

# Super Multi Blue Player

# **Owner's Manual**

MODEL: BH100





HD DVD

Before connecting, operating or adjusting this product, please read this instruction booklet carefully and completely.













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.

A

This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**WARNING:** TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

**WARNING:** Do not install this equipment in a confined space such as a book case or similar unit.

#### CAUTION:

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from over heating.

The openings should be never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instruction have been adhered to.



**CAUTION:** CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEAT-ED AVOID EXPOSURE TO THE BEAM.

#### CAUTION:

This product employs a Laser System.

To ensure proper use of this product, please read this owner's manual carefully and retain it for future reference. Should the unit require maintenance, contact an authorized service centre.

Performing controls, adjustments, or carrying out procedures other than those specified herein may result in hazardous radiation exposure.

To prevent direct exposure to laser beam, do not try to open the enclosure. Visible laser radiation when open. DO NOT STARE INTO BEAM.

**CAUTION:** The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.

#### **CAUTION** concerning the Power Cord

# Most appliances recommend they be placed upon a dedicated circuit;

That is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.

Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer.

Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.

To disconnect power from the mains, pull out the mains cord plug. When installing the product, ensure that the plug is easily accessible.



#### Disposal of your old appliance

 When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.

- 2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
- 3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
- 4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

**F** This product is manufactured to comply with the EEC DIRECTIVE 89/336/EEC, 93/68/EEC and 2006/95/EC.

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Introduction

# Introduction

To ensure proper use of this product, please read this owner's manual carefully and retain for future reference.

This manual provides information on the operation and maintenance of your player. Should the unit require service, contact an authorized service location.

# About the $\oslash$ Symbol Display

"  $\oslash$  " may appear on your TV display during operation and indicates that the function explained in this owner's manual is not available on that specific media.

# Symbols Used in this Manual

#### Note:

Indicates special notes and operating features.

#### Tip:

Indicates tips and hints for making the task easier.

A section whose title has one of the following symbols are applicable only to the disc represented by the symbol.

BD BD-ROM disc HD DVD HD DVD-ROM disc DVD DVD-Video disc

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.

DTS and DTS Digital Surround are registered trademarks of Digital Theater Systems, Inc.

# **Notes on Discs**

#### Handling Discs

Do not touch the playback side of the disc. Hold the disc by the edges so that fingerprints do not get on the surface. Never stick paper or tape on the disc.

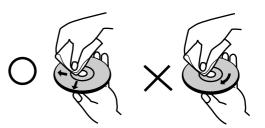


#### **Storing Discs**

After playing, store the disc in its case. Do not expose the disc to direct sunlight or sources of heat and never leave it in a parked car exposed to direct sunlight.

#### **Cleaning Discs**

Fingerprints and dust on the disc can cause poor picture quality and sound distortion. Before playing, clean the disc with a clean cloth. Wipe the disc from the centre out.



Do not use strong solvents such as alcohol, benzene, thinner, commercially available cleaners, or anti-static spray intended for older vinyl records.

### **Moisture Condensation**

Never operate this product immediately after moving it from a cold location to a warm location. Leave it for two or three hours without operating it. If you use this product in such a situation, it may damage discs and internal parts.

# Introduction

# **Playable Discs**

#### BD-ROM

Discs such as movies that can be purchased or rented

#### HD DVD Disc

This product fully supports standard Blu-ray discs and can play high definition audio/visual content from HD DVD discs. This product does not support interactive "HDi" features available from many HD DVD discs.



#### DVD-VIDEO (8 cm / 12 cm disc) Discs such as movies that can be purchased or rented



**DVD-R (8 cm / 12 cm disc)** Video mode and finalized only



DVD-RW (8 cm / 12 cm disc) Video mode and finalized only



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#### DVD+R Video mode only

Supports the dual layer disc also

DVD+RW Video mode only

#### Notes:

- Depending on the conditions of the recording equipment or the DVD±R/RW disc itself, some DVD±R/RW discs cannot be played on the unit.
- Do not attach any seal or label to either side (the labelled side or the recorded side) of a disc.
- Do not use irregularly shaped discs (e.g., heart shaped or octagonal). Doing so may result in malfunctions.
- Depending on the recording software & the finalization, some recorded DVD±R/RW may not be playable.
- DVD±R/RW discs recorded using a personal computer or a DVD Recorder may not play if the disc is damaged or dirty, or if there is dirt or condensation on the Player's lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases in which it may not play because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)

# Regional Code

Both the player 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 player is described on the rear panel of the player.

**BD-ROM** 





## Notes on Copyrights

Because AACS (Advanced Access Content System) is approved as content protection system for BD and HD DVD 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 BD 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 LG Customer Service Centre.

- Many HD DVD/BD-ROM/DVD discs are encoded with copy protection. Because of this, you should only connect your player directly to your TV, not to a VCR. Connecting to a VCR results in a distorted picture from copy-protected discs.
- This product incorporates copyright protection technologies that are protected by certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation and is intended for home and other limited viewing uses only, unless otherwise authorized by Macrovision 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, HD DVDs, BD-ROM discs, DVDs, CDs and other materials may subject you to civil and/or criminal liability.

## **BD-ROM Disc Features**

BD-ROM Discs can store 25 GB (single layer) or 50 GB (dual layer) on a single sided disc - about 5 to 10 times the capacity of a DVD.

BD-ROM Discs also support the highest quality HD video available in the industry (up to 1920 x 1080) - Large capacity means no compromise on video quality. Furthermore, a BD-ROM disc has the same familiar size and look as DVD.

- The following BD-ROM disc features are disc dependent and will vary.
- Appearance and navigation of features will also vary from disc to disc.
- Not all discs will have the features described below.
- BD-ROM, Hybrid disc have both BD-ROM and DVD layers on one side. Because this type of disc is a technology currently in development, such discs may not operate properly in this player.

#### Video highlights

The BD-ROM format for movie distribution supports three highly advanced video codecs, including MPEG-2, MPEG4 AVC (H.264), and SMPTE VC1. HD video resolutions are also available:

- 1920 x 1080 HD
- 1280 x 720 HD

#### For High-Definition Playback

To view high-definition contents from BD-ROM discs, an HDTV is required. Some discs may require HDMI OUT for viewing of high-definition contents. Ability to view high-definition contents in BD-ROM discs may be limited depending on the resolution of your TV.

#### **Graphic planes**

Two individual, full HD resolution (1920x1080) graphic planes (layers) are available, on top of the HD video layer. One plane is assigned to video related, frame accurate graphics (like subtitles), and the other plane is assigned to interactive graphic elements, such as buttons or menus. For both planes, various wipes, fades and scroll effects may be available.



Graphic Plane

#### Menu graphics

Support 256 colour full resolution graphics and animation, thereby greatly surpassing the capabilities of DVD-Video. Options can be accessed and removed during video playback.

#### Menu sounds

When you highlight or select a menu option, sounds can be heard such as button clicks or a voice-over explaining the highlighted menu choice.

#### Multi-page/Pop Up Menus

With DVD-Video, playback is interrupted each time a new menu screen is accessed. Due to BD-ROM disc's ability to preload data from the disc without interrupting playback, a menu can consist of several pages.

You can browse through the menu pages or select different menu paths, while the audio and video remain playing in the background.

#### Interactivity

Certain BD-ROM Discs may contain animated menus and/or trivia games.

#### **User Browsable Slideshows**

With BD-ROM Discs, you can browse through various still pictures while the audio remains playing.

#### Subtitles

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

#### **BD-Java Interactive Capability**

This player supports JAVA contents in the BD-ROM disc.

#### **BD-ROM Disc Compatibility**

BD-ROM disc is a new and evolving format. Accordingly, disc compatibility issues with new and existing format discs are possible. Not all discs are compatible and not every disc will playback. For additional information, also refer to the Compliance and Compatibility Notice section of this Manual. If you encounter compatibility problems, please contact LG Customer Service Centre.

This player supports only BD-ROM Profile 1 version 1.0 specification.

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HD Video

# **HD DVD Disc Features**

HD DVD video discs are high-density, high-capacity discs.

- There are 2 types of HD DVD disc; one is standard content disc and the other is advanced content disc. Standard content disc is pure extension of DVD Video. Advanced content disc realizes more interactivity in addition to the extension of audio and video realized by standard disc.
- The HD DVD disc standard has been approved by the DVD forum.
- HD DVD (single layer): Maximum capacity of 15 GB HD DVD (dual layer): Maximum capacity of 30 GB A single layer single sided disc (15 GB) has capacity of about maximum 8 hours in 1125 line high definition picture; about maximum 48 hours in 525 line standard definition picture (depending on bitrate of pre-recorded contents).
- HD DVD Twin Format Discs have both HD DVD and DVD layers on one side. HD DVD Combination DVD Discs have HD DVD material on one side and standard DVD material on the other side. Because this type of disc is a technology currently in development, such discs may not operate properly in this player.
- Some titles may played back with black "letterbox bars" because the title is recorded with bars by the content provider.
- This product fully supports standard Blu-ray discs and can play high definition audio/visual content from HD DVD discs. This product does not support interactive "HDi" features available from many HD DVD discs.

# **Compatibility Notes**

- Because BD-ROM and HD DVD are a new format, certain disc, digital connection and other compatibility issues are possible. If you experience compatibility problems, please contact LG Customer Service Centre.
- Viewing high-definition content and up-converting standard DVD content may require an HDMI capable input or HDCP-capable DVI input on your display device.
- Some BD-ROM, HD DVD and DVD discs may restrict the use of some operation commands or features.
- Dolby Digital Plus and DTS-HD (DTS only) capability is limited to 6 channels (5.1).

# **Certain System Requirements**

For high definition video playback:

- High definition display that has COMPONENT or HDMI input jacks.
- BD-ROM or HD DVD disc with high definition content.
- HDMI or HDCP capable DVI input on your display device is required for some content (as specified by disc authors).
- For up-conversion of standard definition DVD, an HDMI or HDCP capable DVI input on your display device is required for copy protected content.

For Dolby<sup>®</sup> Digital Plus and DTS-HD multi-channel audio playback:

- A/V Receiver or processor/amp combination with 5.1 channel analog input.
- Main, centre, surround speakers and subwoofer as necessary for chosen format.

# Important Notice for TV colour system

The colour system of this player differs according to currently playing discs.

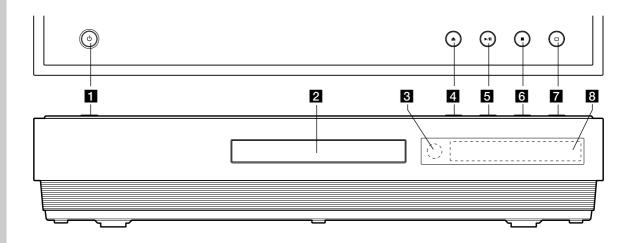
For example, when the player plays back the disc recorded in the NTSC colour system, the image is outputted as a NTSC signal.

Only the multi system colour TV can receive all signals outputted from the player.

#### Notes:

- If you have a PAL colour system TV, you will see just distorted images when using discs recorded in NTSC.
- The multi system colour TV changes the colour system automatically according to input signals. In case that the colour system is not changed automatically, turn it off and then on to see normal images on screen.
- If you try to record a NTSC output signal from the player with your recorder, the recorder may not record the signal correctly.

### **Front Panel**



**1** POWER Button Switches the unit ON or OFF.

**2** Disc Tray Insert a disc here.

**3 Remote Sensor** Point the Remote Control here.

④ (OPEN/CLOSE) Opens or closes the disc tray.

#### 5 ► / II (PLAY / PAUSE)

Starts playback. Pause playback temporarily, press again to exit pause mode.

6 ■ (STOP) Stops playback.

7 □ (RESOLUTION) Sets the output resolution for HDMI and COMPONENT VIDEO OUT jacks.

#### 8 Display Window

Shows the current status of the player.

#### Tip:

 $\blacktriangle$ ,  $\blacktriangleright$  /  $\blacksquare$ ,  $\blacksquare$ , and  $\Box$  buttons are operated with a slight/brief touch.

#### Precautions in using the touch buttons

- Use the touch buttons with clean and dry hands.
- Do not press the touch buttons with too much force.
- Do not touch the button with any conductive material such as metallic object (Disc, etc). It may cause a malfunction.

#### Lock (Child Lock)

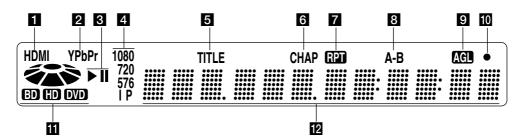
The  $\blacktriangleright$  / II,  $\blacksquare$ , and  $\Box$  buttons on the front of the player can be locked so that your player can only be operated using the Remote Control.

Press LOCK on the Remote Control. "LOCK ON" will appear in the display window.
 If ► / II, ■ or □ button on the front of your

If  $\blacktriangleright$  / II,  $\blacksquare$  or  $\square$  button on the front of your unit are pressed, "CHILD LOCK" will flicker in the display window for a few seconds.

2. Press LOCK again to switch off the child lock. "LOCK OFF" will appear in the display window.

## **Display Window**



#### **1** HDMI Indicator

Indicates when the HDMI output is available.

#### 2 YPbPr Indicator

Indicates when the component video output is available.

#### **3** Status Indicator

- Playing
- II: Paused

#### **4** Video Output Resolution Indicator

Displays the video output resolution currently selected. 576i: 576 interlaced 576p: 576 progressive 720p: 720 progressive 1080i: 1080 interlaced 1080p: 1080 progressive

#### 5 TITLE

Indicates current title number.

#### 6 CHAP (Chapter) Indicator

Indicates current chapter number.

#### **7** Repeat Mode Indicator Indicates when playing in repeat mode.

**B** A-B Repeat Mode Indicator Indicates when playing in A-B repeat mode.

#### 9 AGL (Angle) Indicator

Indicates when playing a scene recorded with multi angles.

#### 10 Remote Control Indicator

Indicates when Remote Control signal is received.

#### **1** Disc Indicator

BD: Indicates when an BD-ROM disc is loaded. HD DVD: Indicates when an HD DVD disc is loaded.

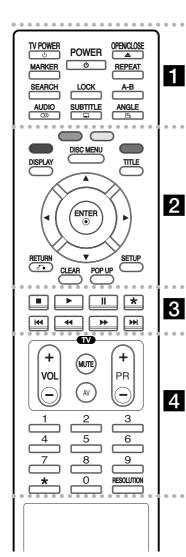
DVD: Illuminates when a DVD disc is loaded.

#### 12 Character Indicators

Indicates total playing time, elapsed time, title number, chapter number or message, etc.

# **Introduction**

## **Remote Control**



or OFF.

TV POWER: Switches the TV ON or OFF.

**OPEN/CLOSE (**▲): Opens and closes the disc tray.

**MARKER:** Marks any point during playback.

**SEARCH:** Displays Marker Search menu.

AUDIO (☉): Selects an audio language or audio channel. LOCK: Press to lock the

 $\blacktriangleright$  / II, I, and  $\Box$  buttons on the front panel. Press again to release.

SUBTITLE (....): Selects a subtitle language.

**REPEAT:** Repeat chapter, title. **A-B:** Repeat sequence.

**ANGLE (**<sup>⊕</sup><sub>a</sub>**):** Selects a disc camera angle, if available.

#### . . . . . 2 . . . .

**Colour Buttons:** Use these buttons as indicated by the video display during BD-ROM disc playback

**DISPLAY:** Accesses On-Screen Display.

**DISC MENU:** Accesses menu on a disc.

**TITLE:** Displays the disc's title menu, if available.

#### $\blacktriangleleft / \triangleright / \blacktriangle / \blacktriangledown$

(left/right/up/down): Selects an option in the menu.

**ENTER (O):** Acknowledges menu selection.

RETURN (5): Exits the menu. CLEAR: Removes a mark on the Marker Search menu or a number when setting the password. POP UP: Displays the disc's popup menu, if available. (BD-ROM only) SETUP: Accesses or exits the Setup menu.

• • • • • 3 • • • •

(STOP): Stops playback.
 (PLAY): Starts playback.
 (PAUSE/STEP): Pauses playback.
 / >> (SCAN): Search

backward or forward. I◄◀ / ►►I (SKIP): Go to next or previous chapter.

••••• 4 •••• TV Control Buttons: See page 23.

0-9 numerical buttons: Selects numbered options in a menu. RESOLUTION: Sets the output resolution for HDMI and COMPONENT VIDEO OUT jacks.

\* buttons are not available.

# **Remote Control Operation**

Point the Remote Control at the remote sensor and press the buttons.

#### Caution

Do not mix old and new batteries. Never mix different types of batteries (standard, alkaline, etc.).

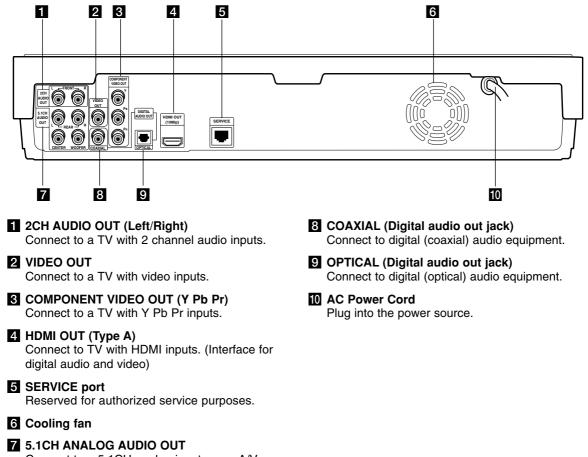
#### **Remote Control Battery Installation**



Remove the battery cover on the rear of the Remote Control, and insert two R03 (size AAA) batteries with ● and ● matched correctly.

# Installation and Setup

**Rear Panel** 



Connect to a 5.1CH analog input on an A/V Amplifier/Receiver.

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## **HDMI** connection

If you have a HDMI TV or monitor, you can connect it to this player using a HDMI cable.

- 1. Connect the HDMI jack on the player to the HDMI jack on a HDMI compatible TV or monitor (H).
- 2. Set the TV's source to HDMI (refer to TV's Owner's manual).

#### Notes:

- If your TV is NOT capable of handling 96 kHz sampling frequency, set the [Sampling Freq.] option to [48 kHz] on the setup menu (See page 17). When this choice is made, this unit will automatically convert any 96 kHz signals to 48 kHz so your system can decode them. (See page 17)
- If [SPDIF] option is set to [Bitstream] on the setup menu and your TV does not support Bitstream Audio out in HDMI connection, audio sound may be distorted or may not output. In this case, set the [SPDIF] option to [PCM] in the setup menu. (See page 17)
- Dolby Digital Plus and DTS-HD capability limited to 5.1 channels.
- Dolby TrueHD processing for two channels only.
- If a title or disc is recorded in a resolution lower than 1080p, the output resolution is automatically changed to no higher than 1080i (even if 1080p is selected in the menu).
- The arrow on the cable connector body should face up for correct alignment with the connector on the player.



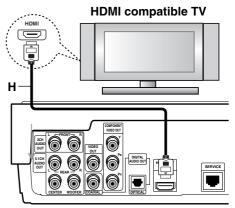
#### (Type A)

#### Tip:

When you use HDMI connection, you can change the resolution for the HDMI output. (Refer to "Resolution Setting" on page 15.)

#### Cautions

- Changing the resolution when the connection has already been established may result in malfunctions. To solve the problem, turn off the player and then turn it on again.
- When the HDMI connection with HDCP is not verified, a message appears on TV screen. In this case, check the the HDMI connection, or disconnect the HDMI cable.
- If there is noise or lines on the screen, please check the HDMI cable (length is generally limited to 15ft).



Rear of the player

#### About HDMI

HDMI (High Definition Multimedia Interface) supports both video and audio on a single digital connection for use with DVD Players, Set-Top Boxes, and other AV devices.

HDMI was developed to provide the technologies of HDCP (High-Bandwidth Digital Contents Protection). HDCP is used to protect digital content transmitted and received.

HDMI has the capability to support standard, enhanced, or high-definition video plus standard to multi-channel surround-sound audio, HDMI features include uncompressed digital video, a bandwidth of up to 5 gigabytes per second, one connector (instead of several cables and connectors), and communication between the AV source and AV devices such as DTVs.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI licensing LLC.

#### Additional Information for HDMI

- When you connect a HDMI or DVI compatible device make sure of the followings:
  - Try switching off the HDMI/DVI device and this player. Next, switch on the HDMI/DVI device and leave it for around 30 seconds, then switch on this player.
  - The connected device's video input is set correctly for this unit.
  - The connected device is compatible with 720x576p, 1280x720p, 1920x1080i or 1920x1080p video input.
     1920x1080p is available only on BD-ROM / HD DVD recorded in 1080p.
- Not all HDCP-compatible DVI devices will work with this player.
  - The picture will not be displayed properly with non-HDCP device.
  - This player does not playback and a message appears on TV screen.

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# **Connections to Your TV**

 Make one of the following connections, depending on the capabilities of your existing equipment.

#### Tips

- Depending on your TV and other equipment you wish to connect, there are various ways you could connect the player. Use only one of the connections described below.
- Please refer to the manuals of your TV, Stereo System or other devices as necessary to make the best connections.

#### Caution

- Make sure the player is connected directly to the TV. Tune the TV to the correct video input channel.
- Do not connect the player's AUDIO OUT jack to the phono in jack (record deck) of your audio system.
- Do not connect your player via your VCR. The DVD image could be distorted by the copy protection system.

#### **Component Video Connection**

Connect the COMPONENT VIDEO OUT jacks on the player to the corresponding input jacks on the TV using Y Pb Pr cables (C).

#### Tip:

When you use COMPONENT VIDEO OUT connection, you can change the resolution for the output. (Refer to "Resolution setting" on page 15.)

#### **Video Connection**

Connect the VIDEO OUT jack on the player to the video in jack on the TV using a video cable (V).

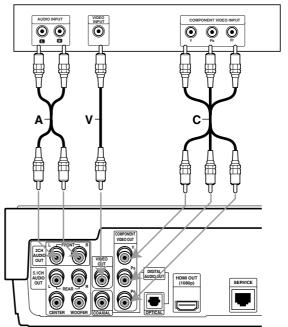
#### Audio (Left/Right) Connection

Connect the left and right AUDIO OUT jacks of the player to the audio left and right IN jacks on the TV using the audio cables (A). Do not connect the player's AUDIO OUT jack to the phono in jack (record deck) of your audio system.

#### Note:

For this audio connection, set the [Speaker Out] option to [2CH] on the setup menu. (See page 17.)





Rear of the player

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## **Connecting to an Amplifier**

#### Connecting to an amplifier equipped with two channel analog stereo or Dolby Pro Logic II/ Pro Logic

Connect the Left and Right AUDIO OUT jacks on the player to the audio left and right in jacks on your amplifier, receiver, or stereo system, using audio cables (**A**).

#### Connecting to an amplifier equipped with two channel digital stereo (PCM) or to an Audio/ Video receiver equipped with a multi-channel decoder (Dolby Digital<sup>™</sup>, MPEG 2, or DTS)

- Connect one of the player's DIGITAL AUDIO OUT jacks (OPTICAL O or COAXIAL X) to the corresponding in jack on your amplifier. Use an optional digital (optical O or coaxial X) audio cable.
- 2. You will need to activate the player's digital output. (See "Audio Menu" on pages 17.)

#### Notes:

- Dolby Digital Plus and DTS-HD capability limited to 5.1 channels.
- Dolby TrueHD processing for two channels only.

#### **Digital Multi-channel sound**

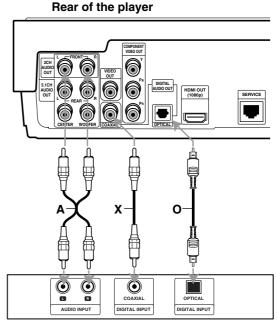
A digital multi-channel connection provides the best sound quality. For this you need a multi-channel Audio/Video Receiver that supports one or more of the audio formats supported by your player (MPEG 2, Dolby Digital and DTS). Check the receiver manual and the logos on the front of the receiver.

#### Cautions:

- Due to the DTS Licensing agreement, the digital output will be in DTS digital out when DTS audio stream is selected.
- Digital multi channel of the Dolby Digital, Dolby Digital Plus and True HD is output with Dolby Digital.

#### Notes:

- If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.
- Six Channel Digital Surround Sound via digital connection can only be obtained if your receiver is equipped with a Digital Multi-channel decoder.
- To see the audio format of the current disc in the on-screen display, press AUDIO.

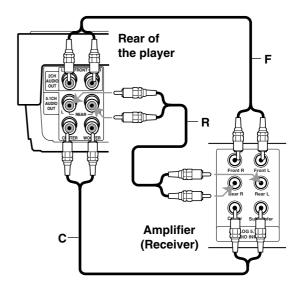


**Amplifier (Receiver)** 

Analog connection to a multi-channel A/V receiver with 6 Channel connectors (Dolby Digital, DTS): This player contains a multi-channel decoder.

This enables playback of discs recorded in Multichannel Surround without the need for an optional decoder.

For this audio connection, set the [Speaker Out] option to [5.1CH] and make the appropriate [5.1 Speaker Setting] option on the setup menu. (See page 18.)



# **Resolution Setting**

The player provides several output resolutions for HDMI and COMPONENT VIDEO OUT jacks. You can change the resolution using SETUP menu or pressing the RESOLUTION button in complete stop mode.

**1080p** – Outputs 1080 lines of progressive video. (only for HDMI connection and BD-ROM/HD DVD discs recorded in 1080p)

1080i - Outputs 1080 lines of interlaced video.

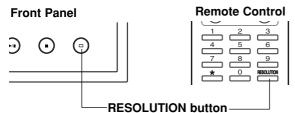
720p - Outputs 720 lines of progressive video.

576p - Outputs 576 lines progressive video.

**576i** – Outputs 576 lines of interlaced video. (Only resolution available on VIDEO OUT, not available on HDMI connection)

# How to change the resolution using RESOLUTION button

Press RESOLUTION button on the Remote Control or front panel in complete stop mode.



# How to change the resolution using Setup menu

- 1. Press SETUP in complete stop mode. The Setup menu appears.
- Use ▲ / ▼ to select [Display] option then press ► to move to the second level.
- Use ▲ / ▼ to select the [Resolution] option then press ► to move to the third level.



4. Use ▲ / ▼ to select the desired resolution then press ENTER to confirm your selection.

# Available resolution according to connection

#### **HDMI** connection

- BD-ROM / HD DVD playback: 1080p, 1080i, 720p and 576p are all available.
- DVD playback: 1080i, 720p and 576p are available.
- If the HDMI jack is connected for TVs providing display information (EDID), you can not select resolutions that the TV does not accept.
- If a title or disc is recorded in a resolution lower than 1080p, the output resolution is automatically changed to no higher than 1080i (even if 1080p is selected in the menu).
- 576i is not available.

#### **COMPONENT VIDEO OUT connection**

- BD-ROM / HD DVD / DVD playback: 1080i, 720p, 576p and 576i are available.
- The resolution may be limited depending on the title in BD-ROM and HD DVD.
- However, resolutions not supported by the TV are unavailable.
- If the disc is copy protected, the resolution will be changed to 576i automatically.

#### **VIDEO OUT connection**

 BD-ROM / HD DVD / DVD playback: The resolution of the VIDEO OUT jack is fixed to 576i.

#### Notes:

- Only resolutions supported by the TV are available.
- Depending on your TV, certain HDMI output resolutions may not work.
- If your TV does not accept your resolution setting, an abnormal picture appears on the screen. Please read TV's owner's manual then set the resolution that your TV can accept.

#### Note for 1080p resolution

The LG Super Multi Blue player is able to provide a 1080p full HD image to most 1080p-capable TVs in the market today.

However, there are some 1080p TVs available from certain companies that are limited in the types of 1080p images that can be accepted. Specifically, 1080p-capable TVs that only accept images in 50/60Hz can display an image from this player in 1080i resolution.

# **Initial Settings**

By using the Setup menu, you can make various adjustments to items such as picture and sound. You can also set a language for the subtitles and the Setup menu, among other things. For details on each Setup menu item, see pages 16 to 19.

#### To display and exit the Menu:

Press SETUP to display the menu in complete stop mode. A second press of SETUP will take you back to initial screen.

#### To go to the next level:

Press ► on the Remote Control.

#### To go back to the previous level:

Press ◀ on the Remote Control.

#### **General Operation**

1. Press SETUP in complete stop mode. The Setup menu appears.



- Use ▲ / ▼ to select the desired option then press
   ▶ to move to the second level. The screen shows the current setting for the selected item, as well as alternate setting(s).
- 3. Use ▲ / ▼ to select the second desired option then press ► to move to the third level.
- Use ▲ / ▼ to select the desired setting then press ENTER to confirm your selection. Some items require additional steps.
- 5. Press RETURN, SETUP, or PLAY to exit the Setup menu.

#### **Display Menu**



#### **TV Aspect**

**4:3** – Select when a standard 4:3 TV is connected. (4:3 can be affected only when the resolution is 576i or 576p.)

**16:9** – Select when a 16:9 wide TV is connected.

#### **Display Mode**

Display Mode setting is available only when the TV Aspect mode is set to [4:3].

**Letterbox** – Displays a wide picture with bands on the upper and lower portions of the screen.

**Pan Scan** – Automatically displays the wide picture on the entire screen and cuts off the portions that do not fit.

#### Notes:

- Display Mode may not be supported on a HD DVD title.
- The Pan Scan option does not operate during BD-ROM playback.

#### Resolution

Sets the output resolution of the Component and HDMI video signal.

The number in 576i, 576p, 720p, 1080p and 1080i indicates the number of lines of video. The "i" and "p" indicate interlaced and progressive scan, respectively.

**1080p** – Outputs 1080 lines of progressive video. (only for HDMI connection and BD-ROM/HD DVD discs recorded in 1080p)

1080i - Outputs 1080 lines of interlaced video.

720p – Outputs 720 lines of progressive video.

576p – Outputs 576 lines progressive video.

**576i** – Outputs 576 lines of interlaced video. (COMPONENT and VIDEO OUT jack only)

#### Note:

Refer to "Resolution Setting" on page 15 for details about the resolution.

#### Language Menu



#### **Display Menu Language**

Select a language for the Setup menu and onscreen display.

#### Disc Menu / Audio / Subtitle Language

Select the language you prefer for the audio track (disc audio), subtitles, and the disc menu.

**Original** – Refers to the original language in which the disc was recorded.

**Other** – To select another language, press number buttons then ENTER to enter the corresponding 4-digit number according to the language code list on page 26. If you make a mistake while entering a number, press CLEAR repeatedly to delete numbers one by one then correct it.

Off (for Disc Subtitle) - Turn off Subtitle.

#### Audio Menu

Each DVD disc has a variety of audio output options. Set the player's Audio options according to the type of audio system you use.



#### SPDIF (Digital Audio Output)

**Bitstream** – Select [Bitstream] if you connect this unit's DIGITAL OUT jack to an A/V Receiver or other equipment with a Dolby Digital, DTS or MPEG decoder.

PCM (for Dolby Digital / MPEG / DTS) – Select when connected to a two-channel digital stereo amplifier. DVDs encoded in Dolby Digital, DTS or MPEG will be automatically downmixed to two channel PCM audio.

#### Notes:

- With digital audio connection, Disc Menu button sounds may not be heard if the [SPDIF] option is set to [Bitstream]. (BD-ROM)
- In Bitstream mode, this player does not support DTS-HD audio on some HD DVD and abnormal audio will output from audio out jack. To listen to the DTS-HD audio, you must set the [SPDIF] option to [PCM].
- On Bitstream mode, MPEG audio on DVD will output with PCM.

#### Sampling Freq. (Frequency)

If your A/V Receiver or Amplifier is NOT capable of handling 96 kHz signals, select 48 kHz. When this choice is made, this unit automatically converts any 96 kHz signals to 48 kHz so your system can decode them.

If your A/V Receiver or Amplifier is capable of handling 96 kHz signals, select 96 kHz.

Check the documentation for your A/V Receiver or Amplifier to verify its capabilities.

#### Speaker Out

To select various parameters for the analog 5.1 channel output.

**2CH** – When a 2 channel stereo system is connected to this player.

**5.1CH** – When a 5.1 channel surround system is connected to this player.

#### 5.1 Speaker Setting

The 5.1 Speaker Setting option is only available when the [Speaker Out] option is set to [5.1CH]. Select speaker settings, including speaker size, or test the speaker settings.

Speaker settings are only active on the Analog Multi-Channel Output. (See [5.1 Speaker Settings] on the next page.)

#### 5.1 Speaker Setting

Make the following settings for the built-in 5.1 channel surround decoder.



- 1. Press SETUP. The setup menu appears.
- Use ▲ / ▼ to select the [Audio] option then press
  ▶ to move to the second level.
- Use ▲ / ▼ to select the [5.1 Speaker Setting] option then press ► to move to the third level.
- 4. Use  $\triangleleft$  /  $\blacktriangleright$  to select the desired speaker.
- 5. Adjust options using  $\blacktriangle / \blacktriangledown / \blacklozenge / \blacklozenge$  buttons.
- Press ▲ / ▼ repeatedly to return to the previous menu screen.

#### Speaker selection

Select a speaker that you want to adjust. (Front Left Speaker, Centre Speaker, Front Right Speaker, Rear Right Speaker, Rear Left Speaker, or Subwoofer.)

#### Size

Press ◀ / ► to set a mode. (Large, Small or None)

If you have connected the system to a speaker with a low frequency of 100Hz or below, select [Large].

If you have connected the system to a speaker without a low frequency of 100Hz or below, select [Small]. If you have not connected a subwoofer, always select [Large] for Front speaker (L/R).

When you do not have a certain speaker connected, select [None].

Front L/R speaker's size can be set to [Large] or [Small].

If Front L/R speaker's size is set to [Small], Rear and Centre speaker's size can only be set to [Small] or [None].

Subwoofer's size can be set only to [Large] or [None]. Select [None] to disable the subwoofer speaker. (This option can only be selected when the Front (L+R) speakers are set to Large.)

#### Test

Select [All] using  $\blacktriangleleft$  /  $\blacktriangleright$  to test the signals of each speaker.

Front Left (L)  $\rightarrow$  Centre  $\rightarrow$  Front Right (R)  $\rightarrow$  Rear Right (R)  $\rightarrow$  Rear Left (L)  $\rightarrow$  Subwoofer

Adjust the volume during operation of the test tone on the Amplifier or A/V Receiver, so that all speaker's volumes are the same from the listener's position.

#### Note:

If a speaker's sound is not heard, change the speaker's size setting.

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#### Lock Menu (Parental Control)



#### Rating

Blocks playback of rated DVDs based on their content. (Not all discs are rated.)

- Select [Rating] on the Lock menu then press ▶.
- 2. To access the [Lock] options, you must input the password you have created. If you have not yet entered password, you will be prompted to do so. Input a password and press ENTER. Enter it again and press ENTER to verify. If you make a mistake before pressing ENTER, press CLEAR.
- Select a rating from 1 to 8 using the ▲ / ▼ buttons.

**Rating 1-8:** Rating one (1) has the most restrictions and rating eight (8) is the least restrictive.

**Unlock:** If you select unlock, parental control is not active and the disc plays in full.

4. Press ENTER to confirm your rating selection, then press SETUP to exit the menu.

#### Set Password

You can enter or change the password.

- 1. Select [Set Password] option on the Lock menu then press ►.
- 2. To create new password, press ENTER when the [New] option is highlighted. Input new password and press ENTER. Enter it again and press ENTER to verify.

To change the password, press ENTER when the [Change] option is highlighted, then input old password and press ENTER. Input new password and press ENTER. Enter it again and press ENTER to verify.

To delete the password, select [Delete] option then press ENTER, then input old password and press ENTER. The password is deleted.

3. Press SETUP to exit the menu.

#### If you forget your password

If you forget your password, you can clear it using the following steps:

- 1. Remove any disc that might be in the player, or open the disc tray.
- 2. Press SETUP to display the Setup Menu and select the Lock Menu.
- 3. Press ENTER when the [Change] option is highlighted, then input the 6-digit number "210499" and press ENTER. Pressing the ◄ button to highlight the [Set Password] option will complete the password clearing process.

#### Area Code

Enter the code of the area whose standards were used to rate the DVD video disc, based on the list on page 26.

- Select [Area Code] on the Lock menu then press ►.
- 2. Follow step 2 as shown left (Rating).
- 3. Select the first character using  $\blacktriangle$  /  $\blacktriangledown$  buttons.
- 4. Press ► and select the second character using ▲ / ▼ buttons.
- 5. Press ENTER to confirm your Area code selection.

#### **Others Menu**



#### **Button Sound**

You can hear beep sound when you press a button on the front panel. Set [On] for this effect.

#### Java Application Font Size BD

You can adjust the default text size displayed for the JAVA contents during BD-ROM playback. This setting is only valid when the JAVA contents do not set the size of text.

Please select a font size bigger than 24 when the player is connected with an HD TV.

# **Operations**

# **General playback features**

- 1. Load your chosen disc in the tray, with the playback side down.
- 2. Playback starts.

Buttons	Operations
■ (STOP)	Stops the playback. The unit records the stopped point, depending on the disc. "III■" appears on the screen briefly. Press PLAY (►) to resume playback (from the scene point). If you press STOP (■) again or unload the disc ("■" appears on the screen.), the unit will clear the stopped point. (III■ = Resume Stop, ■ = Complete Stop) <i>Note:</i> The resume point may be cleared when a button is pressed (for
	example; POWER, OPEN/CLOSE, etc).
OPEN / CLOSE (♠)	Opens or closes the disc tray.
II (PAUSE)	During playback, press II to pause playback.
	Press II repeatedly to play Frame-by-Frame.
I≪ / ►►I (SKIP)	During playback, press SKIP (I◄◀ or ►►I) to go to the next chapter or to return to the beginning of the current chapter. Press SKIP I◄◀ twice briefly to step back to the previous chapter.
<ul><li>✓&lt; / ►► (SCAN)</li></ul>	During playback, press SCAN (◀◀ or ►►) repeatedly to select the required scan speed. (5 steps)
	While the playback is paused, press SCAN ►► repeatedly to play in slow motion (4 steps, forward only).
REPEAT	During playback, press REPEAT repeatedly to select a desired repeat mode. (Chapter/Title/Off)
A-B	During playback, each press of A-B button to select point A and point B and repeats a sequence from point A (Starting point) to point B (End point). To cancel the sequence, press A-B.
TITLE <b>DVD HD DVD</b>	If the current DVD and HD DVD disc has a menu, the Title menu appears on the screen. Depending on the disc, the Title Menu may not be available. In this case, the disc menu may appears. (For the HD DVD advanced content title with HDi features, the menu that is supplied by this player is displayed.)
POP UP <b>BD</b>	If the current BD-ROM disc has a menu, the Popup menu appears on the screen. Depending on the disc, the Popup Menu may not be available.
DISC MENU DVD HD DVD	The menu appears on the screen. (For the HD DVD advanced content title with HDi features, the menu that is supplied by this player is displayed.)
BD	The top menu appears on the TV screen.
ANGLE (🕾)	During playback of the disc contains scenes recorded different camera angles, press ANGLE repeatedly to select a desired angle.
SUBTITLE (📼 )	During playback, press SUBTITLE repeatedly to select a desired subtitle language.
AUDIO (∞)	During playback, press AUDIO repeatedly to hear a different audio language or audio track.

#### Notes on general features:

- If you press SKIP (►►) once during Repeat Chapter playback, the repeat playback cancels.
- When you are playing a disc containing scenes recorded different camera angles, the angle indicator will appear on the TV screen for a while and display window during scenes recorded at different angles as an indication that angle switching is possible.
- The REPEAT or A-B button may not work on some discs.
- 20

#### If a disc menu screen is displayed

The menu screen may be displayed first after loading a disc which contains a menu.

Use the  $\triangleleft$  /  $\triangleright$  /  $\triangleright$  /  $\checkmark$  buttons to select the title/chapter you want to view, then press ENTER to start playback.

#### **Time Search**

To start playing at any chosen time on the disc:

- 1. Press DISPLAY during playback.
- Press ▲ / ▼ to select the time clock icon and "--:--" appears.
- 3. Input the required start time in hours, minutes, and seconds from left to right. If you enter the wrong numbers, press CLEAR to remove the numbers you entered. Then input the correct numbers.
- 4. Press ENTER to confirm. Playback starts from the selected time.

#### Note:

This function may not work on some disc or titles.

#### **Marker Search**

#### To enter a Marker

You can start playback from up to nine memorized points. To enter a marker, press MARKER at the desired point on the disc. The Marker icon appears on the TV screen briefly. Repeat to enter up to nine markers.

#### To Recall or Clear a Marked Scene

- 1. During disc playback, press SEARCH. The marker search menu appears on the screen.
- Within 10 seconds, press < / ► to select a marker number that you want to recall or clear.</li>
- Press ENTER and playback starts from the marked scene. Or, Press CLEAR and the marker number is erased from the list.
- 4. You can play any marker by inputting its number on the marker search menu.

#### Notes:

- This function may not work on some disc or titles.
- All marked points are cleared if you press STOP (■) twice or unload the disc. (complete stop).

#### Using Colour Buttons ED

These buttons are available only during BD-ROM's JAVA content playback. Use appropriate colour button as indicated by the JAVA display during BD-ROM disc playback. Depending on the disc contents, the functions of each button may differ.

#### **Screen Saver**

The screen saver appears when you leave the player in Stop mode for about five minutes.

#### **Displaying Disc Information On-Screen**

You can display various information about the disc loaded on-screen.

1. Press DISPLAY to show various playback information.

The items displayed differ depending on the disc type or playing status.

8.	6/11				
and a	1/2				
0	00:00:05				
6	None				
ME	0FF				
ła	1/1				

- During playback, you can select an item by pressing ▲ / ▼ and change or select the setting by pressing ◄ / ►.
  - Title Current title number/total number of titles.
  - Chapter Current chapter number/total number of chapters.
  - Time Elapsed playing time.
  - Audio Selected audio language or channel.
  - Subtitle Selected subtitle.
  - Angle Selected angle/total number of angles.

#### Notes:

- If no button is pressed for a few seconds, the onscreen display disappears.
- A title number cannot be selected on some discs.
- An item may not be available on some discs or titles.

## **Special Features for HD DVD**

#### HD DVD Twin Format Discs HD DVD

If you insert an HD DVD Twin Format Disc with both HD DVD and DVD layers on one side, you must select HD DVD or DVD to start playback.

- 1. Insert an HD DVD Twin Format Disc. The choice menu will appear.
- 2. Select HD DVD or DVD on the menu then press ENTER. The selected playback format begins.

#### Notes:

- You cannot change the format during playback.
- To change the format, press OPEN/CLOSE to open the disc tray then close the disc tray.
- You can only use POWER, ◄ / ►, and ENTER buttons when the choice menu is displayed.

# Using the HD DVD with HDi features

You can change title number, scene number, etc using the HD DVD menu.

 Press DISC MENU or TITLE during HD DVD playback.

The menu will appear.



#### Note:

The above HD DVD menu is displayed only when an HD DVD disc with HDi features is playing.

 Use the ◄ / ► buttons to select an option, then press ENTER.

#### The sub options will appear.

	Title 1	Title 2	Title 3	Title 4
	01:31:50	00:01:59	00:01:06	00:02:44
Pause	Title	Scene	Subtitle	Audio

- Play / Pause Starts playback / pauses playback.
- Title Selects a title on a disc. You cannot select a title whose number is shown a gray colour because the title is recorded with black by contents providers. It is normal.
- Scene Selects a scene in a title.
- Subtitle Selects a subtitle language.
- Audio Selects an audio language, for playback only.
- Use the ◄ / ▶ buttons to select a sub option, then press ENTER to acknowledge the selection.

#### Multi Title List function HD DVD

Some HD DVD with HDi features has several Title Lists. In this case, you can select one of the Title Lists using [More Title List] option in the HD DVD menu.

1. Press DISC MENU or TITLE during HD DVD playback.

The HD DVD menu will appear.

- Use < / ► buttons to select [Title] option then press ENTER.
- Use < / ► to select [More Title List] option then press ENTER.



4. Select a Title List then press ENTER.



The playback starts from the beginning of the selected Title List.

# Special Features for BD-ROM BD Hybrid Discs ED

If you insert an BD Hybrid Discs having both BD and DVD layers on one side, you must select BD or DVD to start playback.

- 1. Insert a BD Hybrid Disc. The choice menu will appear.
- 2. Select BD or DVD on the menu then press ENTER. The selected playback format begins.

#### Notes:

- You cannot change the format during playback.
- To change the format, press OPEN/CLOSE to open the disc tray then close the disc tray.
- You can only use POWER, ◄ / ►, and ENTER buttons when the choice menu is displayed.

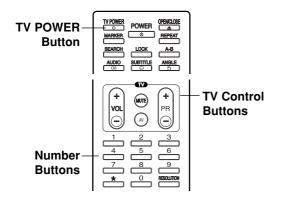
(22)

# Reference

# Controlling an LG TV with the Supplied Universal Remote Control

You can control the volume, input source, and power state of your LG TV with the supplied Universal Remote Control.

You can control your TV using the buttons below.



By pressing	You can
TV POWER	Turn the TV on or off.
AV	Switch the TV's input source between the TV and other input sources.
PR +/-	Scan up or down through memorized channels.
VOL +/-	Adjust the volume of the TV.
MUTE	Temporarily turns TV sound OFF, press again to restore.

#### Note:

Depending on the unit being connected, you may not be able to control your TV using some of the buttons.

# Controlling other TVs with the Universal Remote Control

You can control the volume, input source, and power state of non-LG TVs as well. If your TV is listed in the table on the next page, set the appropriate manufacturer code.

- While holding down TV POWER button, press the number buttons to select the manufacturer code for your TV (Refer to table on the next page).
- 2. Release TV POWER button.

#### Notes:

- Depending on your TV, some or all buttons may not function on the TV, even after entering the correct manufacturer code.
- If you enter a new code number, the code number previously entered will be erased.
- When you replace the batteries of the remote, the code number you have set may be reset to the default setting. Set the appropriate code number again.

### Code numbers of controllable TVs

If more than one code number is listed, try entering them one at a time until you find the one that works with your TV.

ADYSON         159         219         192         246         021022           AKAI         009         010         010         108         021022         021022           AKAI         109         100         108         021022		CODES	BRANDS	CODES	BRANDS	CODES
AKAI         009 010 108 132 133 135 139 140 156 171 175         ELBIT         108 245 108 245         028 029 02 030 40 04           AKUBA         166 174 175         ELECTROVENIKA         108         03 064 04         03 064 04           AKUBA         664 066 108 110         ELECTROVENIKA         108         03 064 04         03 064 04           ALBA         009 060 064         ELMAIN         144         143 145 14         143 145 14           ALLSTAR         108 000 064         ELMAIN         106 204         117 156 159 17           AMWAY         108 025 157         ERON         106 204         117 156 159 17           AMWAY         108 025 1257         ERON         106 204         117 175 239           ATKATIC         694 172 179 239         FRANDT         117 175 239         114 150 16           ALDOPONCX         159 163 177         ERGUSON         770 070 060 160         117 159 189 23           ALADIO CONCX         159 163 177         ENNER         114 159 161 174         116 170 210           ADIOLOVOX         159 163 179         ERON         168 129 159         117 141 146 159           ADIOVOX         159 163 179         ENNER         171 170         117 141 146 159           BESTAR         250 066 108	ADMIRAL	137 204	ELBE	058 144 157 160	HITACHI	011 013 015 0
133         135         139         140         ELECTROVIENDA         108         039         040         045           AKURA         064         066         108         108         053         063         053         <	ADYSON	159 219		192 246		021 022 023 02
156         174         175         ELEKTFONIKA         108         063 064 06         064 06         066 06         064 06	AKAI	009 010 108 132	ELBIT	108 248		028 029 030 03
156         174         175         ELEKTFONIKA         108         063 064 06         064 06         064 06         064 06         064 06         064 06         064 06         064 06         064 06         064 06         064 06         064 06         064 06         066 06         06		133 135 139 140	ELECTROVENDA	108		039 040 041 04
KKUPA         064 066 108 110         ELIN         108         057 120 12           LIBA         009 060 064         ELTA         010 171         129           KLUSTAR         008 062 157         ELTA         010 171         156 171           MMSTRAD         006 025 157         EMERSON         108 204         129           MWWAV         010 049 108 185         ESC         108         171         156 159 17           NITECNO         064 149         EXPERT         089         171         108 129 159 161 197           NTECNO         664         200 201 202         100 170         109 159 16         171           SSBERG         185         108 197         200 201 202         100 170 108         103 143 134 12           SSGRA         171         FINLUX         068 270 222 233         100 170 108 120         101 108 120 120           SESTAR         066 70 91 092 096         FISHER         144 159 161 174         144 166         1173 157 225 239         1171         141 151 15         1144 166         1171         141 151 16         1171         141 151 16         133 147 12         144 159 161 172         144 159 161 172         1171         141 151 16         144 166         1172         144 166         1170 179						053 054 055 0
LIBA         165 171         ELITE         064 149         129 134 15 14           ALLSTAR         108         144         143 145 14         143 15 14           MINARTRAD         006 025 157         ELIMAN         144         143 15 14           MWWW         108 205 157         ELIMAN         144         143 15 14           MWWW         108 205 157         ELIMAN         144         143 15 14           MWWW         108 205 157         ELITE         010 171         156 197           MWWW         108 205 157         ELIRON         133         116 197           NITECH         009 108 05         133 141 15         128 09 010 05           SA         236         158 197         144 159 1197         144 159 1197           SA         236         158 197         144 159 1174         159 189 22 233           SILAUPUNKT         031 091 092 096         FIRST-LINE         168 171 1220         171 1185 1174           SISCH         230         FIRABA         168 171 1220         171 141 157 12           SIGNADT         173 179 225 239         GALARIS         168 171 1220         171 141 157 14           SIGNOSTEC         163 139 144         169 1970         144 159 167         144 159						
LEA         009         060         064           MWWAY         108         ELTA         010         171         156         157           MWWAY         108         219         ELTA         010         171         156         157           MWWAY         108         219         EXEC         108         219         171         156         171         156         171         156         171<						
LLSTAR         108           LLSTAR         108           MWSTRAD         006 025 157           MWWAV         108         204           AMWAV         108         203           AMWAV         108         203           AMWAV         108         133           LESTAR         068         171         151 185           SSBERG         183         108         105 107 108 140           SKA         226         1105 107 108 140         114 161 14           SANX         232         233         1144 163 1174           SETAR         086 08         702 102 11         1175 009 010 06           SETAR         068 09 210         1171 108 129 127         1175 009 010 06           SCRAD         171 179 225 239         144 165 11 143         166 171 128         171           SCRAD						
MNSTRAD         006         025         157         EMERSON         108         204           NNTECH         010         049         108         108         107         108         107         108         107         108         107         108         107 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
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219         EUROPHON         144 159         171           ANTECNO         064         EVPERT         069         171         44 159           ARC EN CIEL         173 179 239         FERNER         171         144 159         144 154 16           ASA         087 102 108 235         182 195 198 199         108 109         104 154 108         144 159           ASDRA         171         171         106 107 108 109         107 102 104         108 109           ASDRA         171         107 108 109         200 201 202         INTERBUY         108 109 109 2036           FINLANDIA         136 109 109 2096         FISHER         168 203 222 233         INTERVISION         100 108 1174           SUAUPUNKT         031 091 092 096         FISHER         046 085 086 108         FIRST-LINE         144 159         1172         1174 1161 144 164           SONDSTEC         163         109 109 2096         FINLINU 08 108 109         1171 108 1174         1144 159 163 1192         1171 1185         1171 114 114 144 169         1171 114 1151         1171 1151         1171 114 1151         1171 1151         1171 1151         1171 1151         1171 1151         1171 1151         1171 1151         1171 1151         1171 1151         1171 1151         1171 1151 <td< td=""><td></td><td></td><td></td><td></td><td></td><td>009 159 163 1</td></td<>						009 159 163 1
NNTECNO         064         EXPERT         089         IMPERIAL         043 dv9 10           ARC EN CIEL         173 179 239         FENNER         171         INGENSOLL         171           ASA         236         182 195 198 199         182 195 198 199         INRO HIT         199 23           SSBERG         185         200 201 202         INTERFUNK         108 199 11         INTERFUNK         108 199 12           AUTOVOX         159 163 197         FINLANDIA         144 159 161 174         189 235 236         INTERFUNK         108 199 11           SECO         250         FIRST-LINE         144 159 161 174         165 171 220         INTERVISION 100 88 171 220           SIDNOSTEC         163 171 220         FROMTECH         136 171 220         ITT         141 151 18           SOSCH         210         FENDARCH         168 171 141 71         KAPSCH         680 191 77           SIGNAVEGA         204         133 193 144         159 197         173 179 225 239         ITT         141 151 18           SOSCH         210         FENERAL         171 141 71         KAPSCH         689 147 144 164           SENTURY         165 204         GELOSO         664 137 144 171         KAPSCH         689 147 144 164 <t< td=""><td>ANITECH</td><td>010 049 108 185</td><td></td><td>133</td><td>ICE</td><td>009 010 064 1</td></t<>	ANITECH	010 049 108 185		133	ICE	009 010 064 1
ARC EN CIEL       173 179 239       144 154 16         SAA       087 102 108 235       182 195 198 199       106 185 1171         SABERG       185       200 201 202       INTERBUY       101 115 198 23         SANK       200 201 202       INTERBUY       INTERBUY       101 199 23         SANK       200 201 202       INTERBUY       INTERPUNK       108 109 199 23         SANK       220       200 201 202       INTERPUNK       108 109 109 2086         FISHER       144 159 161 174       144 159 161 174       114 164 16         SANK       220 201 202       INTERPUNK       108 109 109 2086       INTERVISION       101 086 10         SANK       220       FISHER       086 208 222 233       INTERVISION       101 086 10         SANK       220       FISHER       086 208 222 233       INTERVISION       101 086 10         SANK       201 001 02 206       FRABA       103 01 192 206       FRABA       103 119 11       114 154 16         SANK       230       091 092 085 081 08       FRANDI       117 108 149 191       114 154 16       114 154 16       114 154 16       114 154 16       114 154 16       114 154 16       115 141 16       114 154 16       114 154 16       114 154 16       115 16 </td <td></td> <td>219</td> <td>EUROPHON</td> <td>144 159</td> <td></td> <td>171</td>		219	EUROPHON	144 159		171
SA         087 102 108 235         FERGUSON         078 079 080 160         INGERSULL         171           SSDRA         171         1         1         12 195 198 199         10NO HIT         159 163 23           ATLANTIC         089 197         1010 SONIC         159 163 197         1011 105         1011 105         1011 105         1011 107         1011 105         1011 107         1011 105         1011 107         1011 105         1011 107         1011 105         1011 107         1011 105		064	EXPERT	089	IMPERIAL	043 049 108 1
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SSERG         185         200 201 202         INTERCPD         101           SORA         171         FINLANDIC         101			TENGOODIN			
SORA         171         FINLLANTIC         194         195         INTERCORD         233           VLDIOSONIC         085         102         105         107         108         104         133         134         197           JANK         250         144         159         161         174         165         179         144         159         161         174         165         179         144         165         172         144         165         179         163         165         179         164         168         171         141         159         168         171         171         171         171         168         166         171         171         168         168         171         168         168         171         168         168         171         168         168         171         171						
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UUTOVOX         159         163         197           SANK         232         144         159         163           SEKO         250         171         144         159           SESTAR         086         144         165         179           SLAUPUNKT         031         091         092         096         086         144         166           253         097         098         092         144         159         171         144         150           3OSCH         210         253         FRONTECH         136         171         200         175         009         010         06         136         144         159         197         144         150         171         144         150         171         144         150         157         009         010         06         136         137         141         110         129         171         141         141         161         171         141         141         161         160         160         160         160         160         160         160         160         171         160         160         160         160         160 <td< td=""><td></td><td></td><td>FINLUX</td><td></td><td>INTERFUNK</td><td>108 109 113 1</td></td<>			FINLUX		INTERFUNK	108 109 113 1
JANK         232         189 235 236         165 179 21           JEKO         045 086 086 108         jirst-Line         144         jirst-Line         144           JESTAR         086         250         jirst-Line         144         165 179 21         144 159           JAUPUNKT         031 091 092 096         jirst-Line         jirst-Line         144         165 179 21         144 159           JONDSTEC         163         097 098 099 210         jirst-Line         jirst-Line         144 159         173 009 100 068 10         173 009 100 069 107         009 010 068 10         173 009 110 163 235 23         144 159         173 009 110 163 235 23         144 159         173 009 110 163 235 23         144 159         173 009 110 163 235 23         144 159         173 009 110 068 10         173 173 109 125 239         000 010 010         KAPCHER         089 147 115         144 159         173 169         171 144 171         KAPCHER         089 147 14         164 171 125         KAPCHER         089 147 14         164 179 144         171 185         186 210 71 144 171         186 210 71 144 171         186 2167 137 144 164         KAPCHER         089 147 145         166 171 127         KAPCHER         080 108 108 100         166 217 145         166 171 127         166 171 127         171 185         166 171 121 111						133 134 135 1
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250         FISHER         086 208 222 233         144 166           SLAUPUNKT         031 091 092 096         FRABA         108         IRADIO         163 235 22           097 098 099 210         253         FRABA         108         ITC         144 166           00NDSTEC         163         FUBA         073 109         ITC         144 151           00NDSTEC         163         FUJAN         100         KAIND         171         141 151         152           00NDSTEC         163         GALAXIS         108 185         KAND         100         KAIDO         136           SRANDT         173 179 225 239         GALAXIS         108 185         KAPSCH         089 147 14           SICH         244         GEC         137 144 171         KARCHER         084 108           GCL         137 144 171         KARCHER         084 108         KAND         109           SE         163 159 144         159 189         KAND         009         168         KAND         009           SE         163 165 210         GE         GE         171         KONKA         009         KAND         009         162         162         164 159 163         164 159 163         KO	BEKO		FIRST-LINE		INTERVISION	010 086 108 1
EESTAR         086         FRADR         Instant         Instant <thinstant< th=""> <thinstant< th=""> <thinstant<< td=""><td></td><td></td><td>FISHER</td><td></td><td></td><td></td></thinstant<<></thinstant<></thinstant<>			FISHER			
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253         FUBA         073         109         ITT         141         151         15           XADDY         210         FUINAL         088         159         197         XADO         136         XADO         XADO         XADO         XADO<	DLAUFUNKI					
GONDSTEC         163         FUITSU GENERAL 088 159 197         JVC         009 169           GOSCH         210         GALAXIS         1010         KAIDO         136           SIGNONVEGA         204         GALERIA         171         KAPCHER         089 147 14           SIGNONVEGA         204         GBC         137 144 171         KAPSCH         089 147 14           SIGNONVEGA         204         GEC         137 144 171         KATHREIN         109           SIGNONVEGA         204         GEC         137 144 171         KATHREIN         109           SIGNONVEGA         204         GELOSO         144 171         KATHREIN         109           SIGE         139 165 210         GENERAL         171         KAWA         009           CALATRONIC         009 010 064 108         GOLDHAND         159 171         KORTING         066 204 20           CARIVOX         033         166 171 185         136 144 159 163         KUBA         133           CARIVOX         033         106 171 192 19         237         IGOODMANS         009 064 108 109         IGO         101 (Defaul           CONTINENTAL         173 179 225 239         GOODMANS         029 093 094         IJA         IS2						
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BRANDT       173 179 225 239       GALAXIS       108 185       KAPSCH       089 147 14         SELECTRONIQUE       GALAXIS       108 185       KARCHER       084 108         SIRIONVEGA       204       GBC       137 144 171       KARCHER       084 108         SIRIONVEGA       204       GBC       137 144 171       KARCHER       084 108         SIRIONVEGA       204       GEC       137 144 171       GEC       11 108 129 147         SIRIONVEGA       232       GELOSO       064 137 144 169       KATHEIN       109         CALAXIS       165 170       GELOSO       064 108       KATHEIN       109         CALAXIS       165 171 185       136 144 159 163       KORTING       086 204 20         CALAXIS       166 171 191 219       237       GOODMANS       009 064 108 109       KUBA ELECTRONIC         CONIC       219       GOODMANS       009 064 108 109       163 170       LGG       0010Efaul         CONIC       219       GOODMANS       009 064 108 109       050 108 110       LGG       0010Efaul         CONTIC       171 122       GOODMANS       009 064 108 109       101 120 159 170       171 191 219       LECCO       108 110       LOGK       070 227	BOSCH	210	FUNAI	010	KAIDO	136
LLECTRONIQUE         GALERIA         171         KARCHER         084 108           SRIONVEGA         204         GBC         137 144 171         GBC         108 129 147           JUSH         009 136 139 144         GEC         1108 129 147         KATHREIN         109           JUSH         232         GELOSO         064 137 144 164         KAWA         009           ZENTURY         165 204         171         KAWA         009           CEE         139 165 210         GELOSO         064 137 144 164         KENNEDY         197           CLARIVOX         039 010 064 108         GOLDHAND         159 171         KONKA         009           CLARIVOX         033         GOLDHAND         159 171         KUBA         133 4           CONTEC         171 222         GOODMANS         009 064 108 109         050 108 110           CONTEC         171 222         100 120 159 170         LESENKOTTER         168 170           CONTEC         171 222         GOODMANS         009 064 108 109         050 108 110           CROSLEY         165 204         GRANADA         027 105 108 110         LOEWE         109 113 20           DAREWO         051 108 120 127         GRUNDIG         091 092 09		173 179 225 239	GALAXIS	108 185	KAPSCH	089 147 148 1
BRIONVEGA       204       GBC       137 144 171       KATHREIN       109         3SR       144       GEC       011 108 129 147       KATHREIN       109         2SR       159 189       GEC       011 108 129 147       KAWA       009         2SENTURY       165 204       171       KAWA       009         2GE       139 165 210       GENERAL       171       KAWA       009         CAL       009 010 064 108       171       KNEISSEL       108         CALARIVOX       033       GOLDHAND       159 171       KONKA       009         CLARIVOX       033       166 171 185       166 171 191 219       KUBA       233         CONTIC       219       GOODMANS       009 064 108 109       US       050 108 110         CONTEC       171 222       GORENJE       086       027 105 108 111       LENCO       108 120 177         CASMOS       108       100 219       171       GORENJE       091 092 093 094       133 143 153 153         CASMOS       108 129 171       GRAAF       108 129 171       LUXOR       102 104 13       102 104 133         DASAI       010 219       101 172 232 238       GRUNDIG       091 092 093 094       13					KARCHER	
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BUSH         009 136 139 144 232         159 189         KENDO         066 108 13           CENTURY         165 204         171         GELOSO         064 137 144 164         KENDO         066 108 13           CEE         139 165 210         GENERAL         171         KRENSEL         108           CLATRONIC         009 010 064 108         GOLDHAND         159 171         KNEISSEL         108           CLARIVOX         033         166 171 191 219         GOLDARN         038 050 108 110         KUBA         233           CONDOR         108 149 191         237         GOODMANS         009 064 108 109         UENCO         108 170           CONTIC         219         GOODMANS         009 064 108 109         UENCO         108 170           CONTINENTAL         173 179 225 239         171         GORENJE         080         050 108 111           COSMOS         108         GRAAF         108 120 127         GRUNDIG         091 092 093 094         104 159 161           DECCAA         070 108 159 161         HIF/VOX         173 179 239         134 135 164 20           DECCAA         070 108 159 161         HIF/VOX         173 179 239         MAGNAADON 199           DUAL         233         204						
232         GELOSO         064 137 144 164         KENNEDY         197           Correct			GLO			
ZENTURY         165 204         171         KNEISSEL         108           CGE         139 165 210         GENERAL         171         KNEISSEL         108           DIE         025 108 170         GENERAL         171         KNEISSEL         108           CLATRONIC         009 010 064 108         GOLDHAND         159 171         KUBA         233           CLARIVOX         033         166 171 191 219         KUBA         233           CONDOR         108 149 191         CONTIC         219         GOODMANS         009 064 108 109           CONTIC         171 222         GOODMANS         009 064 108 109         106 171 191 219         LENCO         108 170           CONTINENTAL         173 179 225 239         171         GORENJE         086         110 120 159 170         144 159 162           COSMOS         108         GRANADA         027 105 108 111         LIFETEC         006 44 108         109 113 202           CSOLELEY         165 204         GRUNDIG         091 092 093 094         LIFETEC         100 104 105           CS-ELECTRONICS 064         170         195 238         GRUNDIG         091 092 093 094         143 135 15           DE GRAAF         108 134         101 02 064 108 133	0030					
CGE         139 165 210         GENERAL         171         KONKA         009           CLATRONIC         009 010 064 108         GOLDATAND         159 171         KORTING         086 204 20           CLATRONIC         009 010 064 108         GOLDATAND         159 171         KUBA         233           CLARIVOX         033         GOLDATAND         159 171         KUBA         233           CONTIC         219         GOODMANS         009 064 108 109         KUBA         136 144 159 163           CONTIC         219         GOODMANS         009 064 108 109         050 108 110         LG 001 (Defaul           CONTIC         171 222         110 120 159 170         171 191 219         LG 0001 (Defaul         050 108 111           CROSLEY         165 204         GORENJE         086         LIFETEC         010 064         LIFETEC         010 064 108 130           CS-ELECTRONICS 064         144 171 185         162 167 187 194         LUXOR         102 104 132           DAEWOO         051 108 120 127         GRUNDIG         091 092 093 094         144 135 152           DE GRAAF         108 134         010 064 108 133         M ELECTRONIC 103 104         143 145 152           DECCA         070 108 159 161         HIFIVOX <td></td> <td></td> <td>GELUSU</td> <td></td> <td></td> <td></td>			GELUSU			
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CLATRONIC         009 010 064 108 144 149 159 164 165 171 185         GOLDHAND         159 171 GOLDSTAR         KUBA         233 KUBA ELECTRONIC         233 KUBA ELECTRONIC           2LARIVOX         033         166 171 191 219         136 144 159 163         KURA         134           2CONDOR         108 149 191         237         166 171 191 219         LENCO         108 170           2ONTIC         219         GOODMANS         009 064 108 109         159 171         LG         001(Defaul           2ONTIRENTAL         173 179 225 239         171         171         171 191 21         171 191 21           COSMOS         108         GPM         010 064         108 111         LIESENKOTTER         108 210           CROSUPY         165 204         GRANADA         027 105 108 111         LOGIK         070 227           144 171 185         162 167 187 194         LUXOR         102 104 13           2AEWOO         051 108 120 127         GRUNDIG         091 092 093 094         134 135 15           162 184 189 190         101 172 232 238         M ELECTRONIC         103 104           DECCA         070 108 159 161         HIFWOX         173 179 239         MAGNASONIC         108           DUAL         233         000		139 165 210			KONKA	
144         149         159         164         165         171         185         038         050         108         110         KUBA ELECTRONIC         233           CARIVOX         033         166         171         191         136         144         159         163         144         159         163         144         159         163         170           CONDOR         108         149         191         237         100         108         109         050         108         170         165         171         191         219         050         108         100         100         100         100         100         100         100         100         100         100         100         100         100         171         173         179         174         143         155         153         174         186         253		025 108 170				086 204 209
144         149         159         164         GOLDSTAR         038         050         108         Ito         KUBA ELECTRONIC         233           CLARIVOX         033         166         171         185         136         144         159         166         171         191         233         166         171         191         237         LENCO         108         170           CONTIC         219         GOODMANS         009         064         108         109         050         108         171	CLATRONIC	009 010 064 108	GOLDHAND	159 171	KUBA	233
165         171         185         136         144         159         136         144         159         136         144         159         136         144         134           CONDOR         108         149         191         237         166         171         191         219         100         108         109         060         064         108         109         165         108         050         108         171 <td></td> <td>144 149 159 164</td> <td></td> <td>038 050 108 110</td> <td>KUBA ELECTRONIC</td> <td></td>		144 149 159 164		038 050 108 110	KUBA ELECTRONIC	
CLARIVOX         033         166 171 191 219         LENCO         108 170           CONDOR         108 149 191         237         LG         001(Defaul           CONTIC         219         GOODMANS         009 064 108 109         050 108 11           CONTEC         171 222         110 120 159 170         144 159 16           CONTINENTAL         173 179 225 239         171         171 191 21           COSMOS         108         GORENJE         086           COSMOS         108         GRANADA         027 105 108 111           CROSLEY         165 204         GRANADA         027 105 108 111           CROSLEY         165 204         GRUNDIG         091 092 093 094           DARSAI         010 219         162 167 187 194         LUXOR         102 104 13           DARSAI         010 219         101 172 232 238         LUXOR         102 104 13           DE GRAAF         108 134         010 064 108 159 171         MAGNADYNE         163 164 20           DUAL         233         171         1171         MAGNASONIC         108           HIT         204         MARANTZ         108         MARANTZ         108           0010 064 108 131 13         009 016 02         0						
CONDOR         108 149 191         237         LG         001(Default           CONTIC         219         GOODMANS         009 064 108 109         171         171 191 21           CONTINENTAL         173 179 225 239         171         171 191 21         171 191 21         171 191 21           COSMOS         108         GORENJE         086         171         171 191 21         171 192 21           COSMOS         108         GPM         010 064         111 120 159 170         171 191 21           COSMOS         108         GRANADA         027 105 108 111         162 167 187 194         162 167 187 194           CORECA         070 108 159 161         170         095 097 098 100         143 135 13           DE GRAAF         108 134         010 064 108 139         101 172 232 238         M ELECTRONIC 103 104           DE CCA         070 108 159 161         HIFIVOX         173 179 239         MAGNADVNE         163 164 20           DUAL         233         171         010 064 108 133         MAGNASONIC         108           DUMONT         204         009 016 02         009 016 02         009 016 02         009 016 02						-
CONIC         219         GOODMANS         009 064 108 109         050 108 11           CONTEC         171 222         110 120 159 170         144 159 16           CONTINENTAL         173 179 225 239         171         171 191 21           CONTONINENTAL         173 179 225 239         171         171 191 21           CONTONINENTAL         173 179 225 239         171         171 191 21           CONTEC         165 204         GORENJE         086           CROSLEY         165 204         GRANADA         027 105 108 111           CROWN         084 085 086 108         121 134 140 159         162 167 187 194           144 171 185         162 167 187 194         100 2104 13           SEELECTRONICS 064         195 238         101 172 232 238           PANSAI         010 219         101 172 232 238         174 186 23           PECCA         070 108 159 161         HIFIVOX         173 179 239           162 184 189 190         171         MAGNASONIC         108           0UMONT         204         171         009 016 02           061 062 06         1071         009 016 02         064           004         203         004         005 010 02						
CONTEC         171 222         110 120 159 170         144 159 160           CONTINENTAL         173 179 225 239         171         171 191 21           COSMOS         108         171         171 0         171 191 21           COSMOS         108         121 134 140 159         162 167 187 194         162 167 187 194           SEELECTRONICS 064         195 238         100 102 19         101 172 232 238         174 186 23           AREWOO         051 108 120 127         095 097 098 100         143 145 15         134 135 13           DECCA         070 108 159 161         HIFIVOX         173 179 239         M ELECTRONIC 103 104           HIT         204         MAGNAFON         199         MAGNASONIC 108           DECCAVIDEO         108         171         009 016 02         064           HIT         204         MARANTZ         108           MARSHAL         064         009 016 02         061 062 06           004         204         009 016			0000044410		LG	
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COSMOS         108         GPM         010 064         LIFETEC         010 064 10           CROSLEY         165 204         GRANADA         027 105 108 111         LOEWE         109 113 20           CROWN         084 085 086 108         121 134 140 159         102 107 187 194         LOGIK         070 227           CS-ELECTRONICS 064         195 238         102 107 195 097 098 100         104 135 13         104 135 13           DAEWOO         051 108 120 127         GRUNDIG         091 092 093 094         134 135 13           DAEWOO         010 219         101 172 232 238         LUXOR         103 104           DECCA         070 108 159 161         HIFIVOX         173 179 239         MAGNADYNE         163 164 20           DUMONT         204         171         MAGNASONIC         108         MARSHAL         064           MARSHAL         064         171         009 016 02         009 016 02         009 016 02         001 016 02 06         108	-	173 179 225 239				171 191 219 2
CROSLEY         165 204         GRANADA         027 105 108 111         LOEWE         109 113 20           CROWN         084 085 086 108         144 171 185         162 167 187 194         LOGIK         070 227           CS-ELECTRONICS 064         195 238         102 107 109 1092 093 094         103 137 197         LUXOR         102 104 13           DAEWOO         051 108 120 127         GRUNDIG         091 092 093 094         134 135 13           DANSAI         010 219         101 172 232 238         LUXOR         103 143 145 15           DE GRAAF         108 134         HCM         010 108 159 171         M ELECTRONIC         103 104           DECCA         070 108 159 161         HIFIVOX         173 179 239         M AGNAPONIC         103 164 20           DUMONT         204         11T         204         MAGNASONIC         108           WARSHAL         064         MARSHAL         064         MATSUI         009 016 02           061 062 06         108 131 13         061 062 06         108 131 13         061 062 06         108 131 13	DISON		GORENJE	086	LIESENKOTTER	108 210
CROSLEY         165 204         GRANADA         027 105 108 111         LOEWE         109 113 20           CROWN         084 085 086 108         144 171 185         162 167 187 194         LOGIK         070 227           CS-ELECTRONICS 064         195 238         LUXOR         102 104 13         134 135 13           DAEWOO         051 108 120 127         GRUNDIG         091 092 093 094         134 135 13           DAEWOO         051 108 120 127         GRUNDIG         091 092 093 094         134 135 13           DANSAI         010 219         101 172 232 238         LUXOR         103 104           DECCCA         070 108 159 161         HIFIVOX         173 179 239         M ELECTRONIC         103 104           MAGNAFON         199         206         171         MAGNASONIC         108           DUMONT         204         171         009 016 02         004         009 016 02	COSMOS	108	GPM	010 064	LIFETEC	010 064 108 1
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144 171 185         162 167 187 194         1037 197           CS-ELECTRONICS 064         195 238         102 104 13         137 197           DAEWOO         051 108 120 127         091 092 093 094         134 135 13           170         095 097 098 100         143 145 15           DANSAI         010 219         101 172 232 238         174 186 23           DECCA         070 108 159 161         HIFIVOX         173 179 239         MELECTRONIC 103 104           HIT         204         MAGNASONIC         108           DUMONT         204         090 016 02         009 016 02         009 016 02						
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170         095 097 098 100         143 145 15           DANSAI         010 219         101 172 232 238         174 186 23           DE GRAAF         108 134         162 184 189 190         162 184 189 190         163 164 20           206         171         MAGNAFON         199           206         171         MAGNASONIC         108           0UMONT         204         101         009 016 02					LUXUR	
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162 184 189 190         HINARI         010 064 108 133         MAGNAFON         199           206         171         MAGNASONIC         108           DECCAVIDEO         108         HIT         204         MARANTZ         108           DUMONT         204         061 062 06         061 062 06         061 062 06	DE GRAAF	108 134	HCM	010 108 159 171	M ELECTRONIC	103 104
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DECCAVIDEO         108         HIT         204         MARANTZ         108           DUAL         233         00000T         204         004         009 016 02         061 062 06         061 062 06         108 131 13						
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154 159 17						108 131 136 1

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# Reference

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Area	Code	Area	Code	Area	Code	Area	Code
Afghanistan	AF	Ethiopia	ET	Malaysia	MY	Saudi Arabia	SA
Argentina	AR	Fiji	FJ	Maldives	MV	Senegal	SN
Australia	AU	Finland	FI	Mexico	MX	Singapore	SG
Austria	AT	France	FR	Monaco	MC	Slovak Republic	SK
Belgium	BE	Germany	DE	Mongolia	MN	Slovenia	SI
Bhutan	BT	Great Britain	GB	Morocco	MA	South Africa	ZA
Bolivia	BO	Greece	GR	Nepal	NP	South Korea	KR
Brazil	BR	Greenland	GL	Netherlands	NL	Spain	ES
Cambodia	KH	Herd and Mcdonald Islands	s HM	Netherlands Antilles	AN	Sri Lanka	LK
Canada	CA	Hong Kong	HK	New Zealand	NZ	Sweden	SE
Chile	CL	Hungary	HU	Nigeria	NG	Switzerland	CH
China	CN	India	IN	Norway	NO	Taiwan	TW
Colombia	CO	Indonesia	ID	Oman	OM	Thailand	TH
Congo	CG	Israel	IL	Pakistan	PK	Turkey	TR
Costa Rica	CR	Italy	IT	Panama	PA	Uganda	UG
Croatia	HR	Jamaica	JM	Paraguay	PY	Ukraine	UA
Czech Republic	CZ	Japan	JP	Philippines	PH	United States	US
Denmark	DK	Kenya	KE	Poland	PL	Uruguay	UY
Ecuador	EC	Kuwait	KW	Portugal	PT	Uzbekistan	UZ
Egypt	EG	Libya	LY	Romania	RO	Vietnam	VN
El Salvador	SV	Luxembourg	LU	Russian Federation	RU	Zimbabwe	ZW

# Troubleshooting

Symptom	Possible Cause	Correction
No power.	The power cord is disconnected.	Plug the power cord into the wall out- let securely.
The power is on, but the player does not work.	No disc is inserted.	<ul> <li>Insert a disc. (Check the disc indica- tor in the display window is lit.)</li> </ul>
No picture.	The TV is not set to receive DVD sig- nal output.	Select the appropriate video input mode on the TV.
	The video cable is not connected securely.	Connect the video cable securely.
	The selected resolution is not capa- ble with your TV.	Select another resolution using RESOLUTION button.
No sound.	• The equipment connected with the audio cable is not set to receive disc signal output.	• Select the correct input mode of the audio receiver so you can listen to the sound from the player.
	• The power of the equipment connected with the audio cable is turned off.	• Turn on the equipment connected with the audio cable.
	The [Audio] options are set to the wrong position.	• Set the [Audio] options to the correct position, then turn on the player again by pressing POWER.
The player does not start playback.	An unplayable disc is inserted.	Insert a playable disc. (Check the disc type and regional code.)
	The rating level is set.	Change the rating level.
The Remote Control does not work properly.	• The Remote Control is not pointed at the remote sensor on the player.	Point the Remote Control at the remote sensor of the player.
acce not non propony.	The Remote Control is too far from the player.	Operate the Remote Control closer to the player.

## **Maintenance and Service**

Refer to the information in this chapter before contacting a service technician.

#### Handling the Unit

#### When shipping the unit

Please save the original shipping carton and packing materials. If you need to ship the unit, for maximum protection, re-pack the unit as it was originally packed at the factory.

#### Keeping the exterior surfaces clean

Use the supplied cloth for cleaning the surfaces of the player.

- Do not use volatile liquids such as insecticide spray near the unit.
- Wiping with strong pressure may damage the surface.
- Do not leave rubber or plastic products in contact with the unit for a long period of time. since they could marks on the surface.

#### Cleaning the unit

To clean the player, use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth lightly moistened with a mild detergent solution.

Do not use strong solvents such as alcohol, benzene, or thinner, as these might damage the surface of the unit.

#### Maintaining the Unit

The unit is a high-tech, precision device. If the optical pick-up lens and disc drive parts are dirty or worn, the picture quality could be diminished.

Depending on the operating environment, regular inspection and maintenance are recommended after every 1,000 hours of use.

For details, please contact your nearest authorized service centre.

# Specifications

#### General

Power requirements:	AC 200-240V, 50/60Hz		
Power consumption:	30W		
Dimensions (W x H x D):	Approx. 17 x 3.1 x 9.9 inches (430 x 79 x 250 mm) without feet		
Net Weight (Approx.):	4.1 kg (9.1 lbs)		
Operating temperature:	41 °F to 95 °F (5 °C to 35 °C)		
Operating humidity:	5 % to 90 %		
Outputs			
VIDEO OUT:	1.0 V (p-p), 75 $\Omega$ , sync negative, RCA jack x 1		
COMPONENT VIDEO OUT:	(Y) 1.0 V (p-p), 75 Ω,negative sync, RCA jack x 1 (Pb)/(Pr) 0.7 V (p-p), 75 Ω, RCA jack x 2		
HDMI OUT (video/audio):	19 pin (HDMI standard, Type A)		
ANALOG AUDIO OUT:	2CH: 2.0 Vrms (1 KHz, 0 dB), 600 $\Omega,$ RCA jack (L, R) x 1 6CH: 2.0 Vrms (1 KHz, 0 dB), 600 $\Omega,$ RCA jack x 6		
DIGITAL OUT (COAXIAL):	0.5 V (p-p), 75 Ω, RCA jack x 1		
DIGITAL OUT (OPTICAL):	3 V (p-p), Optical jack x 1		
System			
Laser:	Semiconductor laser, wavelength: 405nm / 650 nm		
Signal system:	Standard PAL/NTSC Colour TV system		
Frequency response:	8 Hz to 44 kHz (96 kHz Sampling) 8 Hz to 22 kHz (48 kHz Sampling)		
Signal-to-noise ratio:	More than 100 dB (ANALOG OUT connectors only)		
Harmonic distortion:	Less than 0.008%		
Dynamic range:	More than 95 dB		
Accessories:	HDMI cable (1) Video cable (1) Audio cable (1) Remote control (1) Batteries (2) Cloth for cleaning the surfaces of the player (1)		

*Note:* Design and specifications are subject to change without prior notice.

Setting		Analog	Analog Output		Digital (SPDIF/HDMI)	
Disc/format		2ch	5.1ch	PCM	Bitstream*1	
BD-ROM	Dolby Digital	2ch	5.1ch	2ch PCM	Dolby Digital	
	Dolby Digital Plus	2ch	5.1ch	2ch PCM	Dolby Digital 5.1*2	
	Dolby TrueHD	2ch	5.1ch	2ch PCM	Dolby Digital 5.1*3	
	DTS	2ch	5.1ch	2ch PCM	DTS	
	DTS-HD	2ch	5.1ch	2ch PCM	DTS*4	
	Linear PCM 2ch	2ch	2ch	2ch PCM	2ch PCM	
	Linear PCM 5.1ch	2ch	5.1ch	2ch PCM	2ch PCM	
	Linear PCM 7.1ch	2ch	5.1ch	2ch PCM	2ch PCM	
HD DVD	Dolby Digital	2ch	5.1ch	2ch PCM	Dolby Digital	
	Dolby Digital Plus	2ch	5.1ch	2ch PCM	Dolby Digital 5.1*2	
	Dolby TrueHD	2ch	2ch	2ch PCM	2ch PCM	
	DTS	2ch	5.1ch	2ch PCM	DTS	
	DTS-HD	2ch	5.1ch	2ch PCM	DTS*4	
	Linear PCM 2ch	2ch	2ch	2ch PCM	2ch PCM	
	Linear PCM 5.1ch	2ch	5.1ch	2ch PCM	2ch PCM	
	Linear PCM 7.1ch	2ch	5.1ch	2ch PCM	2ch PCM	
DVD Video	Dolby Digital	2ch	5.1ch	2ch PCM	Dolby Digital	
	DTS	2ch	5.1ch	2ch PCM	DTS	
	Linear PCM	2ch	2ch*⁵	2ch PCM	2ch PCM	
	MPEG	2ch	2ch	2ch PCM	2ch PCM	

## Super Multi Blue Player's Audio Output Specifications

\*1: In case of Bitstream mode, interactive and secondary audio is not included in the output bitstream. (Primary Audio Stream only)

\*2: DD+5.1ch core stream only

#### \*3: Dolby Digital 5.1 substream only

\*4: DTS-HD 5.1ch core stream only

\*5: In case of the source audio of 5.1 or 7.1 channels, the specification of output audio channels is 5.1.

#### Notes:

- Some discs allow you to change audio selections only via the disc menu. If this is the case, press POP UP or DISC MENU button and choose the appropriate language from the selections on the disc menu.
- When you turn on the player or replace a disc, the player returns to the initial default setting. Depending on a disc, a specific type of audio the disc has is output.
- Immediately after you have switched sounds, there may be a temporary discrepancy between the display and actual sound.

## Open source software notice

The following GPL executables and LGPL/MPL libraries used in this product are subject to the GPL/LGPL/MPL License Agreements:

#### **GPL EXECUTABLES:**

Linux kernel 2.4.25 Busybox Bash e2fsprogs

#### LGPL LIBRARIES:

libuClibc.so libstdc++.so libdirectfb.so libavcodec.so libavformat.so libiconv.so libgcrypt.so libgnutls.so libgpg-error.so

#### MPL LIBRARIES:

libcairo.so

LG Electronics offers to provide source code to you on CD-ROM for a charge covering the cost of performing such distribution, such as the cost of media, shipping and handling upon e-mail request to LG Electronics at: <u>smbp\_opensource@lge.com</u>

This offer is valid for a period of three(3) years from the date of the distribution of this product by LG Electronics.

You can obtain a copy of the GPL, LGPL and MPL licenses from http://us.lge.com.

Portions of this software are copyright ©2003 The FreeType Project (www.freetype.org). All rights reserved.

The module, libjpeg.so used in this product is the work of the Independent JPEG Group. © copyright 1991-1998, Thomas G. Lane. All rights reserved.

This product includes software developed by the University of California, Berkeley and its contributors.

## **Customer Support**

To obtain the latest software for this player (if updates have been made), please visit http://es.lgservice.com.

Resetting the Player	You can reset the Player as follows:
<ul> <li>If you observe any of the following symptoms</li> <li>When the Player is plugged in, but the power will not turn on or off.</li> <li>When the display window is not working.</li> <li>When the Player does not operate normally.</li> </ul>	<ul> <li>Press and hold the POWER button for more than five seconds. This will force the Player to power off. Press the POWER button again to turn the Player back on.</li> <li>Unplug the power cord and then plug the power cord again after more than five seconds.</li> </ul>

P/NO : MFL36364117

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