, then press the **YELLOW (C)** button to check desired tracks.
Repeat this procedure to select additional tracks.



- If there is an undesired track in the playlist, press the **YELLOW (C)** button again.
The selected track is deleted.
- Press the **ENTER** button to play the selected tracks.
Selected tracks play automatically.



- To go to the Music List, press the **STOP (■)** or **RETURN** button.
- To go to the Playlist, press the **ENTER** button.

NOTE

- You can create a playlist with up to 99 tracks on Audio CD (CD-DA).

Playing back a Picture



Playing a JPEG Disc

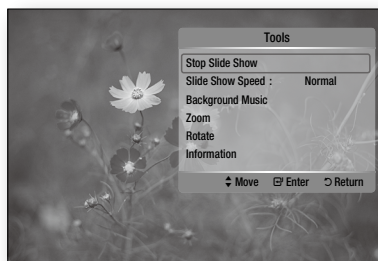
- Insert a JPEG disc into the disc tray.
- Press the **◀▶** buttons to select **Photos**, and then press the **ENTER** button.
- Press the **▲▼◀▶** buttons to select the folder you want to play, and then press the **ENTER** button.
- Press the **▲▼◀▶** buttons to select the photo you want to play, and then press the **ENTER** button.
The Slide Show starts automatically.

NOTE

- You can't enlarge the subtitle and PG graphic in the full screen mode.

Using the TOOLS button

During the slide show playback, you can use various function by pressing the **TOOLS** button.



- Stop Slide Show** : Select if you want to stop the slide show.
- Slide Show Speed** : Select if you want to adjust the Slide Show speed.
- Background Music** : Select if you want to listen to music while viewing a picture.

- **Zoom** : Select if you want to enlarge the current picture. (Enlarged up to 4 times)
- **Rotate** : Select if you to rotate the picture. (This rotates the picture either clockwise or counter clockwise.)
- **Information** : Shows the picture information including the name and size, etc.

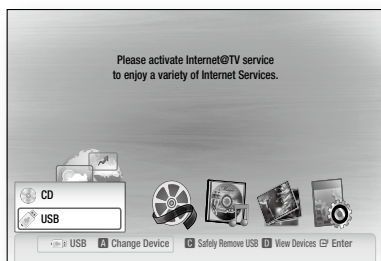
NOTE

- To enable the Background Music function, both music and MP3 files must be contained in the same folder. However, the sound quality can be affected by the bit rate of the MP3 file, the size of the photo and the encoding method.

Playing back a USB Storage Device

You can use the USB connection to play multimedia files (MP3, JPEG, DivX, etc) downloaded from a USB storage device.

1. Move to the Home menu.
2. In Stop mode, connect the USB storage device to the USB port on the top panel of the product.
The message "Do you want to access the device?" is displayed.
3. Press the ◀▶ button to select **Yes**, then press the **ENTER** button.
4. Press the **RED (A)** button or the **BLUE (D)** button.
If you pressed the **RED (A)** button, go to Step 5. If you pressed the **BLUE (D)** button, go to Step 4¹.



5. Press the ▲▼ buttons to select **USB**, then press the **ENTER** button.
6. Press the ◀▶ buttons to select the desired Videos, Music, or Photos, then press the **ENTER** button.
- 4¹. Press the **BLUE (D)** button. The screen below appears. Go to 5¹.



- 5¹. Press the ◀▶ buttons to select **USB**, then press the **ENTER** button.
- 6¹. Press the ▲▼ buttons to select the desired Videos, Music, or Photos, then press the **ENTER** button.
7. For playing back Video, Music, or Photo files, refer to pages 48–51.

NOTE

- You must remove the USB storage device safely (by performing the "Safe to Remove USB" function) to prevent possible damage to the USB memory. Press the **MENU** button to move to the Home menu. Then, press the **YELLOW (C)** button and then press the **ENTER** button.
- When the Audio-CD (CD-DA), MP3 and JPEG files are in stop mode, the **FULL SCREEN** button on the remote does not work.
- If you insert the disc when playing USB storage device, the device mode is changed to "DVD or CD" automatically.

Network Services

You can enjoy various network services such as Internet@TV or BD-LIVE by connecting the product to your network.

Check the following instructions before using any network service.

1. Connect the product to the network.
(See pages 25~26)
2. Configure the network settings.
(See pages 37~41)

Using Internet@TV

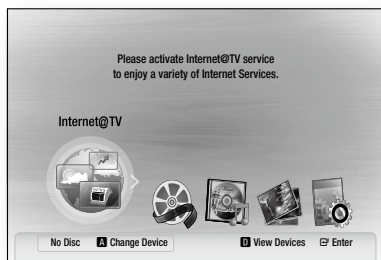
Connect this product to the network to download various for a fee or free-of-charge applications. Internet@TV brings useful and entertaining content and services directly from the web to your product such as news, weather forecasts, stock market quotes, games, movies and music.

You can also initiate this function by pressing the **INTERNET@** button on the remote control.



Getting Started with Internet@TV

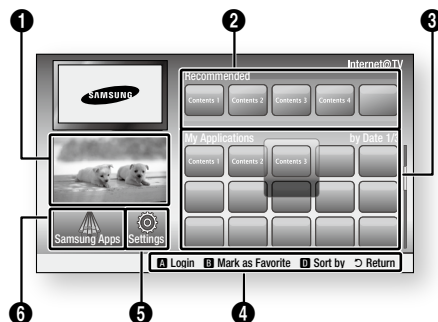
1. Move to the Home menu.



2. Press the ◀▶ buttons to select **Internet@TV** and press the **ENTER** button.
3. In the start screen of the Internet@TV service, you will see the service agreement screen. You must agree to the service terms and conditions before you can use the Internet@TV service.

4. After you have signed off on the service agreement, the Internet@TV service starts updating. It takes several minutes. When the update is complete, you will see the Internet@TV menu screen.

Internet@TV at a Glance

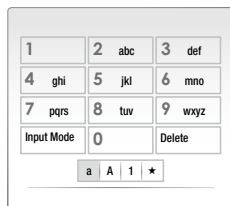


- 1 Commercial** : Displays Internet@TV Guide, product introduction and new application introduction.
- 2 Recommended** : Displays recommended contents managed by Samsung.
- 3 My Applications** : Displays your personal gallery in which you can add and delete applications.
- Navigation Help** : Displays remote control buttons available.
 - **RED (A)** : To log in to Internet@TV.
 - **GREEN (B)** : To mark the application as a favourite.
 - **BLUE (D)** : To sort the applications.
 - **Return** : To return to the previous menu.
- 5 Settings** : You can set up the system and create accounts, etc.
- 6 Samsung Apps** : You can download various for a fee or free-of-charge application services.

Using the On-Screen Keypad

Through your remote, you can use the On-Screen Keypad in several Internet@TV applications to enter text.

Pressing the **SUBTITLE** button on the remote while you are using the Screen Keypad lets you change the text fields to lower case, upper case, numbers and icons.



For example, here is how to use the Keypad to search for an address in Google Maps:

1. Press the **ENTER** button on the remote at the Google Maps icon at the Internet@TV.
2. Press **GREEN (B)** button to use the SEARCH function.
3. Press the **◀▶** buttons to move to the "Search or address" window.
4. Press the **ENTER** button to use Search or address function.
5. For example, suppose that you want to input '105 Challenger Rd., Ridgefield Park NJ'.
6. Press the **SUBTITLE** button on the remote twice to change the input mode from lower case to numbers.
7. Press '1', '0', '5'.
8. Press the **YELLOW (C)** button on the remote to input a blank space.
9. Press the **SUBTITLE** button on the remote 3 times to change the input mode from numbers to upper case.
10. Press '2' button on the remote 3 times to input **C**.
11. Press the **SUBTITLE** button on the remote 3 times to change the input mode from upper case to lower case.
12. Press buttons on the remote to input the rest of 'Challenger Rd., Ridgefield Park NJ'.
13. Press the **ENTER** button.
14. The map and address appear on the screen.

NOTE

- Samsung Electronics shall take no legal responsibility for any interruption of the Internet@TV service caused by the service provider for any reasons.
- The Internet@TV service is to download and process data via the Internet so that you can enjoy the contents on the TV screen.
If the Internet connection is unstable, the service may be delayed or interrupted.
Furthermore, the product may be turned off automatically. If this is the case, check the Internet connection and try again.
- The application service may be provided in English only and the contents available may vary, depending on the area.
- When you use an application service, the **FULL SCREEN** button on the remote control does not operate.
- For more information about the Internet@TV service, visit the web site of the applicable service provider.
- The services provided are subject to change, depending on the Internet@TV service provider.
- The Internet@TV service contents may differ according to the firmware version.
- For-a-fee DivX contents with copy protection can only be played using HDMI cable.
If you have connected your product to your TV using video cables, the DivX video signal can not output or the popup message "Connect with a HDMI cable to play this file." or "Cannot play current file." will be displayed.

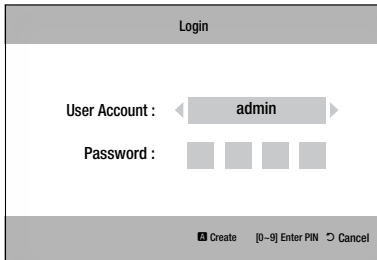
Network Services

Account Login

For a more enjoyable application experience, register and log in to your account.

To do this, you must create an account first. (For instructions on creating an account, refer to Internet@TV ID on this page)

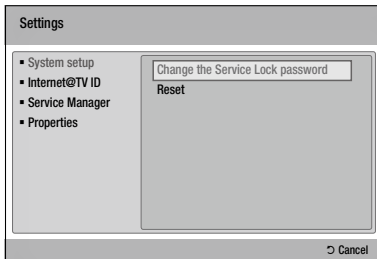
1. Press the ▲▼◀▶ buttons to select the desired application and press the **RED (A)** button.



2. Enter the user account and password.

Settings

Create IDs and configure Internet@TV settings on this screen.



System Setup

Reset

Resets Internet@TV settings to factory default settings.

NOTE

- If you forgot your password, press the **STOP** (■) button on the top panel of the product for more than 5 seconds with no disc inserted.

Internet@TV ID

Use this menu to create or delete an account and enter or delete account information.

You can control your account including contents site's account information.

This account is only for Internet@TV.

Create

Create an account and link it with desired service applications.

NOTE

- The account name must be at least 1 character in length but no more than 8.
- You can register up to 10 User Account Names.

Manager

- **Service Site** : Register login information for service sites.
- **Change Password** : Change account password.
- **Delete** : Delete the account.

Service Manager

Delete and lock applications installed to Internet@TV.

Lock

Lock the application. Accessing a locked application requires a password.

Delete

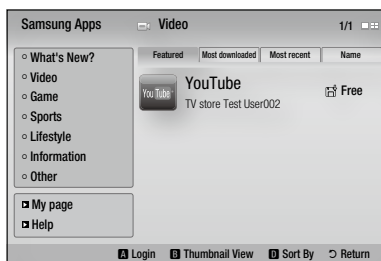
Delete the application.

Properties

Display information about Internet@TV. Use the "Check the speed of your Internet connection" option to test your network connection.

Samsung Apps

Various applications are available from here, organized into different categories. Some applications have a download fee.



My page

Displays the application list.

Help

If you questions about Internet@TV, check this section first. If none of the tips apply, please visit the help website.

Using the colour buttons with the Samsung Apps

- **RED (A) (Login)** : To log in to the internet service.
- **GREEN (B) (Thumbnail View)** : To change the view mode.
- **BLUE (D) (Sort By)** : To sort the applications by Featured, Most Downloaded, Most Recent or Name.



NOTE

- The available Internet contents services may be added or deleted.

Network Services

BD-LIVE™

Once the product is connected to the network, you can enjoy various movie-related service contents using a BD-LIVE compliant disc.

1. Check the size of the remaining memory.
The memory device must have at least 1GB of free space to accommodate the BD-LIVE services.
2. Insert a Blu-ray disc that supports BD-LIVE.
3. Select an item from various BD-LIVE service contents provided by the disc manufacturer.

NOTE

- The way you use BD-LIVE and the provided contents may differ, depending on the disc manufacturer.

Software Upgrade Notification

When connected to the network, the product can notify you if a new software version is available.

1. Turn on the product.
2. In the Software Upgrade menu, set Auto Upgrade Notification to **On**. (See page 43)
If there is a new software version available, the product notifies you with a popup message.
3. To upgrade the firmware, select **Yes** on the Pop-up.
The product turns off automatically, then restarts, and begins the download. (Never turn on the product manually here.)
4. The update progress popup appears. When the update is complete, the product turns off again automatically.
5. Press the **POWER** button to turn on the product.

NOTE

- Update is completed when the product turns off after restarting. Press the **POWER** button to turn on the updated product for your use.
Never turn the product off or on manually during the update process.
- Samsung Electronics shall take no legal responsibility for product malfunction caused by unstable of internet connection or consumer negligence during software upgrade.

Using the AllShare Function

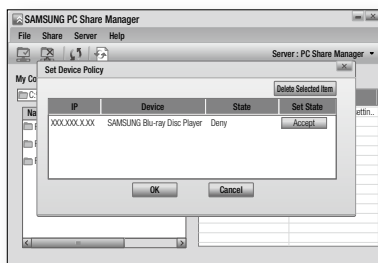
AllShare lets you play music, video and photo files from your PC on your TV using the product.

To use AllShare, you must connect the product to your PC via the network (See pages 25~26) and install the SAMSUNG PC Share Manager on the PC. To install Share Manager, follow these steps.

1. Visit the Samsung website at www.samsung.com.
2. Download the SAMSUNG PC Share Manager and install it on your PC.
3. When the installation is complete, you will see the SAMSUNG PC Share Manager icon on your desktop.
Double-click the icon to launch the application.

To use Share Manager, follow these steps:

1. Select a folder to share from the My computer pane, and click the **Share Folder Enabled icon** ().
(To remove a shared folder : Select a folder to remove from the shared folders, and click the **Share Folder Disabled icon** ().)
2. To apply the updated sharing state to the server, click the **Set Change State icon** ().
3. To enable the product to locate a PC server, click **Share** from the menu bar.
Click **Set Device Policy** and click **Accept**.



4. Click the **Set Change State icon** () and move to the home menu on product.

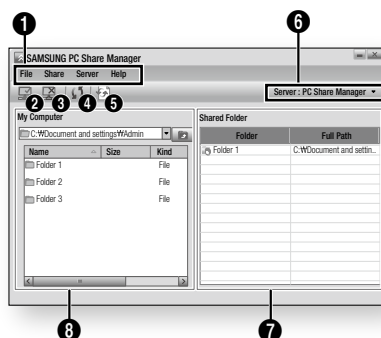
5. To select a device, use the **RED (A)** or **BLUE (D)** button to select a file to play.
(For playing back Video, Music or Photos files, see pages 48~51.)



NOTE

- Depending on the performance of the external modem or router, HD video may not play properly.
- If your system uses a firewall, the product may not locate your PC on the TV screen.
- AllShare does not support the following functions.
 - The Background Music and Background Music Setting functions.
 - Sorting files by preference in the Photo, Music, and Movie folders.
 - The Change Group function.
 - The Safe Remove function.
- The Sorting method may differ depending on the server function.
- The search and skip operation may differ depending on the server function.
- If you press the **STOP** (■) button during video playback, the product will memorize the stop position.
Note that, depending on the server, this function may not work.
- During video playback, play time is not display.
- To use the AllShare function, please place both this product and PC in same subnet.

Application Program at a Glance



1	Menu Bar
2	Share Folder Enabled icon : Use this if you want to select a folder in your PC to share.
3	Share Folder Disabled icon : Use this if you want to set folder sharing off.
4	Refresh icon : Use this if you want to refresh list of folders and files in My Computer.
5	Set Change State icon : Select a folder to share and don't forget to press this button. The updated state will be applied to the server.
6	Server : Displays the name of the sharing server.
7	Shared Folder : Displays a list of the shared folders.
8	My Computer : Displays a list of the folders and files in the PC.

Appendix

Troubleshooting

Before requesting service, please check the following.

PROBLEM	SOLUTION
No operation can be performed with the remote control.	• Check the batteries in the remote control. They may need replacing. • Operate the remote control at a distance of no more than 6.1m. • Remove batteries and hold down one or more buttons for several minutes to drain the microprocessor inside the remote control to reset it. Reinstall batteries and try to operate the remote control again.
Disc does not play.	• Ensure that the disc is installed with the label side facing up. • Check the region number of the Blu-ray Disc/DVD.
Disc Menu does not appear.	• Ensure that the disc has disc menus.
The prohibition message appears on the screen.	• This message appears when an invalid button is pressed. • The Blu-ray Disc/DVD's software doesn't support the feature (e.g., angles) • You've requested a title or chapter number or search time that is out of range.
Play mode differs from the Setup Menu selection.	• Some of the functions selected in the Setup Menu may not work properly if the disc is not encoded with the corresponding function.
The screen ratio cannot be changed.	• The screen aspect ratio is fixed on your Blu-ray Disc/DVDs. • This is not a problem with the product.
No audio.	• Make sure you have selected the correct Digital Output in the Audio Options Menu.
The screen is blocked	• Press the STOP () button (on the top panel) for more than 5 seconds with no disc inside. All settings will revert to the factory settings. • When the factory default settings are restored, all the stored user BD data is deleted.
If the HDMI output is set to a resolution your TV cannot support (for example, 1080p), you may not see a picture on your TV.	• Press the STOP () button (on the top panel) for more than 5 seconds with no disc inside. All settings will revert to the factory settings. • When the factory default settings are restored, all the stored user BD data is deleted.

PROBLEM	SOLUTION
Forgot password	- Press the STOP () button (on the top panel) for more than 5 seconds with no disc inside. All settings including the password will revert to the factory settings. Don't use this unless absolutely necessary. - When the factory default settings are restored, all the user data stored in the BD data will be deleted.
If you experience other problems.	- Go to the contents and find the section of the user manual that contains the explanations regarding the current problem, and follow the procedure once again. - If the problem still cannot be solved, please contact your nearest Samsung authorized service centre.
The picture is noisy or distorted	- Make sure that the disc is not dirty or scratched. - Clean the disc.
No HDMI output.	- Check the connection between the TV and the HDMI jack of the product. - Check if your TV supports 576p/480p, 720p, 1080i, or 1080p HDMI input resolution.
Abnormal HDMI output screen.	If random noise appears on the screen, it means that TV does not support HDCP (High-bandwidth Digital Content Protection).
PC Share Manager function	
I can see folders shared through the PC Share Manager, but I cannot see the files.	Since Share Manager shows only Image, Music, and Movie categories, files that do not correspond to these categories are not be displayed.
AllShare function	
Video is played intermittently.	- Check if the network is stable. - Check if the network cable is properly connected and if the network is not overloaded. - Wireless connection between the server and the product is unstable. Check the connection.
AllShare connection between TV and PC is unstable.	- IP addresses under the same subnetwork should be unique, otherwise IP collision can results in such a phenomenon. - Check if you have a firewall enabled. If so, disable the firewall function.

Appendix

PROBLEM	SOLUTION
BD-LIVE	
I cannot connect to the BD-LIVE server.	• Check whether the network connection is successful or not by using Network Test menu. (See page 41) • Check whether a USB memory device is connected to the product or not. • The memory device must have at least 1 GB of free space to accommodate the BD-LIVE service. You can check the available size in BD Data Management. (See page 36) • Please check whether the BD-LIVE Internet Connection menu is set to Allow (All). • If all above fails, contact the contents provider or update to the latest firmware.
When using the BD-LIVE service, an error occurs.	• The memory device must have at least 1 GB of free space to accommodate the BD-LIVE service. You can check the available size in BD Data Management. (See page 36)

 NOTE

- When the factory default settings are restored, all the stored user BD data is deleted.

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Appendix

Specifications		
General	Weight	1.5 kg
	Dimensions	420 (W) X 175 (D) X 32 (H) mm
	Operating Temperature Range	+5°C to +35°C
	Operating Humidity Range	10 % to 75 %
Disc	BD (Blu-ray Disc)	Reading Speed : 4.917m/sec
	DVD (Digital Versatile Disc)	Reading Speed : 3.49 ~ 4.06 m/sec.
		Approx. Play Time (Single Sided, Single Layer Disc) : 135 min.
	CD : 12 cm (COMPACT DISC)	Reading Speed : 4.8 ~ 5.6 m/sec.
		Maximum Play Time : 74 min.
	CD : 8 cm (COMPACT DISC)	Reading Speed : 4.8 ~ 5.6 m/sec.
		Maximum Play Time : 20 min.
Video Output	Composite Video	1 Channel : 1.0 Vp-p (75Ω load)
		Blu-ray/DVD Disc : 576i/480i
Video/Audio	HDMI	1080p, 1080i, 720p, 576p/480p
		PCM multichannel audio, Bitstream audio
Audio Output	2 Channel	L(1/L), R(2/R)
	Digital Audio Output	Optical
	*Frequency Response	48 kHz Sampling : 4 Hz to 22 kHz
		96 kHz Sampling : 4 Hz to 44 kHz
	*S/N Ratio	110 dB
	*Dynamic Range	100 dB
	*Total Harmonic Distortion	0.003%

*: Nominal specification

- Design and specifications are subject to change without prior notice.
- For the power supply and power consumption, refer to the label attached to the product.
- Weight and dimensions are approximate.

Compliance and Compatibility Notice

NOT ALL discs are compatible

- Subject to the restrictions described below and those noted throughout this Manual, including the Disc Type and Characteristics section of this user manual, disc types that can be played are: pre-recorded commercial BD-ROM, DVD-VIDEO, and Audio CD (CD-DA) discs; BD-RE/-R, DVD-RW/-R discs; and CD-RW/-R discs.
- Discs other than the above cannot and/or is not intended to be played by this product. And some of the above discs may not play due to one or more reasons provided below.
- Samsung cannot assure that this product will play every disc bearing the BD-ROM, BD-RE/-R, DVD-VIDEO, DVD-RW/-R, DVD+RW/+R and CD-RW/-R logos, and this product may not respond to all operating commands or operate all features of every disc. These and other disc compatibility and product operation issues with new and existing format discs are possible because:
 - Blu-ray is a new and evolving format and this product may not operate all features of Blu-ray Discs because some features may be optional, additional features may have been added to the Blu-ray Disc format after the production of this product, and certain available features may be subject to delayed availability;
 - not all new and existing disc format versions are supported by this product;
 - new and existing disc formats may be revised, changed, updated, improved and/or supplemented;
 - some discs are produced in a manner that allows specific or limited operation and feature during playback;
 - some features may be optional, additional features may have been added after the production of this product or certain available features may be subject to delayed availability;
 - some discs bearing the BD-ROM, BD-RE/-R, DVD-VIDEO, DVD-RW/-R, DVD+RW/+R and CD-RW/-R logos may still be non-standardized discs;
 - some discs may not be played depending on their physical state or recording conditions;
 - problems and errors can occur during the creation of Blu-ray Disc, DVD software and/or the manufacture of discs;
 - this product operates differently than a standard DVD product or other AV equipment; and/or
 - for reasons noted throughout this user manual and for other reason(s) discovered and posted by SAMSUNG customer care centre.
- If you encounter disc compatibility or product operation problems, please contact SAMSUNG customer care centre.
You may also contact SAMSUNG customer care centre for possible updates on this product.
- For additional information on playback restrictions and disc compatibility, refer to the Precautions, Before Reading the user manual, Disc Types and Characteristics, and Before Playing sections of this user manual.

Copy Protection

- Because AACS (Advanced Access Content System) is approved as content protection system for Blu-ray Disc format, similar to use of CSS (Content Scramble System) for DVD format, certain restrictions are imposed on playback, analog signal output, etc., of AACS protected contents. The operation of this product and restrictions on this product may vary depending on your time of purchase as those restrictions may be adopted and/or changed by AACS after the production of this product. Furthermore, BD-ROM Mark and BD+ are additionally used as content protection system for Blu-ray Disc format, which imposes certain restrictions including playback restrictions for BD-ROM Mark and/or BD+ protected contents. To obtain additional information on AACS, BD-ROM Mark, BD+, or this product, please contact SAMSUNG customer care center.

Appendix

- Many Blu-ray Disc/DVD discs are encoded with copy protection. Because of this, you should only connect your Product directly to your TV, not to a VCR. Connecting to a VCR results in a distorted picture from copy-protected Blu-ray Disc/DVD discs.
- This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Rovi Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Rovi Corporation. Reverse engineering or disassembly is prohibited.
- Under the U.S. Copyright laws and Copyright laws of other countries, unauthorized recording, use, display, distribution, or revision of television programs, videotapes, Blu-ray Discs, DVDs, and other materials may subject you to civil and/or criminal liability.
- **For Blu-ray Disc Player progressive scan output :** CONSUMERS SHOULD NOTE THAT NOT ALL HIGH DEFINITION TELEVISION SETS ARE FULLY COMPATIBLE WITH THIS PRODUCT AND MAY CAUSE ARTIFACTS TO BE DISPLAYED IN THE PICTURE. IN CASE OF PROGRESSIVE SCAN PICTURE PROBLEMS, IT IS RECOMMENDED THAT THE USER SWITCH THE CONNECTION TO THE 'STANDARD DEFINITION' OUTPUT. IF THERE ARE QUESTIONS REGARDING OUR TV SET COMPATIBILITY WITH THIS PRODUCT, PLEASE CONTACT OUR CUSTOMER SERVICE CENTER.

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UNITED KINGDOM



EIRE

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EH11 4YB United Kingdom**

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1. The warranty is only valid if, when warranty service is required, the warranty card is fully and properly completed and is presented with the original invoice or sales slip or confirmation, and the serial number on the product has not been defaced.
2. Samsung's obligations are limited to the repair or, at its discretion, replacement of the product or the defective part.
3. Warranty repairs must be carried out by Authorised Samsung Dealers or Authorised Service Centres.
No re-imbursement will be made for repairs carried out by non Samsung Dealers and, any such repair work and damage to the products caused by such repair work will not be covered by this warranty.
4. This product is not considered to be defective in materials nor workmanship by reason that it requires adaptation in order to conform to national or local technical or safety standards in force in any Country other than the one for which the product was originally designed and manufactured. This warranty will not cover, and no re-imbursement will be made for such adaptation nor any damage which may result.
5. This warranty covers none of the following:
 - a) Periodic check ups, maintenance and repair or replacement of parts due to normal wear and tear.
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(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols *Hg*, *Cd* or *Pb* indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.



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Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

