LG
Life's Good

Owner's Manual

Blu-ray Disc™ Recorder

BR629T
BR625T

Please read this manual carefully before operating your set and retain it for future reference.

http://www.lg.com

Safety Information

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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

CLASS 1 LASER PRODUCT
PRODUCT CON LASER CLASE 1

CAUTION: This product is classified as a class 1 laser product. 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. Shall the unit require maintenance, contact an authorized service centre.
Only a qualified service person should the cover or attempt to service this device, due to possible eye injury.
Use of controls, adjustments or the performance of 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.
CAUTION: CLASS 3R VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID DIRECT EYE EXPOSURE.
LOCATION: INSIDE, NEAR THE DECK MECHANISM.

CAUTION concerning the Power Cord

The main power supply is engaged when the main plug is plugged in a 220-240 V~, 50Hz AC outlet.
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 service centre. 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.

This device is equipped with a portable battery or accumulator.

Safety way to remove the battery or the battery from the equipment: Remove the old battery or battery pack, follow the steps in reverse order than the assembly. To prevent contamination of the environment and bring on possible threat to human and animal health, the old battery or the battery put it in the appropriate container at designated collection points. Do not dispose of batteries or battery together with other waste. It is recommended that you use local, free reimbursement systems batteries and accumulators. The battery shall not be exposed to excessive heat such as sunshine, fire or the like.

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

- The appliance is not intended for use by young children or infirm persons without supervision.
- Young children should be supervised to ensure that they do not play with appliance.
- If the appliance is supplied from a cord extension set or an electrical portable outlet device, the cord extension set on electrical portable outlet device must be positioned so that it is not subject to splashing or ingress of moisture.

Never use a gas duster on this unit.
The gas trapped inside of this unit may cause ignition and explosion.

Do not place any combustible objects on the unit (candles, etc.)

This apparatus should not be placed in a built-in installation, such as a bookcase or rack unless proper ventilation is provided. Make sure to leave space as follows.
- Front: 5 cm with no obstacles
- Depth: 10 cm
- Height: 10 cm

◆ When viewing 3D content

When viewing 3D content, please note the following.
Also, please carefully read the user manuals of your 3D television and 3D glasses.

- **Do not view 3D content if**
  - you have a possibility of epilepsy
  - you have photosensitive reaction or have a history of photosensitivity.
  - you have a heart condition
  - you are feeling sick

  These may be exacerbated.

- **It is recommended that you view 3D content in proper posture from the proper position.**

- **If the following occur while viewing 3D content, stop viewing immediately.**
  - If you experience double-vision
  - If the images do not seem to be 3D (Please confirm the 3D settings on your 3D devices.)

- **Viewing 3D content is recommended for ages of 6 and older.**
  Children may not show visible signs of fatigue and discomfort. When a child is viewing 3D content, please monitor their condition.

- **When viewing 3D content, take a rest every title.**
  Viewing for a long time may cause ocular fatigue.

- **Stop viewing immediately if you feel fatigued and/or discomfort while viewing 3D content.**
  If continued, it may lead to deconditioning. Please take an adequate rest.

- **If you are on medication, you may be strongly affected by the 3D vision. If you feel anything unusual, stop viewing immediately.**

- **If you have experienced a major illness or you are pregnant, you may be strongly affected by the 3D vision. If you feel anything unusual, stop viewing immediately.**

- **For 3D vision, how it appears depends on the viewer and physical condition. If you feel discomfort, do not view 3D content.**

Trademark Information

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Manufactured under license under U.S. Patent Nos: 5,956,674; 5,974,380; 6,226,616; 6,487,535; 7,392,195; 7,272,567; 7,333,929; 7,212,872 & other U.S. and worldwide patents issued & pending. DTS-HD, the Symbol, & DTS-HD and the Symbol together are registered trademarks & DTS-HD Master Audio | Essential is a trademark of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.

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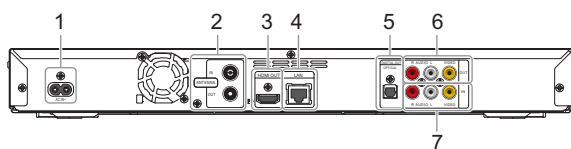
◆ About copyright

Verification and Preparation

Verifying the supplied accessories

If any part is missing, please contact the retailer you purchased the product from.

- Remote control (1)
- Batteries (R6, 1.5V) (2)
- RF cable (1)
- Video cable (1)
- Audio cables (1)
- AC cord (1)
- Owner's Manual (This booklet) (1)
- Warranty card (1)

Verifying the types of terminals

1. AC inlet
   • Plug in the AC cord.
2. ANTENNA IN / OUT
   • Connect the RF cable to it to view / record the digital broadcast programmes.
3. HDMI OUT
   • Used to connect this unit and a TV using an HDMI cable. HDMI connection provides high picture / sound quality*.
   (*Picture / sound quality depends on the TV's capability.)
4. LAN terminal
   • To connect to the network.
5. DIGITAL OUT (OPTICAL) Jack
   • To connect this unit to an audio amplifier with a built-in digital audio output decoder and such.
6. OUT jacks (AUDIO L/R, VIDEO)
   • To connect to the input jacks* on the TV using audio / video cables.
   (*Yellow: to the video input
   Red / White: to the audio input)
7. IN jacks (AUDIO L/R, VIDEO)
   • To connect a set-top box / another device to this unit. Also used to record (dub) from another device.

⚠ Note

• The cooling fan on the rear panel spins when this unit is powered on and during the time set for the "Quick Booting".
• It is recommended to use an HDMI connection when your TV has an HDMI input. An HDMI connection requires one cable only.

About This Manual

• Operating instructions in this manual are based on use of the remote control.

◆ Symbols of supported media / file format

Symbol	Description
HDD	Internal hard disk drive
USB-HDD	USB external hard disk drive
BD-RE	BD-RE disc recorded in BDAV format
BD-R	BD-R disc recorded in BDAV format
BD-Video	Commercially available BD-Video disc
-RW(VR)	DVD-RW disc recorded in VR format
-RW(Video)	DVD-RW disc recorded in Video format
-R(Video)	DVD-R disc recorded in Video format
+RW(+VR)	DVD+RW disc recorded in +VR format
+R(+VR)	DVD+R disc recorded in +VR format
DVD-Video	Commercially available DVD-Video disc
Audio CD	Audio CD (CD-DA), finalised CD-RW / CD-R discs formatted in Audio CD format
DISC(AVCHD)	DVD-RW / -R, DVD+RW / +R disc containing movies in AVCHD format
DISC(JPEG)	BD-RE / -R, DVD-RW / -R, DVD+RW / +R, CD-RW / -R disc containing JPEG files
DISC(DivX®)	BD-RE / -R, DVD-RW / -R, DVD+RW / +R, CD-RW / -R disc containing DivX® files
DISC(MP3)	BD-RE / -R, DVD-RW / -R, DVD+RW / +R, CD-RW / -R disc containing MP3 files
DISC(WMA)	BD-RE / -R, DVD-RW / -R, DVD+RW / +R, CD-RW / -R disc containing Windows Media™ Audio files
USB(AVCHD)	USB device containing movies in AVCHD format
USB(DivX®)	USB device containing DivX® files
USB(MP3)	USB device containing MP3 files
USB(WMA)	USB device containing Windows Media™ Audio files
USB(JPEG)	USB device containing JPEG files
AVCHD	AVCHD files*
DivX®	DivX® files
MP3	MP3 files
WMA	Windows Media™ Audio files
JPEG	JPEG files

* AVCHD files cannot be played back directly from a USB storage device.

ABOUT DIVX VIDEO: DivX® is a digital video format created by DivX, LLC, a subsidiary of Rovi Corporation. This is an official DivX Certified® device that plays DivX video. Visit divx.com for more information and software tools to convert your files into DivX videos.

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to vod.divx. com for more information on how to complete your registration.

• Media containing the DivX® files with the DivX® GMC (Global Motion Compensation) playback feature, which is DivX® supplemental function, cannot be played back on this unit.

Table of Contents

1

2

3

4

5

6

7

8

9

10

11

12

Functional Overview

Remote control

1. **[⏻ POWER]** (standby / on) button
   • Press to switch the unit on / off.
2. Media buttons (**[HDD]** / **[DISC]** / **[USB]**)
   • Press to switch to the media to operate.
3. Number buttons
   • Used to enter numbers or letters.
4. **[SUBTITLE]** button
   • Press to select a subtitle language.
5. **[I◀◀]** (skip) button
   • During playback, press once to return to the beginning of the current title / chapter / track / File.
   • During playback, press twice to return to the previous title / chapter / track / File.
   • During the JPEG playback, press to return to the previous File.
6. **[■]** (stop) button
   • Press to stop playback / recording.

7. **[TV VOL + / –]** button
   • Used to control the TV volume.
8. **[● REC.]** button
   • Press to start recording.
9. **[↵ I.REPLAY]** button
   • Press for the instant replay function.
10. **[·→ I.SKIP]** button
    • Press for the instant skip function.
11. **[⌂ HOME]** button
    • Press to display the home menu.
12. **[∧ / ∨ / ⟨ / ⟩]** buttons
    • Press to select items or settings.
13. **[� BACK]** button
    • Press to return to the previously displayed menu or screen.
14. Coloured buttons (**[RED]** / **[GREEN]** / **[YELLOW]** / **[BLUE]**)
    • Press to activate shortcut keys on some BD-Video functions. They are also used to switch between pages in a file / contents list.
    • These buttons are also used for "Programme Guide" and "Edit Channels" in "DTV Menu".
15. **[EXIT]** button
    • Press to exit from the various screen / windows.
16. TV control buttons
    • **[⏻]** (TV power) button
      - Press to turn the TV on / off.
    • **[AV / INPUT]** button
      - Press to switch the TV's source input.
    • **[PR/CH ∧ / ∨]** buttons
      - Press to switch TV's channels.
17. **[▲ OPEN/CLOSE]** button
    • Press to open / close the disc tray.
18. **[⋈ MUTE]** button
    • Press to switch "On" / "Off" the audio.
19. **[AUDIO]** button
    • Press to select the audio channel (audio language).
20. **[▶▶I]** (skip) button
    • During playback, press to skip to the next chapter / track / file.
    • When playback is in pause mode, press to forward the playback frame by frame.
21. **[◀◀ / ▶▶]** (reverse / forward) button
    • During playback, press to fast reverse / fast forward the playback.
22. **[II]** (pause) button
    • Press to pause playback.
23. **[▶]** (play) button
    • Press to start playback / resume playback.
24. **[CH ∧ / ∨]** button
    • Press to switch up / down through the memorised channels.
25. **[GUIDE]** button
    • Press to display the programme guide screen.
26. **[CONTENTS LIST]** button
    • Press to display the contents list.
27. **[⊙ ENTER]** button
    • Press to confirm or select menu items.
28. **[SUB MENU]** button
    • Press to display the sub menu / play menu.
29. **[DISC MENU]** button
    • For BD-Video, press to display the pop-up menu / top menu.
    • For DVD-Video, press to display the top menu / disc menu.
30. **[DISPLAY]** button
    • Press to display chapter / time information.

31. **[TEXT]** button
    • Press to switch between teletext mode and normal TV viewing.
32. **[INFO]** button
    • Press to display the information on the programme. Information is available on the programme guide screen and while viewing a DTV programme.
33. **[TIMER REC.]** button
    • Press to display the timer programming screen.

Front panel
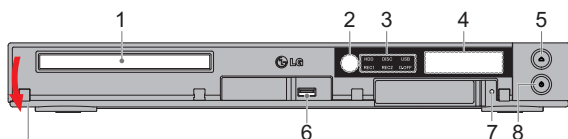
Open the front cover

How to open the front cover
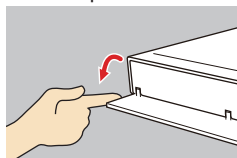
1. Disc tray
2. Infrared sensor window
3. Indicators
    • HDD / DISC / USB
      - Currently selected media is on when the unit is powered on. "HDD" is on when "Quick Booting" is standing by.
    • REC1 is on while recording. It blinks when the recording is in pause mode.
    • REC2 is on while the second recording is in progress. It blinks when the recording is in pause mode.
    • D.OFF is off when "Panel Display" is set to "On" and this unit is in standby mode.
    • D.OFF is on when "Panel Display" is set to "Off" and this unit is in standby mode.
    • D.OFF is on when "Panel Display" is set to "Power Interlock" and this unit is in standby mode.
4. Display panel
5. OPEN / CLOSE button
    • To open / close the disc tray.
6. USB port
    • To connect a USB-HDD / USB device.
7. Reset button
    • Press in case this unit operates unexpectedly or does not operate.
8. POWER (standby / on) button
    • To turn the unit on / off.

Display panel

Display panel
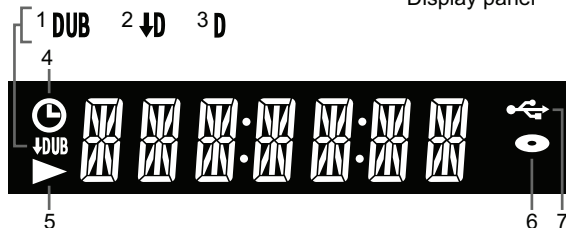
1. Displayed during dubbing.
2. Displayed while updating the firmware, converting a pre-existing title to a different recording mode (image quality).
3. Displayed while streaming content over DLNA.
4. Displayed when a timer programme is set.
5. Displayed during playback.
   (It blinks when the playback is in pause mode.)
6. Displayed when a disc is in this unit.
7. Displayed when a USB-HDD / USB device is connected.

Unit's behaviour

HELLO	Displayed when the unit is turned on.
BYE	Displayed when the unit is turned off.
OPEN	Displayed when the disc tray opens.
CLOSE	Displayed when the disc tray closes.
LOADING	Displayed while the unit is loading the disc.
WAIT	Displayed when the unit is finishing a recording / when the unit is plugged in / when the unit recovered from a power outage. (This unit is inoperable while "WAIT" is displayed.)
DTV 123	Displayed when a DTV programme is being viewed.

External input

AV	Displayed when the unit is switched to the external input (AV).

On-Screen Display

◆ Displaying the unit's status / information

On screen:
You can call up the information windows by pressing **[DISPLAY]** when viewing a DTV programme.

Press **[DISPLAY]** once...

1	2	3	4

2 Station ABC	DTV Programme ABC	16:13 THU 05/01/2012

1. Channel number
2. Service name
3. Event name
4. Current time, day, date / month / year

Press **[DISPLAY]** twice...

5	6	7	8

TT	1 / 200	CHP	1 / 100	⊙ 0 : 00 : 12 / 1 : 23 : 45	■

| | Remain (TS) | 2:10 | ⊙ BD-R BDAV ORG |
| | HD 2:10 / SD 4:20 | | 11 |

9   10
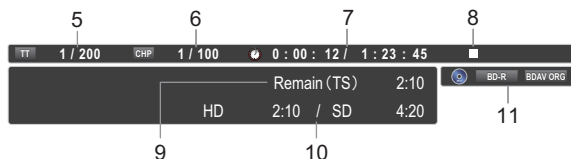
5. Current title / Total title numbers
   • "---" will be displayed in stop mode when there is no resume point.
6. Current chapter / Total chapter numbers
   • "---" will be displayed in stop mode when there is no resume point.
7. Elapsed time / total duration
8. Unit's status
9. Remaining time
   • Remaining time (approx.) by recording mode.
10. List of remaining time / current recording duration
    • In stop mode, remaining time for HD / SD will be displayed. (Remaining time will not be displayed when using the external input (AV)).
    • While recording, the recording media / station name / current recording duration will be displayed.
11. Media type

⚠ **Note**

• For the discs recorded on other devices, information may not be displayed properly.

◆ About icons

Power of this unit

⏻ Loading	This unit is turned on

Media

△ / ▽	Disc tray is opening / closing
Loading ◯	Loading a disc / USB device

Media types

	HDD
	USB-HDD
⊙	Disc
BD-RE / BD-R	BD-RE/-R
BD-Video	BD-Video
BDAV ORG	BDAV (original)
BDAV PL	BDAV (playlist)
DVD-RW / DVD-R	DVD-RW/-R
DVD+RW / DVD+R	DVD+RW/+R
DVD-Video	DVD-Video
VR ORG	VR (original)
VR PL	VR (playlist)
+VR	DVD+RW/+R formatted in +VR
DATA	USB device
CD-DA	Audio CD
CD DATA	Data CD
AVCHD	Disc containing an AVCHD content
⊙ No Disc	No disc is in this unit

Common operations

●	Recording
●❚❚	Pausing the recording
Wait for a moment.	Finishing the recording
■	In stop mode
Resume	In resume stop mode
▷	Playback
❚❚	Pausing the playback
▷▷ 1	Fast forward playback with audio
▷▷ / ◁◁	Fast forward / fast reverse
❚▷ / ◁❚	Slow forward / slow reverse playback
▷▷❙ / ❙◁◁	Skipping forward / backward
HDD ➡ DISC	Dubbing e.g. From the HDD to a disc
USB-HDD ➡ HDD	Dubbing e.g. From a USB-HDD to the internal HDD

Others

TT	Title
CHP	Chapter
TR	Track
⊙	Time (playback)

⚠ **Note**

• If "⊘" appears on screen, the attempted operation is prohibited.

Home Menu

◆ **The home menu screen**

Some of the functions are operable from the home menu.
You can call up the home menu by pressing **[⌂ HOME]**.

- Home menu can be called up during recording / playback. If the home menu is called up during playback, the playback will automatically stop.
- Items which cannot be selected / operated are greyed out.

DTV
- Switches the unit from the home menu to the DTV viewing screen.

GUIDE
- Enables you to programme timer recordings from the programme guide screen. (Refer to page 34)

Timer Programming
- Displays the timer programming screen.
- You can also programme a timer recording manually by pressing **[SUB MENU]**, then selecting "New Programme". (Refer to page 35)

Contents List
- Displays the contents list.
- Various playback and editing operations can be performed from the submenu in the contents list. (Refer to page 40)

Media Manager
- The following operations are available on each media. (Refer to page 52)

 HDD Menu
Delete All Titles (Refer to page 53)
Delete All Unprotected Titles (Refer to page 53)

 BD/DVD Menu
Format (Refer to page 53)
Finalise (Refer to page 52)
Edit Disc Name (Refer to page 52)
Disc Protect Off→On (Refer to page 52)
Disc Protect On→Off (Refer to page 52)

 USB-HDD Menu
Register USB-HDD setting (Refer to page 20)
Delete All Titles (Refer to page 53)
Delete All Unprotected Titles (Refer to page 53)
Edit USB-HDD Name (Refer to page 52)
USB-HDD Protect Off→On (Refer to page 52)
USB-HDD Protect On→Off (Refer to page 52)

Dubbing
- Enables you to select the dubbing direction and programme dubbings to the dubbing list. (Refer to page 54)

DTV Menu
- Allows you to configure DTV settings. Refer to "Basic Setup for DTV" on page 17 for details.

Settings
- Allows you to access various kinds of menus to customise as you prefer. Refer to "Function Setup" on page 60 for details.

Antenna Connection

RF cable (not supplied)

RF cable (supplied)

Antenna IN
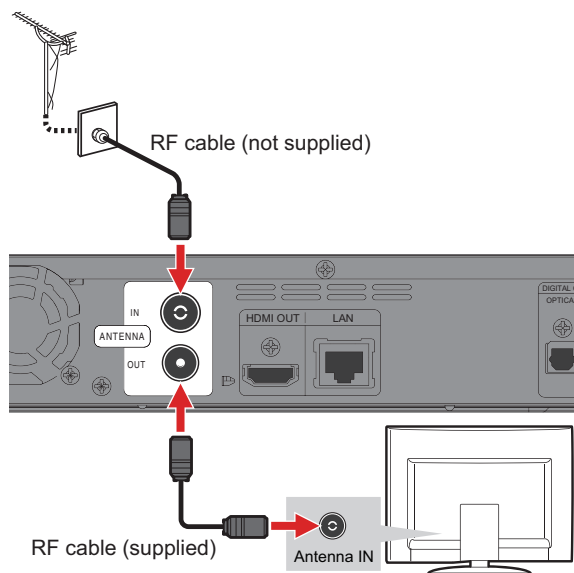
Connections to Your TV

◆ Connection to the TV using an HDMI cable

HDMI connection allows you to enjoy high picture / sound quality with one single cable. By connecting this unit and your high-definition TV, you can enjoy the HD broadcast programmes. HDMI connection also enables "SIMPLINK" (Refer to page 20).

To HDMI OUT

HDMI cable (not supplied)
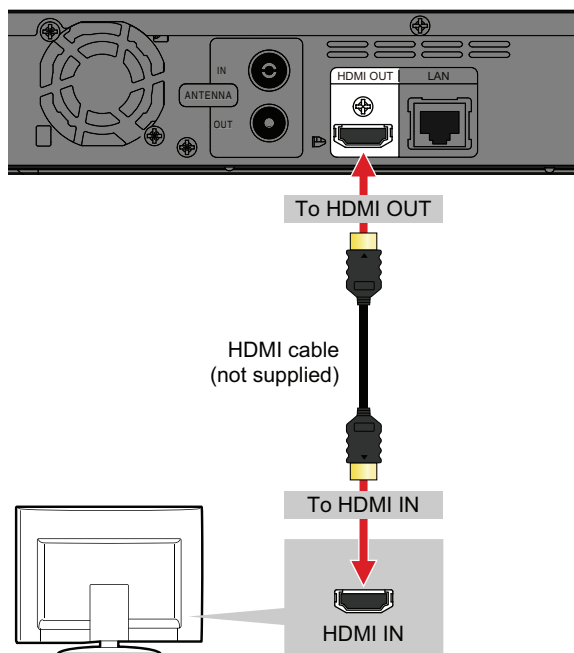
To HDMI IN

HDMI IN

◆ Connection to the TV using video / audio cables

AV cable connection is used if an HDMI input is not available on the TV.

To AUDIO OUT | To VIDEO OUT

Red (Right) | White (Left) | Yellow

Audio cables (supplied) | Video cable (supplied)

Red (Right) | White (Left) | Yellow

To AUDIO IN | To VIDEO IN

L Audio R   Video   S-video
Auido / Vidoe IN
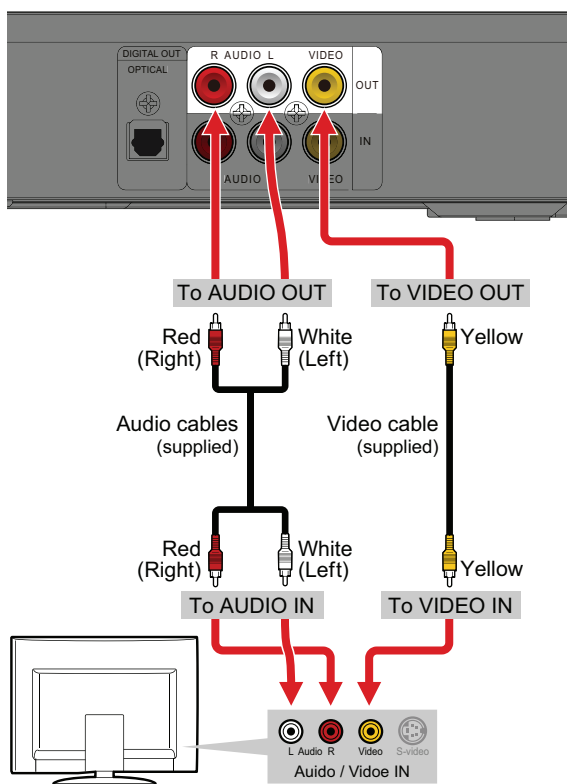
(!) Note

- Use a High-Speed HDMI cable (with the HDMI logo) which is complying with the HDMI standard.
- Make sure the shapes of the HDMI cable's connector and this unit's HDMI OUT jack are matched.
- This unit's HDMI OUT does not support a DVI-HDMI converter cable. Connect an HDMI cable to a TV / display monitor with an HDMI input jack which is complying with the HDMI standard.
- When using Video / Audio cables, connect this unit and the TV directly.
- If connecting this unit and the TV using via another device, using Video / Audio cables, images may be distorted due to the copyright protection system.

When connecting the home terminal / set-top box to this unit

The cable-TV service can only be received in the service areas, and you need to become a cable subscriber for each home terminal / set-top box.

Depending on the cable-TV service provider, the specifications of the home terminal / set-top box, connection method and receivable programmes vary.
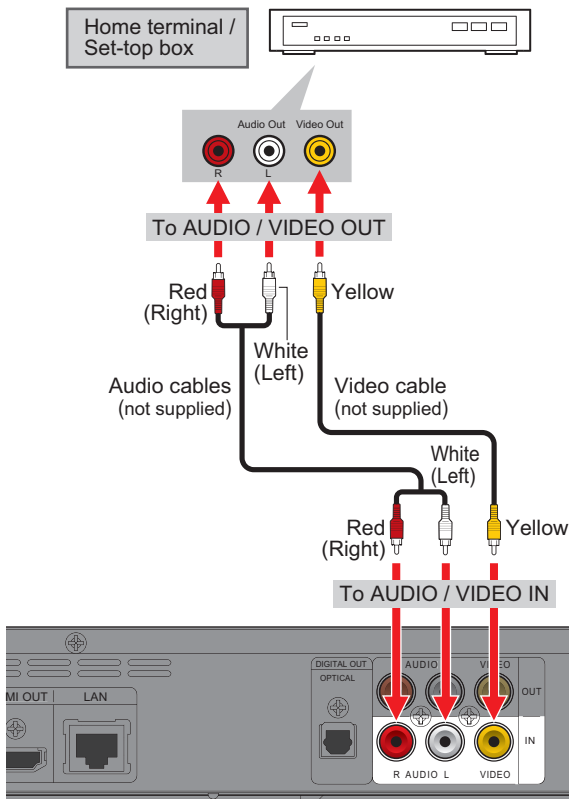
(!) **Note**

- When recording a high-definition DTV programme through the home terminal / set-top box, it will be recorded in standard-definition quality.
- Pass-through type is a way of broadcasting in which a cable-TV service provider sends out DTV signals as-is without converting or compressing.
- If your cable-TV service is the pass-through type, you can directly select channels on this unit and use the EPG.

Network Connection

By connecting this unit to your broadband Internet, you can enjoy the network features, such as BD-Live™ functions. Please contact each content provider for details.

You can also use this unit as a DLNA server, which enables you to play back contents stored on this unit's HDD / USB-HDD through a DLNA (client) player. Please refer to the user manual of the DLNA (client) player for how to operate it.

Direct connection to a DLNA client device
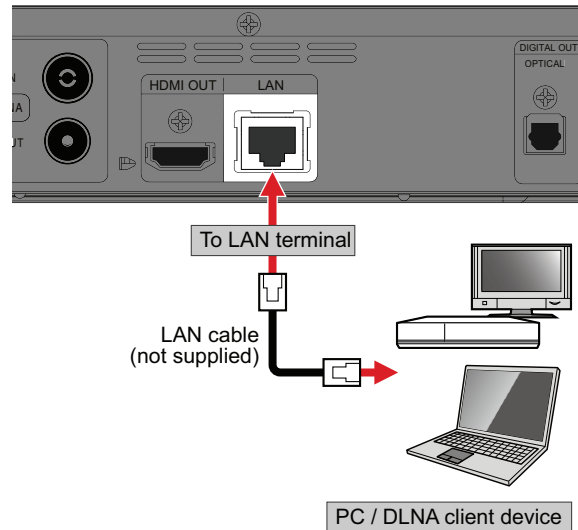
Connection to a DLNA client device via a hub / broadband router
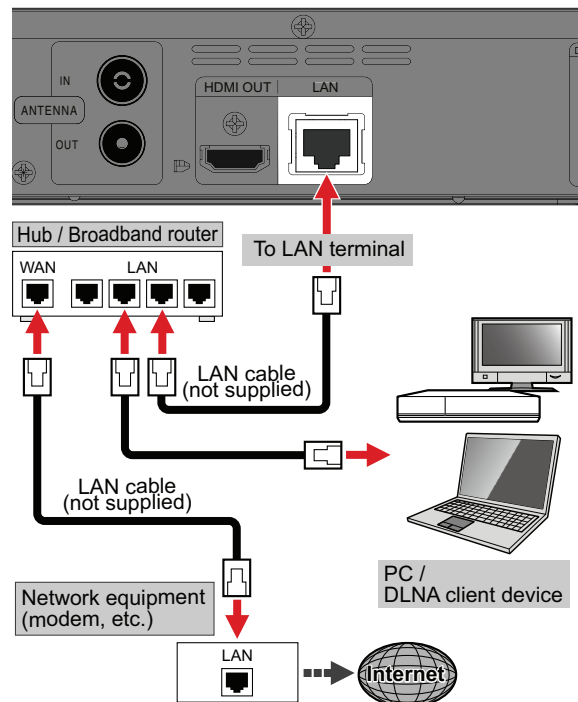
If your Internet modem does not have a router function, use a broadband router.

About BD-Live™

This unit supports BD-Video with the BD-LIVE™ functions (BD-ROM Profile 2.0).

By connecting this unit to the Internet, you can enjoy various functions, such as special movie clips, subtitles, additional contents, network games and so on.

- BD-Live™ functions vary depending on the disc. Please refer to the descriptions on screen or on the package for details.
- In order to activate BD-LIVE™ functions, network configurations are required. Please refer to "Network Connection" on page 13, and "Network Setup" on page 18.
- Depending on the disc, you may be required to change the setting in "Home Menu" > "Settings" > "Network Settings" > "BD-Live Setting" to "Allow" or "Limited Allow".
- It may take extra time to connect to the server or may be unable to connect.
- The unit or the disc ID may be sent to the content provider when playing back a disc with BD-Live™ functions. To prevent data transmission, change the setting of "BD-Live Setting".

(!) **Note**

- Please purchase shielded LAN cables at your local store and use them to connect the unit to the network equipment.
- When connecting a LAN cable to this unit, you need to configure the network setting in "Home Menu" > "Settings" > "Network Settings" > "Network Connection", then select "Auto" or "Manual".
- For a LAN cable, use a category 5 (or higher) straight cable.
- If you need the MAC address of this unit, you can confirm it in "Home Menu" > "Settings" > "Network Settings" > "Displaying network status".

Connection to an Audio System

You can enjoy multi channel audio by connecting this unit to a digital audio system.

◆ **Using an optical audio cable**

To DIGITAL OUT

Digital audio system

Didital Audio IN

Optical audio cable (not supplied)
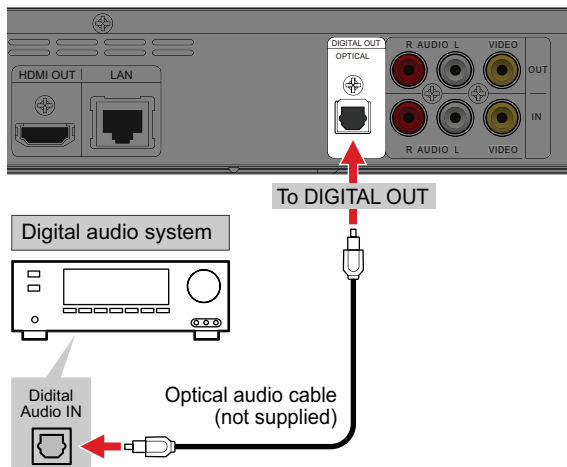
◆ **This unit — Amplifier — TV connection using HDMI cables**

- When the amplifier supports PCM 7.1 ch, you can enjoy BD-Video with 7.1 ch audio.
- When the amplifier supports Dolby Digital Plus / Dolby TrueHD / DTS-HD®, you can enjoy each audio output. (With this connection, audio may not be output from the TV. In this case, output audio from the speakers connected to the amplifier. Please refer to the user manual of the amplifier and TV for details.)
- Use HDMI cables (with the HDMI logo) which are complying with the HDMI standard.
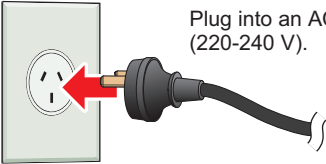
(!) **Note**

When connecting this unit to a digital audio system / HDMI compatible amplifier, please configure this unit's audio settings in "Home Menu" > "Settings" > "Video/Audio".

- Audio may be distorted or may not be output if the audio settings are not configured correctly.

After All Connections Have Been Made
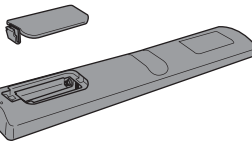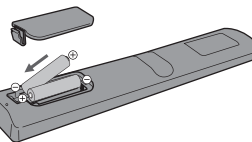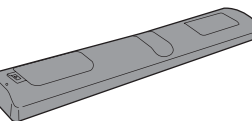
Turn on this unit

1. After all connections have been made, plug the AC cord into an AC power outlet.

   • The display on the front panel will show "WAIT". This unit is inoperable while "WAIT" is being displayed.

   Plug into an AC power outlet (220-240 V).

2. Turn on the TV, then tune it to the correct source input associated with this unit.

3. Turn on this unit.

   • Please refer to "Basic setup" on page 16 for details. Please go on to "◆ Initial Setting"on page 16.

Preparation for the Remote Control

Battery installation

Install 2 R6 (1.5V) batteries matching the polarity as indicated inside battery compartment.

1.

2.

3.

Operable range of the remote control

Within 7 m 30° 30° 30° 30°

Infrared sensor window
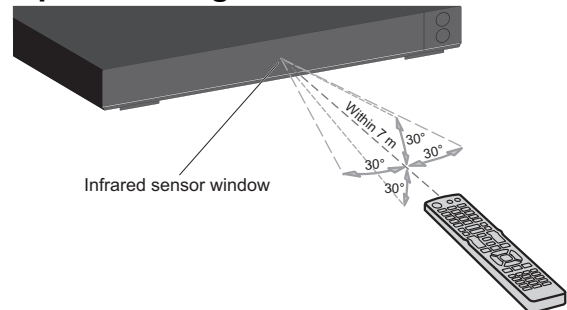
• Line of sight: approx. 7 m
• Either side of the centre: approx. 5 m within 30°
• Above and below: approx. 5 m within 30°

3

Basic Setup

Operating the TV

1. Point the remote control at the TV's infrared sensor window.

2. Operate the TV. (Operating the TV with the buttons shown below.)
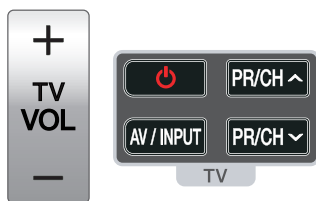
(!) Note

Use of the remote control with improper battery installation may cause heat generation, burn and malfunction.
- Replace both the batteries with new ones in case of the following:
  - Operable distance for the remote control has decreased.
  - The unit does not react to certain button pressed on the remote control.
- The supplied batteries are meant for operation check. It is recommended to replace them with new batteries immediately.

Do not use the following types of batteries as they may cause poor operation or inoperability of the remote control.
- Oxyride batteries (ZR6)
- Evolta batteries (LR6)
- If the remote control will not be used for an extended period of time, please remove the batteries from the battery compartment.
- When disposing of used batteries, please comply with governmental regulations or environmental public rules that apply in your country or area.

Setting up the supplied remote control to control your TV

You can operate your TV with the supplied remote control. If your TV is listed in the table below, set the appropriate manufacturer code.

1. While holding down **[⏻]** (TV power), enter the manufacturer code for your TV using **[number buttons]**.

Manufacturer	Code Number	Manufacturer	Code Number
LG	1(Default), 2	Samsung	6, 7
Zenith	1, 3, 4	Sony	8, 9
GoldStar	1, 2	Hitachi	4

2. Release **[⏻]** (TV power) to complete setting.

- Depending on your TV, some or all buttons may not function on the TV, even after entering the correct manufacturer code. 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.

Basic Setup / DTV Operations

Basic setup

◆ Finding the viewing source input

1. After having made all the necessary connections, press **[⏻ POWER]** to turn on the unit.

2. Turn on the TV.

3. Find the button on the TV's remote control that accesses the external source input. Press the button repeatedly until you see the "Initial Setting" screen on the TV screen. (The button may be labelled "SOURCE", "AV", "AUX" or "SELECT". Refer to your TV's user manual.)

If you see the "Initial Setting" screen, that is the correct viewing source input associated with this unit's output. Make sure to always select this source input on your TV when using this unit.
- If the TV is connected using an HDMI cable, it may take extra time for the opening picture to appear.

◆ Initial Setting

When you turn on this unit for the first time, "Initial Setting" will start automatically.

1. Press **[⏻ POWER]**.

2. Turn on the TV. Select the source input which is associated with this unit.
   - "Initial Setting" screen will appear.
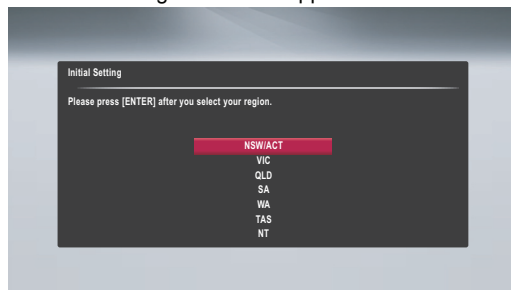
3. Select the region where you live using **[∧/∨]**, then press **[◉ ENTER]**.

4. "Auto Tuning" screen will appear. Press **[◉ ENTER]** to start "Auto Tuning".
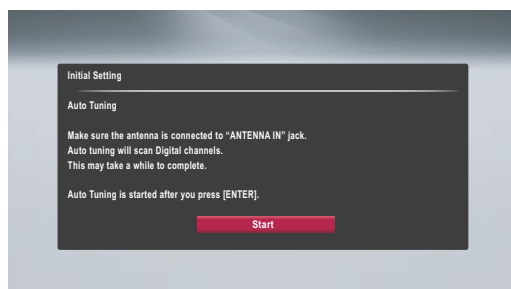
5. "Clock Setting" screen will appear. It will automatically adjust the time and date based on the time zone.
   - If the automatic clock setup fails, please set it up manually by following the instructions on the screen.

◆ **Redoing "Initial Setting"**

[⌂ **HOME**] > "DTV Menu" > "Initial Setting"

1. Press [⦿ **ENTER**] when "Initial Setting" is highlighted.

2. Follow step 3 to 5 in "◆ Initial Setting" on page 16.

Basic Setup for DTV

◆ **Audio language for DTV programmes**

Refer to "Audio Language" section in the "Function Setup" table on page 61 and complete all the necessary setups.

◆ **Subtitle language for DTV programmes**

Refer to "Subtitle Language" section in the "Function Setup" table on page 61 and complete all the necessary setups.

◆ **Updating DTV channels automatically**

With this function, you can have the unit automatically search for new channels. If new channels are found, they will be added in the channel map automatically.

Press [⌂ **HOME**], then select "DTV Menu" > "Installation" > "Service Update" > "Auto", then press [⦿ **ENTER**].
- The tuner will start searching for new channel when the unit is powered off at 1:00 AM.
- You can also add new channels manually by selecting "Add New Channels".

Available configuration options in "DTV Menu"

Press [⌂ **HOME**], then select "DTV Menu".

Menus	Options	
Edit Channels		
Installation	Auto Tuning	
	Add New Channels	
	Service Update	Auto
		Off
Parental Control	Channel Lock	Unlock
		Lock
	DTV Rating	Unlock
		P (Kids)
		C
		G
		PG
		M
		MA 15 +
		AV 15 +
		R (Adult)
		All
	Change PIN Code	
Signal Information		
Initial Setting		

Limiting the access to the particular channels

You can set limits to access to particular channels for parental control purposes.
Once a channel is locked, the PIN Code will be required to perform the following functions:
- "Auto Tuning"
- Editing the channel map.
- Programming a timer recording of the locked channel.
- Tuning into the locked channel.

(!) **Note**
- "PIN Code" referred to here is for DTV parental control and is not to unlock the limitation on a commercially available video disc.

1. Press [⌂ **HOME**], then select "DTV Menu" > "Edit Channels", then press [⦿ **ENTER**].

2. Use [‹ / ›] to select the desired channel to limit the access, then press **[RED]** for your desired setting.
   - For channel lock
     Press **[RED]** once: 🔓 → 🔒 The icon will be highlighted. The locked channels will stay in the channel map and can be selected, but PIN Code entry is required to view the programme.
   - For access prohibition
     Press **[RED]** twice: ⊘ → ⊘ The icon will be highlighted. Access-prohibited channels will not be listed in the channel map and cannot be selected.

3. Press [↩ **BACK**] to return to the previous screen.

4. Select "Parental Control", then press [⦿ **ENTER**].

5. Select "Channel Lock", then press [⦿ **ENTER**].
   - PIN Code entry field will appear. Enter the PIN Code to proceed.
   - **"0000" cannot be used for a PIN Code.**
   - If you forget the PIN Code, you can reset it. Press [⌂ **HOME**], then select > "DTV Menu" > "Parental Control", then highlight "Channel Lock" or "DTV Rating", then enter "210499" using **[number buttons]**.

6. Use [∧ / ∨] to select "Lock", then press [⦿ **ENTER**].

7. Press [↩ **BACK**] repeatedly to exit.

3

Basic Setup

Network Setup

Network settings are to enable the BD-Live™ features on this unit using the broadband Internet connection.
Please also refer to the information provided by your ISP (Internet Service Provider) and the user manual of your modem / router.

Press **[⌂ HOME],** then select "Settings" >
"Network Settings" > "Network Connection" > "Auto" or "Manual".
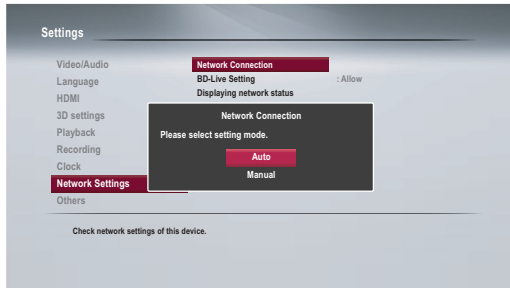
"Auto":
Automatically configures each setting item in "Network Connection", and then performs a connection test.
"Manual":
Requests you to manually configure the setting A – E on pages 18 to 19.

(!) Note

• Please perform a connection test when changing the network settings in "Network Connection".

◆ For "Manual"

A: IP Address Setting

1. Configure IP Address / Subnet Mask / Default Gateway.
   1) Use **[⌃/⌄]** to select "IP Address Setting", then press **[⦿ ENTER]**.
      - The acquisition method will be displayed.
   2) Select your desired method, then press **[⦿ ENTER]**.
      - "Auto(DHCP)" is recommended in most cases.
        "Auto(DHCP)":
        Automatically configures the IP Address / Subnet Mask / Default Gateway. Please proceed to (B).
        "Manual":
        Requires you to manually configure the IP address / Subnet Mask / Default Gateway. In case your router does not have a DHCP server function or you would rather not use it, please select "Manual", then proceed to 3).
   3) Use **[⌃/⌄]** to select "IP Address", then press **[⦿ ENTER].**
      - Entry screen will be displayed.
   4) Enter number using **[number buttons]**, then press **[⦿ ENTER].**
      - To move from a number cell to another, use **[⟨/⟩]**.
      - For an IP Address for this unit, refer to the IP address on your PC on the same local area network, then change the last 2-digit number to your desired number (up to 3-digit numbers).

e.g.) When the PC's IP Address is "192.168.10.12", enter a number such as "192.168.10.223". The "223" can be any number except "12".
   - For "Subnet Mask" and "Default Gateway", please enter the same numbers as those on your PC's network setting.
   - When you enter a wrong number, select "Clear" to clear the incorrect number, then press **[⦿ ENTER]**.
   - After having entered all the necessary numbers, select "OK", then press **[⦿ ENTER]**.
   - Configure "Subnet Mask" and "Default Gateway" in the same manner as "IP Address".

2. After having configured all the network settings, select "OK" in the sub menu using **[⟩]**, then press **[⦿ ENTER]**.

3. Press **[⤺ BACK]** repeatedly to exit.

B: DNS Setting

1. Configure the primary DNS / secondary DNS.
   1) Use **[⌃/⌄]** to select "DNS Setting", then press **[⦿ ENTER]**.
      - The acquisition method will be displayed.
   2) Select your desired method, then press **[⦿ ENTER]**.
      - "Auto(DHCP)" is recommended in most cases.
        "Auto(DHCP)":
        Automatically configures the primary DNS / secondary DNS by the DHCP server function. Please proceed to (C).
        "Manual":
        Requires you to manually configure the primary DNS / secondary DNS. In case your router does not have a DHCP server function or you would rather not use it, please select "Manual", then proceed to 3).
   3) Use **[⌃/⌄]** to select "Primary DNS", then press **[⦿ ENTER]**.
      - Entry screen will be displayed.
   4) Enter number using **[number buttons]**, then press **[⦿ ENTER]**.
      - To move from a number cell to another, use **[⟨/⟩]**.
      - For the primary DNS, enter the same numbers as those in Preferred DNS Server on your PC's network setting. When you enter a wrong number, select "Clear" to clear the incorrect number, then press **[⦿ ENTER]**.
      - After having entered all the necessary numbers, select "OK", then press **[⦿ ENTER]**.
   5) Configure "Secondary DNS" in the same manner as "Primary DNS".
      - For the secondary DNS, enter the same numbers as those in Alternate DNS Server on your PC's network setting.

2. After having configured all the network settings, select "OK" in the sub menu using **[⟩]**, then press **[⦿ ENTER]**.

3. Press **[⤺ BACK]** repeatedly to exit.

C: Proxy Setting

Proxy settings will be needed when this unit is connected to a broadband Internet connection and your ISP requires proxy settings.
If you are not required to configure proxy setting, proceed to (D).

1. **Enter the Proxy Address and the proxy port.**
   1) Use **[∧ / ∨]** to select "Proxy Setting", then press **[⊙ ENTER]**.
   2) Select "Use", then press **[⊙ ENTER]**.
      - Entry screen will appear.
   3) Use **[number buttons]** to enter the proxy address provided by your ISP, then press **[⊙ ENTER]**.
      - The port number entry screen will appear.
   4) Use **[number buttons]** to enter the port number, then press **[⊙ ENTER]**. The highlight will automatically move on "OK", then press **[⊙ ENTER]**.

D: Connection Speed

"Auto" is recommended in most cases. If a connection test fails after IP Address setting and DNS-IP setting, then try following.

1. **Configure the connection speed.**
   1) Use **[∧ / ∨]** to select "Connection Speed", then press **[⊙ ENTER]**.
      - Available speeds will be displayed.
   2) Select the desired speed according to your network environment, then press **[⊙ ENTER]**.

2. **After having configured all the network settings, select "OK" in the sub menu using [⟩], then press [⊙ ENTER].**

3. **Press [↰ BACK] repeatedly to exit.**

E: Connection Test

1. **Perform a connection test.**
   1) Use **[∧ / ∨]** to select "Connection Test", then press **[⊙ ENTER]**.
      - A connection test will start.
      - If the test is successful, a confirmation message will appear. Press **[⊙ ENTER]**.
      - If the test fails, an error message will appear. Please follow the instructions and configure necessary settings.

2. **After having configured all the network settings, select "OK" in the sub menu using [⟩], then press [⊙ ENTER].**

3. **Press [↰ BACK] repeatedly to exit.**

ⓘ **Note**

- Depending on the networking device, it may lose its connection to the network after changing the connection speed.

Receiving the Programme Guide

The programme guide, also known as EPG (Electronic Programme Guide), gives you a list of the DTV programmes and detailed information about programmes.
By selecting a programme in the programme guide, you can view the programme or set a timer recording.

Guide to the "Programme Guide" screen

To call up the "Programme Guide" screen, press **[GUIDE]** in DTV viewing mode.
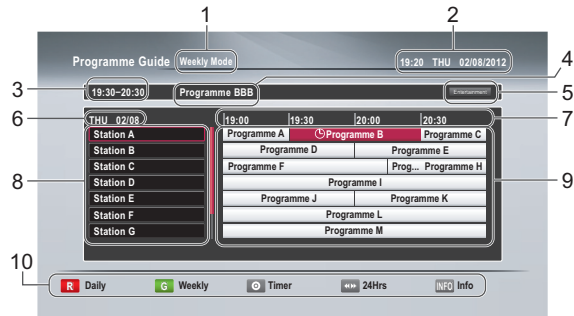
1. Mode: Weekly / Daily
2. Current time, day, date / month / year
3. Start time - End time of the selected programme
4. Programme name
5. Genre / Rating
6. Day, date / month of the programme list
7. Time-shift for 2 hours
8. Channel list (Referring to the channel map)
9. Programme list
10. Operation guide: **[RED]** / **[GREEN]** / **[⊙ ENTER]** / **[◀◀ / ▶▶]** / **[INFO]**

◆ **About programme guide**

Programme guide will be available after receiving the EPG data.

- The EPG data will be received after completing "Installation" in "DTV Menu".

ⓘ **Note**

- In the following cases, an EPG data reception will not complete and blank cells will be shown or the old data will remain.
   - In the case of power outage or the AC cord is unplugged
   - Under poor reception conditions
- In the following case, the programme guide will not be available until next EPG data reception.
   - When retuning channels
- When a broadcast station airs a different programme from the scheduled programme. This may cause an inconsistency between the actual air and the information in the programme guide.

SIMPLINK

What's SIMPLINK?

The SIMPLINK function can control an LG's HDMI compatible television and other devices connected to this unit. SIMPLINK may control some of the functions of a non SIMPLINK compatible device if it meets the HDMI standard; however, it is not guaranteed.

Example of SIMPLINK control

- When this unit is turned on, the TV's source input will automatically be switched to the correct source input.
  - Press **[▶].**
  - Press **[GUIDE].**
  - Press **[CONTENTS LIST].**
- When changing the TV channel during playback from HDD / DISC, playback will automatically stop.
- When turning off the TV, this unit will automatically be turned off. (When this unit is booting or recording to HDD / DISC, it is not the case.)
- Depending on the connected device, it may operate unexpectedly. In this case, set "SIMPLINK" to "Off".

To activate "SIMPLINK" function, please follow the instructions below.

- Before activating, complete your TV's SIMPLINK setup. (Please refer to your TV's owner's manual for details.)

1. Press **[⌂ HOME]**, then select "Settings" > "HDMI" > "SIMPLINK" > "On", then press **[⦿ ENTER]**.

2. Press **[↰ BACK]** repeatedly to exit.

Registration / Deregistration of a USB-HDD

Connect a USB-HDD to this unit and register it. The USB-HDD is not ready to use until it is registered. If you connect an unregistered USB-HDD, a message for registration will appear. In this case, select "Yes" and follow the instructions in "◆ To register".

◆ **To register**

Press **[⌂ HOME]**, then select "Media Manager" > "USB-HDD Menu" > "Register USB-HDD setting".

1. The list of USB-HDD registration screen will appear. Use **[∧/∨]** to select a row with "unregistered", then press **[⦿ ENTER]**.
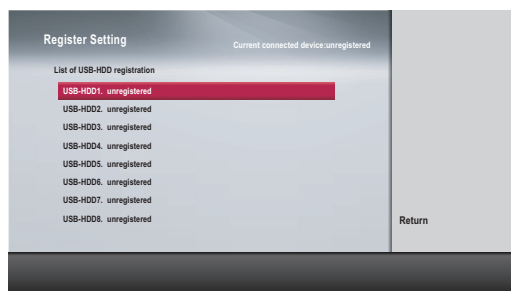
2. A pop-up window will appear. Use **[∧/∨]** to select "Register USB-HDD in this device", then press **[⦿ ENTER]**.
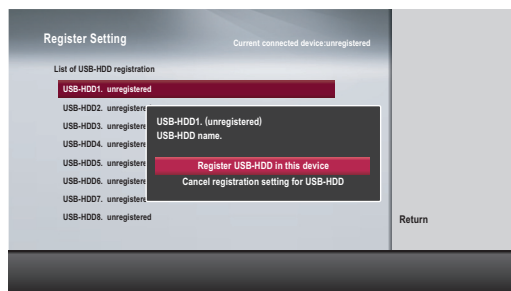
   - Confirmation messages will appear. If you agree, select "Yes" using **[∧/∨]**, then press **[⦿ ENTER]**.

3. If you wish to change the name of the USB-HDD, use **[∧/∨]** to select "Yes", then press **[⦿ ENTER]**. If you wish to change the name later, select "No", then press **[⦿ ENTER]**.
   - **If "Yes" is selected**
     > Proceed to step 4.
   - **If "No" is selected**
     > Registration will be completed, then exit the screen.

4. The editing screen will appear. Enter a name, then press **[⦿ ENTER]**.
   - A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⦿ ENTER]**.

5. Press **[↰ BACK]** repeatedly to exit.

◆ To deregister

Press **[⌂ HOME]**, then select "Media Manager" > "USB-HDD Menu" > "Register USB-HDD setting".

1. The list of USB-HDD registration screen will appear. Use **[∧/∨]** to select the desired USB-HDD, then press **[⊙ ENTER]**.

Register Setting
Current connected device:USB-HDD1

List of USB-HDD registration

USB-HDD1.
USB-HDD2. unregistered
USB-HDD3. unregistered
USB-HDD4. unregistered
USB-HDD5. unregistered
USB-HDD6. unregistered
USB-HDD7. unregistered
USB-HDD8. unregistered

Return
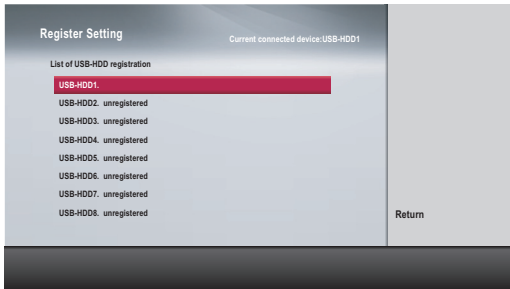
2. A pop-up window will appear. Use **[∧/∨]** to select "Deregister USB-HDD", then press **[⊙ ENTER]**.
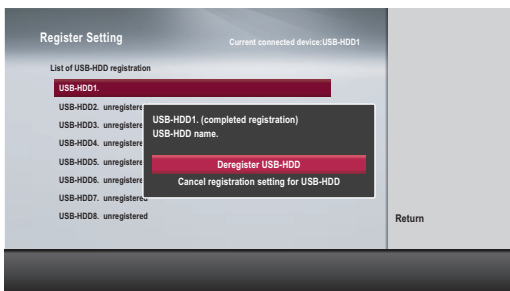
Register Setting
Current connected device:USB-HDD1

List of USB-HDD registration

USB-HDD1.
USB-HDD2. unregister
USB-HDD3. unregister   USB-HDD1. (completed registration)
USB-HDD4. unregister   USB-HDD name.
USB-HDD5. unregister
USB-HDD6. unregister   Deregister USB-HDD
USB-HDD7. unregister   Cancel registration setting for USB-HDD
USB-HDD8. unregistered

Return

- Confirmation messages will appear. If you agree, select "Yes" using **[∧/∨]**, then press **[⊙ ENTER]**.

3. Press **[⤺ BACK]** repeatedly to exit.

⚠ **Note**

- When a USB-HDD is registered to this unit, it will be initialised in this unit's dedicated format. Note that all recorded titles on the USB-HDD will be deleted.
- A USB-HDD deregistered from this unit will no longer be recordable or playable. If you wish to re-register the USB-HDD, it will be initialised again, and all recorded titles will be deleted. Please be careful when deregistering a USB-HDD.
- Recorded titles on a USB-HDD registered to this unit can only be used on this particular unit and is not compatible with PC's or any other recorders including the same model of this unit.
- Up to 8 USB-HDD's can be registered to this unit; however, one single USB-HDD can be connected to this unit.
- This unit does not support a USB hub.

DTV Operations

>> Preparation
- Connect this unit to the TV.

1. Turn on the TV.

2. Press the button on the TV's remote control which accesses the external source input repeatedly until you see the DTV broadcasting from this unit.

    - The button on the TV's remote control may vary on the TV brand and model.
      (e.g., SOURCE / AV / AUX / SELECT and so on.)

⚠ **Note**

- "HELLO" will be displayed on the display of the unit. After a while, the DTV broadcasting this unit is receiving will appear on screen.
- If you see the "Initial Setting" screen, this unit has not been completed with the initial setting. Please perform "◆ Initial Setting" on page 16.

Initial Setting

Please press [ENTER] after you select your region.

NSW/ACT
VIC
QLD
SA
WA
TAS
NT
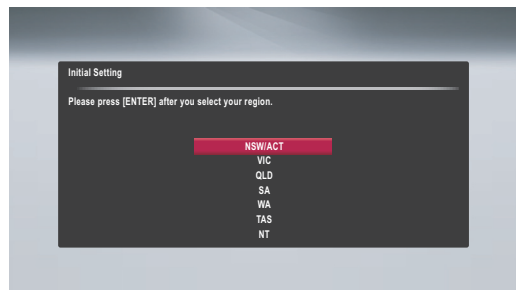
Viewing a Programme Currently On Air

Selecting a channel

1. Press **[⌂ HOME]**, then select "DTV".
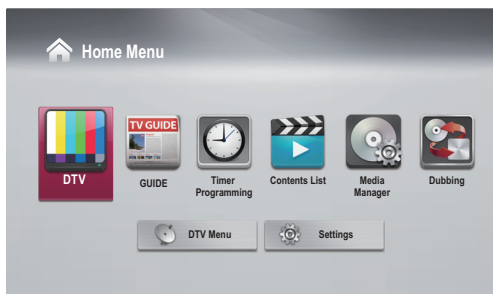
2. Select a channel.
   - **For use of [CH ⌃/⌄] for up / down**
     Press **[CH ⌃/⌄]**.
   - **For use of a 3 digit number**
     Use **[number buttons]** to enter a channel number.
     (e.g.)
     To select the channel 123, press **[1]** > **[2]** > **[3]**.
   - **If the PIN Code entry screen is displayed, refer to "Unlock the DTV rating temporarily" on page 23.**

Selecting a channel from the "Programme List" window

1. While viewing a DTV programme, press **[⦿ ENTER]**.
   - "Programme List" window will appear. The currently selected channel is highlighted.

2. Use **[⟨ / ⟩]** to select a favourite group.
   - If no group has been created, **[⟨ / ⟩]** is not available.
   - A group with no channel will be skipped.

3. Use **[⌃ / ⌄]** to select the desired channel, then press **[⦿ ENTER]**.
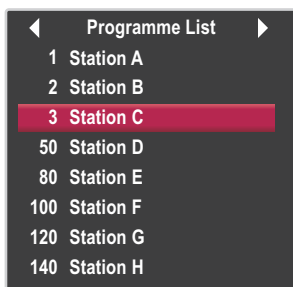
4. Press **[↰ BACK]** to finish.
   - As to "Favourite Group", refer to "Editing favourite groups" on page 22.

Editing favourite groups
You can sort DTV channels into 4 different favourite groups (1 - 4). One channel can be assigned to multiple favourite groups.

1. Press **[⌂ HOME]**, then select "DTV Menu" > "Edit Channels", then press **[⦿ ENTER]**.

2. Select the channel you wish to add to a favourite group, using **[⟨ / ⟩]**.

3. Press a group number **[1]** / **[2]** / **[3]** / **[4]**.
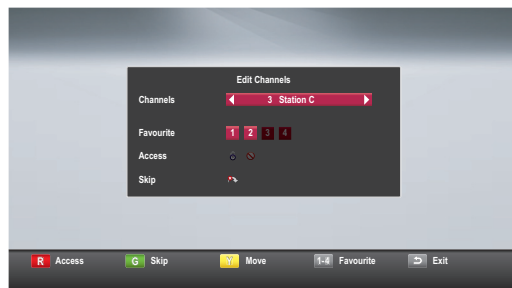
   - To delete a channel from a favourite group, select the channel you wish to delete, then press the group number **[1]** / **[2]** / **[3]** / **[4]** from which you wish to delete the channel.

4. Press **[↰ BACK]** repeatedly to exit.

Switching the audio
You can switch the audio if the programme has multiple audio streams.

1. Press **[AUDIO]** to call up the audio information.
   - You can also call up the audio information by pressing **[SUB MENU]**, then selecting "Audio".

2. Use **[⌃ / ⌄ / ⟨ / ⟩]** to select your desired setting.

3. Press **[⦿ ENTER]** to finish.

Switching the subtitles

1. Press **[SUBTITLE]** to call up the subtitle information.
   - You can also call up the subtitle information by pressing **[SUB MENU]**, then selecting "Subtitle".

2. Use **[⌃ / ⌄]** to select your desired setting.

3. Press **[⦿ ENTER]** to finish.

Switching the image quality (Super Resolution)

Super Resolution enhances SD quality images output in 1080i / 1080p from the HDMI jack, which gives more crisp images.

1. When viewing an SD quality programme, press **[SUB MENU]** to call up the sub menu.

2. Use **[∧/∨]** to select "Super Resolution", then press **[⊙ ENTER]**.
   - Setting information will appear.

3. Use **[∧/∨]** to select "On" , then press **[⊙ ENTER]**.

Unlock the DTV rating temporarily

If the PIN Code entry screen appears while viewing a programme, please enter the PIN Code.

1. Use **[number buttons]** to enter the PIN Code.
   - To turn off "DTV Rating", press **[⌂ HOME]**, then select "DTV Menu" > "Parental Control" > "DTV Rating" > "Unlock", then press **[⊙ ENTER]**.

Viewing from an External Device

To view from an external device connected to this unit, switch this unit to the external input (AV). For how to operate the external device, please refer to the user manual of the device.

Switching to the external input

1. Press **[SUB MENU]** to call up the sub menu.

2. Use **[∧/∨]** to select "Switch DTV or AV", then press **[⊙ ENTER]**.

3. Use **[∧/∨]** to select "AV", then press **[⊙ ENTER]**.

⚠ Note

- In the following case, "AV" is not available.
  - During a dual recording of 2 DTV programmes

Viewing a cable-TV programme

To view a cable-TV programme through this unit, select a channel on the home terminal / set-top box provided by the cable-TV service provider, then switch this unit to the external input. If your cable-TV service is the pass-through type, you can directly select channels on this unit (you do not need to switch the unit to the external input.)
- Please contact your cable-TV service provider for details.
- Please refer to the user manual of the connected device as well.
>> Preparation
- Connect the cable-TV's home terminal / set-top box to this unit's external input.

1. Select a channel on the home terminal / set-top box.

2. Switch this unit to the external input.
   -

4

Viewing

Supported Media

Media other than described below are not supported.

Recordable / playable

About media

HDD	Internal hard disk drive	**-RW**	DVD-RW Ver 1.1 / 1.2 — Usable disc: Up to 6 x
USB-HDD	USB external hard disk drive connected to this unit's USB port with a USB cable	**-R**	DVD-R (Single layer) Ver 2.0 / 2.1 — Usable disc: Up to 16 x
BD-RE	BD-RE SL (Single layer) BD-RE DL (Dual layer) Ver 2.1 — Usable disc: Up to 2 x	**+RW**	DVD+RW — Usable disc: Up to 8 x
BD-R	BD-R SL (Single layer) BD-R DL (Dual layer) Ver 1.1 / 1.2 / 1.3 — Usable disc: Up to 6 x	**+R**	DVD+R (Single layer) — Usable disc: Up to 16 x

Type of media		HDD	USB-HDD	BD-RE	BD-R	-RW		-R	+RW	+R	
						-RW(VR)	-RW(Video)	-R(Video)	+RW(+VR)	+R(+VR)	
Recording (directly to the media)	Digital broadcasting	✓ HD	✓ HD	✓ HD	✓ HD	—	—	—	—	—	✓ : Recordable in HD quality
	External input (AV)	✓ SD	—	✓ SD	✓ SD	—	—	—	—	—	✓ : Recordable in SD quality
Dubbing[1]	Digital broadcasting	✓ HD	✓ HD	✓ HD	✓ HD	✓ SD	✓ SD	✓ SD	✓ SD	✓ SD	✓ : Only copy-free titles are recordable in SD quality
	External input (AV)	✓ SD	✓ SD	✓ SD	✓ SD	✓ SD	✓ SD [2]	✓ SD [2]	✓ SD	✓ SD	— : Not available
Recording multiple times		✓	✓	✓	—	✓	✓ [3]	—	✓	—	
Playback		✓	✓	✓	✓	✓	✓ [2]	✓ [2]	✓	✓	✓ : Operable
Playback from "Contents List"		✓	✓	✓	✓	✓	— [2]	— [2]	✓	✓	— : Not available
Chase play		✓	✓	—	—	—	—	—	—	—	

[1] When dubbing a copy-once programme, refer to "About dubbing restrictions" on page 55 to learn if the dubbing will be "copy" or "move".

[2] When dubbing to DVD-RW (Video) / DVD-R (Video), the disc will automatically be finalised after dubbing is completed. In this owner's manual, finalised DVD-RW (Video) / DVD-R (Video) discs are described as DVD-Video .

[3] If you wish to add a recording to a finalised DVD-RW (Video) disc, please format the disc again. (Refer to "Reinitialising (reformatting) a disc" on page 53). Note that all data on the disc will be deleted.

- For DVD-RW discs, "VR" and "Video" format are supported. For DVD-R discs, only "Video" format is supported.
- The 3-layer / 4-layer BD-RE / -R discs are not supported.
- For DVD-R (Single layer), only "Video" format is supported. Only DVD-R (VR) discs recorded and finalised on another unit are playable on this unit.
- For DVD-R (Dual layer) discs, neither recording nor dubbing is possible on this unit. Only discs recorded and finalised on another unit are playable on this unit.
- For DVD+R (Dual layer) discs, neither recording nor dubbing is possible on this unit. Only discs recorded and finalised on another unit are playable on this unit.
- AVCREC is not supported.

⚠ Note

- When dubbing a copy-once programme to a DVD-RW (VR) disc, use a CPRM compatible disc.

Only playable

About media

BD-Video Disc including the region code ⬡	**AVCHD** High-definition movies recorded on digital camcorders, in AVCHD format
DVD-Video Disc including the region code 🌐 or 🌐	**MP3** For media containing audio files encoded in MP3 format
Audio CD • Audio CD (CD-DA) • Finalised CD-RW / CD-R discs recorded in Audio CD format	**WMA** For media containing audio files encoded in Windows Media™ Audio format
JPEG JPEG image files (from digital cameras)	**DivX®** For media containing movie files encoded in DivX® format

Type of media	BD-Video	DVD-Video	Audio CD	JPEG		AVCHD		MP3		WMA		DivX®	
				DISC(JPEG)	USB(JPEG)	DISC(AVCHD)*4	USB(AVCHD)	DISC(MP3)	USB(MP3)	DISC(WMA)	USB(WMA)	DISC(DivX®)	USB(DivX®)
Playback	✓	✓	✓	✓	✓	✓	—*5	✓	✓	✓	✓	✓	✓
Playback from "Contents List"	—	—	✓	✓	✓	—*5		✓	✓	✓	✓	✓	✓

✓ : Available

— : Not available

*4 Including finalised DVD-RW / DVD-R / DVD+RW / DVD+R (including dual-layered discs)

*5 By copying (dubbing) the contents to the HDD, it will become possible to play back from "Contents List".

- For Audio CD / JPEG / MP3 / WMA and DivX®, its special contents list screen will appear.
- AVCREC is not supported.
- For the dual-layered DVD-R / DVD+R discs, only those recorded and finalised on another unit are playable on this unit.
- VCD / SVCD are not supported.
- AVCHD Ver 2.0 is not supported.

About HDD (internal HDD)

Caution about HDD handling
- Do not subject it to vibration or strong impact, especially when the unit power is on. HDD is also susceptible to temperature and moisture.
- Operating the unit under such conditions described above may cause loss of data or malfunctions.
- If a HDD is damaged, the recorded data may be lost.
- Do not unplug the power cord when the unit power is on.
- Do not lift or move the unit soon after the power is turned off. (Please wait at least 2 minutes.)
- Do not operate this unit under dew condensation conditions.

Please use the HDD as a temporary data storage device.
- It is highly recommended to copy important recordings to discs.
- For mechanical reasons, the HDD may degrade quickly.

Other information
- The internal HDD is unreplaceable. Attempting to replace it causes malfunctions and voids your warranty.
- Please turn the unit power off when it will not be used for an extended period of time.
- No data is recorded on the HDD. Please record on your own media before playback.

About USB-HDD (external HDD)

◆ Available functions

The registered USB-HDD can be used in the same manner as the internal HDD.

Differences from the Internal HDD

- When recording directly to the USB-HDD, recording mode is TS only.
- USB-HDD cannot record 2 programmes simultaneously.
- One title dubbing cannot be performed from a USB-HDD.
- Recording / editing on a protected USB-HDD is not possible.

About discs

◆ Blu-ray Disc™ / DVD / CD

A disc cannot record or play back properly in the following cases.
- The source recording is in a bad condition, an incompatible disc, with scratches / dirt, the unit's lens for recording / playback is dirty, under dew condensation conditions.
- When attempting to play back a disc (recorded on the unit) on a PC / car GPS system / car audio system / video game console.
- When attempting to play back a disc authored on a PC.
- When the DVD's are recorded in an incompatible format, such as the NTSC system. (This unit is compatible with the PAL system.)
- When attempting to play back an unauthorised disc (illegally-copied disc).
- When the disc contains a title with closed captioning.

How to hold a disc
- Hold the disc edges and the centre hole. Try not to touch the recording surface (shiny side).
- If a disc is dirty, clean with a moist, soft cloth, then wipe from the centre to the outer edge with a dry cloth. Do not use commercially available liquid cleaner, thinner, benzine or alcohol.

Do not use the following discs!
- The following discs may cause damage to the disc and the unit.
  - Scratched disc
  - Disc with a label applied on the surface
  - Disc with a label that is coming unglued
  - Disc with a glued label and the glue is running off
  - Cracked / deformed disc repaired with glue
  - Specially-shaped disc (e.g., a hexagon disc)

When using an 8 cm disc
- 8 cm disc can only be played back on this unit. Recording / editing cannot be performed.
- Carefully place the disc to the inner disc tray guide.

◆ BD-RE / BD-R
- This unit may not play back unfinalised BD-R discs recorded on another device or the disc may lose data.
- Initialise a brand-new BD-RE / BD-R disc before using.
- BD-RE Ver 1.0 discs (the cartridge type) are not compatible with this unit.

◆ DVD-RW / DVD-R
- This unit cannot record directly to a DVD-RW / DVD-R disc.
- This unit may not play back unfinalised DVD-RW / DVD-R discs recorded on another device or the disc may lose data.
- DVD-RW (VR) discs can only be played back on VR compatible recorders / players.
- CPRM compatible discs can only be played back on CPRM compatible recorders / players.
- DVD-RW (Video) / DVD-R (Video) discs will automatically be finalised after the dubbing process finishes. This unit recognises these finalised discs as DVD-Video discs.
- It may take extra time to eject x 1 speed disc.

◆ DVD+RW / DVD+R
- This unit cannot record directly to a DVD+RW / DVD+R disc.
- If you make an additional recording to a finalised DVD+RW disc, it will be unfinalised.

◆ BD-Video / DVD-Video
- Some discs may behave unexpectedly because of the software producer's purpose. Please refer to the instructions of the disc.

◆ Audio CD
- Please make sure there is a ⟪CD⟫ mark on the label side of the CD.
- Audio CD's other than the CD standard, such as a CD with a copy-control, may not play properly or be completely incompatible.

◆ About USB devices
- USB devices which can be connect to the USB port on the front of this unit are;
  - USB-HDD
  - USB memory stick
  - Digital camera containing JPEG files
  - Digital camcorder containing AVCHD contents
- Do not connect any other types of USB device other than the examples above or it may cause damage to this unit or loss of data. Operations in use of a USB hub or USB extension cable are not guaranteed.
- Do not charge a cell phone / portable audio player's battery using this unit's USB port or it may cause malfunction of the unit.

◆ About Titles / Tracks / Files
The contents of HDD / disc are generally divided into sections or folders (groups of titles / files) as shown below.

← HDD / USB-HDD / BD-Video / DVD-Video / AVCHD →				
← Title 1 →		← Title 2 →		
Chapter 1	Chapter 2	Chapter 1	Chapter 2	Chapter 3

← Audio CD →				
←Track 1→	←Track 2→	←Track 3→	←Track 4→	←Track 5→

← Media containing JPEG / MP3 / WMA / DivX® files →					
← Folder A →			← Folder B →		
File 1	File 2	File 3	File 4	File 5	File 6
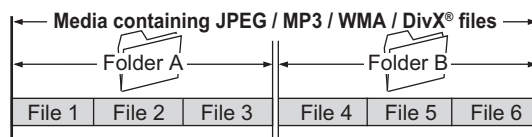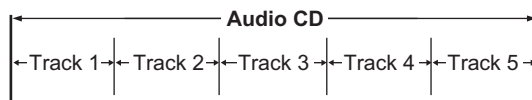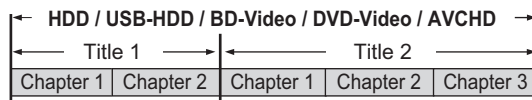
Title: Content on the HDD / disc, which is equivalent to, for example, one episode of a TV drama series

Chapter: A smaller part in a title, which is equivalent to a chapter in a book

Track: A song in an Audio CD

Folder: A directory which can contain files and other folders

File: Content (data) on the HDD / disc

Preparation for a Disc

Place a disc

1. Press **[⏏ OPEN/CLOSE]** to open the disc tray.

2. Place a disc on the tray with the label side facing up.
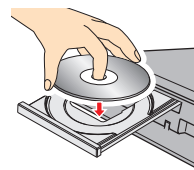
- **When playing back a double-sided disc, place the disc with the playback side down.**

3. Press **[⏏ OPEN/CLOSE]** to close the disc tray.
   - It may take extra time to read some discs.
   - Some video discs automatically start playback.
   - "●" will appear on the display on the front panel when disc loading is completed.

Initialise (format) a brand-new Blu-ray Disc™
`BD-RE` `BD-R`

When putting a brand-new disc in the unit, the initialisation (format) screen will appear. This is a necessary process to make the disc recordable.

BD-RE	• A brand-new disc is not formatted. Format it before using. • BD-RE discs can be formatted multiple times. Note that this process deletes all data on the disc.
BD-R	• A brand-new disc is not formatted. Format it before using. • BD-R discs can be formatted only once.

1. Place a brand-new disc in the unit.

2. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

> **This disc is not formatted and cannot be played or recorded.**
>
> **Format Disc?**
>
> **Yes**
>
> **No**
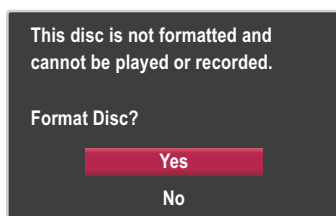
   • It may take extra time to complete.

(!) Note

• Do not unplug the AC cord while loading a disc or performing a disc format. Doing so may cause damage to the disc or malfunction of the unit.
• It is not possible to cancel the formatting process once it has begun.

Format a brand-new DVD
`-RW` `+RW(+VR)`

When placing a brand-new DVD-RW / DVD+RW disc in the unit, the initialisation (format) screen will appear. It is not possible to record on an unformatted disc. (Direct recording to a DVD is not possible.)

DVD-RW	• A brand-new DVD-RW is not formatted. Format it in VR or Video mode before using. • DVD-RW discs can be formatted multiple times. Note that this process deletes all data on the disc. (Refer to page 53.)
DVD-R	• A brand-new DVD-R is formatted in Video mode at the factory. No need to re-format the disc before using. • DVD-R discs cannot be re-formatted.
DVD+RW	• A brand-new DVD+RW is not formatted. Format it in +VR mode before using. • DVD+RW discs can be formatted multiple times. Note that this process deletes all data on the disc. (Refer to page 53.)
DVD+R	• DVD+R discs cannot be re-formatted. • A brand-new DVD-R is formatted in +VR mode at the factory. No need to re-format the disc before using.

1. Place a brand-new disc in the unit.

2. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

> **This disc is not formatted and cannot be played or recorded.**
>
> **Format Disc?**
>
> **Yes**
>
> **No**

   • For DVD+RW, formatting will begin right after you press **[⊙ ENTER]** on "Yes".
   • For DVD-RW, proceed to step 3.

3. Use **[∧/∨]** to select the desired format mode, then press **[⊙ ENTER]**.

> **Please choose the DVD format.**
>
> Copied programme will be recorded with normal resolution.
> If you want to Dubbing a Dubbing protection programme, please use DVD supporting CPRM.
>
> **VR Format**
> **Video Format**
> **Cancel**
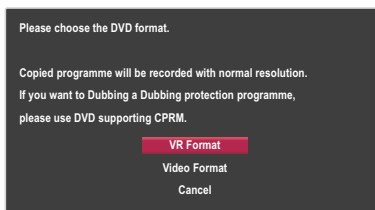
   • It may take a while to complete.
   • **To cancel the formatting process, select "Cancel", then press [⊙ ENTER].**

About DVD recording format
◆ VR format (DVD Video Recording Format)
`-RW(VR)`

• Offers advanced editing features.
• Can record and edit repeatedly.
• Playable only on VR compatible Blu-ray Disc™ / DVD players.
• Finalisation recommended.
• By unfinalising a finalised disc, additional recordings can be performed.

◆ +VR format
`+RW(+VR)` `+R(+VR)`

• Offers basic editing features.
• Can record and edit repeatedly.
• Playable on most Blu-ray Disc™/DVD players.
• Finalisation recommended.
• For DVD+RW, if additional recording is made, the disc will automatically be unfinalised.
• For DVD+R, additional recordings are not available after finalisation.

◆ Video format (DVD Video Format)
`-RW(Video)` `-R(Video)`

• Same recording format used for the most commercial DVD-Video.
• Playable on most Blu-ray Disc™ / DVD players.
• When dubbing is completed, the disc will automatically be finalised.
• Additional recordings are not available after finalisation.

Preparation for a USB Device

Connecting a USB device

With this unit, you can play back JPEG / AVCHD / MP3 / WMA / DivX® files recorded on a USB device, such as a USB memory stick or a digital camera. JPEG files can be played back directly from the USB device.
AVCHD files should first be dubbed to the internal HDD. Also, you can connect a USB-HDD to this unit and record broadcast programmes to it or play back the recorded titles in the same manner as the internal HDD.

To USB port

USB memory stick
(not supplied)

USB cable (not supplied)

USB-HDD (not supplied)

Digital camcorder
(AVCHD file format)

Digital camera
(JPEG file format)

◆ When USB device is connected to this unit...

- The display on the front panel will show "⛁".
- Setting menu may appear on the display of the connected device. In such case, select PC connection mode.
  (Refer to the user manual of the USB device for details.)
- It may take a while to recognise the USB device.
- This unit does not support AVCHD Ver 2.0.
- If your USB-HDD has a power switch, turn on the USB-HDD first before you turn on this unit.
- **To disconnect the USB device, make sure the playback is stopped, then slowly pull out the device. As for USB-HDD, make sure the power of this unit and the USB-HDD are turned off before disconnecting.**

⊘ Note

- Be sure to turn off this unit and the USB-HDD before disconnecting the USB-HDD. If "Quick Booting" is activated, be sure to deactivate it before turning off this unit. (Refer to page 65.) No indicators on the display panel should be lighted when the unit is powered off.
- Do not turn off or disconnect the USB-HDD while it is running. It may cause data loss or malfunction of this unit.
- We are not responsible for data-loss or damage to your USB-HDD caused by malfunction of this unit, repairing of the USB-HDD or the uninstructed connection of the USB-HDD to other devices.

Before Recording

Select a media to record to

For some programmes, recording is prohibited or restricted for copyright protection reasons.

Restriction on recording	HDD USB-HDD[*1]	BD-RE BD-R[*2]	-RW(VR)	-RW(Video) -R(Video)	+RW(+VR) +R(+VR)
Copy-free programme	✓	✓	—	—	—
Copy-once programme	✓	✓	—	—	—
Copy-protected programme	—	—	—	—	—

✓ : Available

— : Not available

*1 In the following cases, recording will be performed to the HDD even if a timer recording is set for the USB-HDD.
- When the USB-HDD is not registered to this unit.
- When the USB-HDD is not connected to this unit.
- When the USB-HDD is not powered on when a timer recording starts.
- When the USB-HDD does not have enough capacity to record.

*2 In the following cases, recording will be performed to the HDD even if a timer recording is set for a BD-RE/R disc.
- No recordable disc is in the unit.
- The disc does not have enough capacity to record.

(!) Note

- Direct recording to a DVD is not possible.
- When recording a programme with no copy restriction and copy-once programme in a row at one time, the start time and the end time makes the recording one title. Hence, it will "move" when dubbing this title.

Start ⸺ Continuous recording as one title ⸺▶ End

Programme with no copy restriction (Copy)	Copy-once programme (Move)

When dubbing...

(Move)
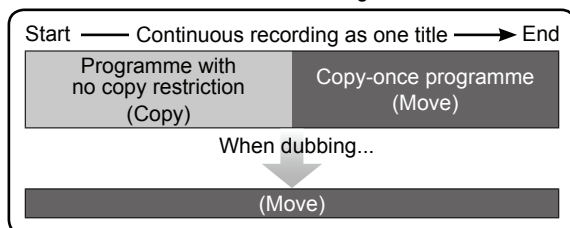
- Data broadcasting cannot be recorded.
- Radio broadcasting can be recorded to the HDD only.
- This unit will pause recording when a programme changes to a copy-protected programme or parental-lock programme. The recording will be resumed when the programme changes back to the recordable programme.
- For recording modes and restrictions on recordings with audio / subtitles, refer to pages 29 to 31.

Recording mode (image quality) and approx. recording time

"Recording mode" refers to the image quality. You can choose whether to give priority to image quality or recording duration.

Image quality and recording duration by recording mode

TS	• Digital broadcasting	As is broadcasted	Image quality → Rec. duration	High image quality ↑
AF AN AE	• Digital broadcasting	Compressed HD quality		
XP SP LP EP	• Digital broadcasting • External input	SD quality	Image quality → Rec. duration	Standard image quality

HDD

Recording mode and Approximate bit rate		Maximum recordable duration	
		BR629T (1TB)	BR625T (500GB)
TS	DTV (HD): 15 Mbps	147 hours	73 hours
	DTV (SD): 8 Mbps	276 hours	137 hours
AF	12.9 Mbps	171 hours	85 hours
AN	8.6 Mbps	257 hours	128 hours
AE	4.36 Mbps	506 hours	252 hours
	2 Mbps	1097 hours	547 hours
XP	1 hr mode: 9.5 Mbps	231 hours	115 hours
SP	2 hr mode: 4.7 Mbps	462 hours	230 hours
LP	4 hr mode: 2.3 Mbps	930 hours	464 hours
EP	6 hr mode: 1.6 Mbps	1375 hours	686 hours
	8 hr mode: 1.2 Mbps	1845 hours	920 hours

BD-RE BD-R

Recording mode and Approximate bit rate		Maximum recordable duration	
		Single layer (25GB)	Dual layer (50GB)
TS	DTV (HD): 15 Mbps	3 hours and 20 minutes	7 hours
	DTV (SD): 8 Mbps	6 hours and 30 minutes	13 hours
AF	12.9 Mbps	4 hours	8 hours
AN	8.6 Mbps	6 hours	12 hours
AE	4.36 Mbps	12 hours	24 hours
	2 Mbps	26 hours	53 hours
XP	1 hr mode: 9.5 Mbps	5 hours and 15 minutes	11 hours
SP	2 hr mode: 4.7 Mbps	10 hours and 30 minutes	22 hours
LP	4 hr mode: 2.3 Mbps	21 hours	44 hours
EP	6 hr mode: 1.6 Mbps	32 hours	66 hours
	8 hr mode: 1.2 Mbps	43 hours	88 hours

-RW -R(Video) +RW(+VR) +R(+VR) (for dubbing only)

Recording mode and Approximate bit rate		Maximum recordable duration
XP	1 hr mode: 9.5 Mbps	1 hour
SP	2 hr mode: 4.7 Mbps	2 hours
LP	4 hr mode: 2.3 Mbps	4 hours
EP	6 hr mode: 1.6 Mbps	6 hours
	8 hr mode: 1.2 Mbps	8 hours

(!)**Note**

- Maximum recordable duration is approximate and will depend on the content.
- Bit rate defers depending on the programme and the possible recordable duration will defer.
- Programmes containing scenes with quick motion or rapid changes in brightness, such as sports and concerts, may cause block noise.
- The possible recording duration of the recording mode, AE and EP, can be configured in "Home Menu" > "Settings" > "Recording" > "AE Mode" or "EP Mode".
- In some cases, the recordable capacity of the disc may decrease due to information, such as chapter markers and other management information, written along with the recording data.
- This unit employs VBR (Variable Bit Rate) for efficient recording and the possible recording duration differs depending on the content.
- The longest recording duration is 8 hours. This unit will automatically stop recording when a recording duration reaches 8 hours.
- Direct recording of DTV programme to the HDD / USB-HDD / BD is only available in TS mode.
  - AF / AN / AE, XP / SP / LP / EP mode can be used for TS → AVC/PS conversion and dubbing to the HDD / USB-HDD.
  - TS → AVC/PS conversion is not available for BD-RE / BD-R discs. When dubbing, AF / AN / AE, XP / SP / LP / EP can be used.
- Recording from the external device to a USB-HDD is not possible.

Recording along with bilingual audio (dual audio) / multi audio / surround audio / subtitles

Before recording, please confirm the recording mode and the setting in "Home Menu" > "Settings" > "Recording" are configured as you wish.

◆ When recording a programme along with bilingual audio (dual audio) / multi audio / surround audio / subtitles

Rec. to		(For dubbing / recording mode changing)		
	HDD **USB-HDD** **BD-RE** **BD-R**	**HDD** **USB-HDD** **BD-RE** **BD-R**	**HDD** **USB-HDD** **BD-RE** **BD-R** **-RW(VR)**	**-RW(Video)** **-R(Video)** **+RW(+VR)** **+R(+VR)**
Rec. mode	TS	AF / AN / AE	XP / SP / LP / EP	XP / SP / LP / EP
Bilingual audio (Dual audio)	Both Main / Sub audio will be recorded • It is switchable during playback.	Both Main / Sub audio will be recorded • It is switchable during playback.[4]	Both Main / Sub audio will be recorded.[1] • The audio is switchable during playback.	Only the audio selected in "Bilingual Recording Audio" (Main or Sub) will be recorded.
Multi audio	Multiple audio will be recorded. • It is switchable during playback.	When recording / dubbing, one of the audio streams will be recorded. If a programme contains an English audio stream, it will be recorded. If multiple English audio streams are contained, they will be recorded in the following order. • HE-AAC > AAC > AC3 > MPEG If the programme does not contain an English audio stream, "Audio 1" will be recorded. • It is not switchable during playback.		
Surround audio	Surround audio as is broadcasted will be recorded.	It will be recorded in stereo.		
Subtitles	Subtitle information will be recorded.[2] • It is switchable (On / Off) during playback.	■ **If "Settings" > "Recording" > "Subtitle Recording" is set to "On"...** When recording / dubbing, one of the subtitles will be recorded. If the programme contains an English subtitles, it will be recorded. If multiple English subtitles are contained, they will be recorded in the following order. • Teletext for the hearing impaired > Teletext > Subtitle for the hearing impaired > Subtitle If the programme does not contain an English subtitles, "Subtitles 1" will be recorded. • Subtitles will be burned in the images and it cannot be turned "On" / "Off". ■ **If "Settings" > "Recording" > "Subtitle Recording" is set to "Off"...** Subtitles will not be recorded.		

◆ If recording a content along with bilingual audio from an external device...

Rec. to	(For dubbing)	
	`HDD` [*5] `USB-HDD` `BD-RE` [*5] `BD-R` [*5] `-RW(VR)`	`-RW(Video)` `-R(Video)` `+RW(+VR)` `+R(+VR)`
Rec. mode	XP / SP / LP / EP	XP / SP / LP / EP
Bilingual audio[*3]	Both Main / Sub audio will be recorded.[*1] • It is switchable during playback.	Only the audio selected in "Bilingual Recording Audio" Main or Sub) will be recorded.

[*1] If "Recording" > "Recording Audio Select(XP)" is set to "PCM" and recording in XP mode, the audio will be recorded based on the setting in "Recording" > "Bilingual Recording Audio". In this case, the audio is not switchable during playback.
Also, when dubbing to a DVD-RW (Video) / DVD-R (Video) / DVD+RW (+VR) / DVD+R (+VR) disc, the setting in "Bilingual Recording Audio" will be applied likewise.

[*2] Subtitles can be switched "On" / "Off" during playback only when it is high-speed dubbing.

[*3] To record from the external input (AV) as a bilingual audio content, make sure the setting in "Recording" > "External Input Audio" is set to "Bilingual". If it is set to "Stereo", both Main and Sub audio will be output at the same time.

[*4] When dubbing a title recorded in TS mode using AF / AN / AE mode or converting it to AF / AN / AE mode, the audio will be recorded in stereo and when playing back the title, both Main / Sub audio will be output at the same time. In order to select either audio, switch the audio to Left ch or Right ch.

[*5] Direct recording is also possible.

(!) Note

• Recording from the external device to a USB-HDD is not possible.

Simultaneous operations

◆ Whether a timer recording can be performed during playback

Media being played	Recording media	
	`HDD` `USB-HDD`	`BD-RE` `BD-R`
`HDD` `USB-HDD`	✓	✓
`BD-RE` `BD-R`	✓	✓̸
`-RW` `-R` `+RW` `+R`	✓	—[*1]
`BD-Video`	✓	—[*1]
`DVD-Video` `Audio CD`	✓	—[*1]
`DISC(JPEG)` `DISC(DivX®)` `DISC(MP3)` `DISC(WMA)`	✓̸	—[*1]
`USB(JPEG)` `USB(DivX®)` `USB(MP3)` `USB(WMA)`	✓̸	✓̸
`DISC(AVCHD)`	✓	—[*1]

✓ : Available

✓̸ : Available (Playback will stop 2 minutes before a timer recording starts.)

— : Not available

[*1] The timer recording will be performed to the HDD in substitution for the originally intended media (alternative recording).

◆ Available operations while recording a programme

Currently recording media and the recording mode (single recording)		Playback media			
		HDD / USB-HDD	BD-RE / -RW / +RW / BD-R / -R / +R / DVD-Video / Audio CD	BD-Video / DISC(AVCHD)	DISC(JPEG) DISC(DivX®) DISC(MP3) DISC(WMA) USB(JPEG) USB(DivX®) USB(MP3) USB(WMA)
HDD	TS	✔	✓	✓	—
HDD	XP / SP / LP / EP	✔	✓	—	—
USB-HDD	TS	✔	✓	✓	—
BD-RE / BD-R	TS, XP / SP / LP / EP	✓	—	—	—

Currently recording media and the recording mode (dual recording)				Playback media			
				HDD / USB-HDD	BD-RE / -RW / +RW / BD-R / -R / +R / DVD-Video / Audio CD	BD-Video / DISC(AVCHD)	DISC(JPEG) DISC(DivX®) DISC(MP3) DISC(WMA) USB(JPEG) USB(DivX®) USB(MP3) USB(WMA)
HDD	TS	HDD	TS	✔	✓	✓	—
			XP / SP / LP / EP	✔	✓	—	—
		USB-HDD	TS	✔	✓	✓	—
		BD-RE / BD-R	TS, XP / SP / LP / EP	✔	—	—	—
	XP / SP / LP / EP	USB-HDD	TS	✔	✓	—	—
		BD-RE / BD-R	TS	✔	—	—	—
USB-HDD	TS	BD-RE / BD-R	TS, XP / SP / LP / EP	✔	—	—	—

✔ : Available (Chase play also available)
✓ : Available (Chase play not available)
— : Not available

◆ Playable media and a possible timer recording while dubbing a title

Dubbing direction	Dubbing speed	Playback			Timer recording	
		HDD / USB-HDD	BD-RE / -RW / +RW / BD-Video / BD-R / -R / +R / DVD-Video / DISC(AVCHD) / Audio CD	DISC(JPEG) DISC(DivX®) DISC(MP3) DISC(WMA) USB(JPEG) USB(DivX®) USB(MP3) USB(WMA)	HDD / USB-HDD	BD-RE / BD-R
HDD → USB-HDD	High	✔[*1]	✔	—	✔	—[*2]
USB-HDD → HDD	Normal	—	—	—	✓	✓
HDD → BD-RE / BD-R / -RW(VR) / +RW / +R	High	✔[*1]	—	—	✔	—[*2]
	Normal	—	—	—	✓	✓
HDD → -RW(Video) / -R(Video)	High	—	—	—	✓	—[*2]
	Normal	—	—	—	✓	✓
BD-RE / BD-R → HDD	High	✔	—	—	✔	—[*2]
	Normal	—	—	—	✓	✓
-RW(VR) / DISC(AVCHD) / USB(AVCHD) → HDD	High	✔	—	—	✔	—[*2]
+RW / +R → HDD	Normal	—	—	—	✓	✓

✔ : Available
✓ : Available (Dubbing will be cancelled 2 minutes before a timer recording starts.)
— : Not available

[*1] When "moving", playback of the dubbing source is not possible.

[*2] The timer recording will be performed to the HDD in substitution for the originally intended media (alternative recording).

Recording a Programme Currently On Air

`HDD` `USB-HDD` `BD-RE` `BD-R`

>> Preparation
• To record to a USB-HDD, connect it to the unit.
• To record to a disc, place a recordable disc in the unit.

1. Press **[HDD]** / **[DISC]** / **[USB]** to select the recording media.

2. Follow steps 1 and 2 in "Selecting a channel" on page 22.

3. Press **[● REC.]** to start recording.
   • If pressing **[● REC.]** twice or more, the recording will be ITR (Instant Timer Recording).
   • **To pause recording (for HDD / USB-HDD only) Press [HDD] / [USB] to switch the unit to the recording media, then press [❙❙]. To resume, press [❙❙] again.**
     - ITR cannot be paused.
   • **To stop recording Press [■].**
     - If you stop recording, the recording (from the beginning to where it was stopped) will be one title. (It may take a moment to accept the next operation.)
     - A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[● ENTER]**.
   • **To pause the following operations, press [HDD] / [USB] to switch the unit to the recording media, then select the channel which is being recorded, then press [❙❙]. (for HDD / USB-HDD only)**
     - Dual recording
     - Chase play
     - Simultaneous rec/play
   • **To stop the following operations, press [HDD] / [USB] to switch the unit to the recording media, then select the channel which is being recorded, then press [■].**
     - Dual recording
     - Chase play
     - Simultaneous rec/play

⚠ Note

• You can check the channel of the programme currently being recorded and the recording media by pressing **[DISPLAY]**.

Changing the recording mode (image quality)

You can change the recording mode (image quality) when recording from an external device. (For DTV recording, only "TS" is available and it is not changeable.)

1. Press **[SUB MENU]** to call up the sub menu.

2. Use **[∧/∨]** to select "Rec Mode", then press **[● ENTER]**.

3. Use **[∧/∨]** to select the desired setting, then press **[● ENTER]**.

```
Remain (HDD) 400:00
XP        High picture
SP        quality
LP          ↕
EP        long time
```
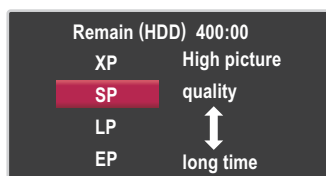
⚠ Note

• For recording to a USB-HDD, recording mode is not changeable.

ITR (Instant Timer Recording)

`HDD` `USB-HDD` `BD-RE` `BD-R`

You can instantly set the recording duration to stop the recording automatically.

In step 3 in "Recording a Programme Currently On Air" on page 33, by pressing **[● REC.]** more than twice, the recording duration increases by 15 minutes. (e.g., pressing **[● REC.]** twice sets the unit to stop the recording in 15 minutes, 3 times 30 minutes.)
• You can set an ITR up to 4 hours.
• To cancel an ITR, press **[● REC.]** repeatedly until a duration time on the TV screen disappears.
• A confirmation message will appear when the ITR finishes, then the unit will automatically be turned off after 1 minute.
• If no ITR is set, the recording will automatically stop in 8 hours.
• The ITR duration will be displayed on the display panel.
• To stop recording during an ITR:
  - When recording one programme, refer to "Recording a Programme Currently On Air" on page 33.
  - When recording 2 programmes simultaneously or during chase play, refer to "Dual Recording" on page 35.
• Recording cannot be paused during an ITR.

6

Recording

Before Timer Programming

To call up the "Timer Programming" screen
1) Press **[TIMER REC.]**.
   • You also can access the timer programming screen from "Home Menu" > "Timer Programming".

Recording mode

Timer Programming   19:00   THU   02/08/2012

Programme AAA
WED   01/08   19:00 – 20:00   1   Station A   TS

Programme BBB
THU   02/08   18:00 – 18:30   2   Station B   TS

Programme CCC
Skip   Daily   02/08   21:00 – 2:00   3   Station C   TS

Display each function with [SUB MENU].

Icons   Event name, programmed day, date, time, station name
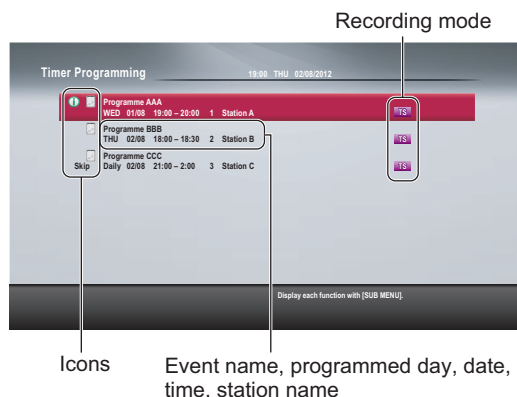
Icons used on the timer programming screen

(i) ⚠ : Information

●REC : Recording in progress

⚫ ▯ 🔌 : Recording media

Skip : This daily timer programme will be skipped this time.

About "Programme Guide"

On the programme guide screen, select the desired programme for a timer recording, then press **[⊙ ENTER]**.
• The programme guide can display programmes for the next 8 days.
• "🕐" will appear on the programmed timer recording.
• **To see the detailed information of a programme**
  - On the programme guide screen, select a programme, then press **[INFO]**.

Programme genre icons

Undefined	Movie	News
Entertainment	Sport	Children's
Music	Arts/Culture	Current affairs
Education	Infotainment	Special
Comedy	Drama	Documentary

(!) **Note**

• The programme guide is not available when you first set up this unit. This unit needs to receive the EPG data. (Refer to "Receiving the Programme Guide" on page 19.)
• If programme information is unavailable, please view the channel for a while, then try and call up the programme guide screen again.
• There are cases in which a broadcast station airs a different programme from the scheduled programme. This may cause an inconsistency between the actual air and the information in the programme guide.

Programming a Timer Recording from "Programme Guide"

HDD **USB-HDD** **BD-RE** **BD-R**

You can programme timer recordings for the next 8 days.
>> Preparation
• To record to a USB-HDD, connect it to the unit.
• To record to a disc, place a recordable disc in the unit.

1. Press **[GUIDE]**.
   • You can also call up the programme guide screen from "Home Menu" > "GUIDE".
   • You can switch between "Daily Mode" / "Weekly Mode" by pressing **[RED]** / **[GREEN]**.

2. Use **[∧/∨/‹/›]** to select a programme to record, then press **[⊙ ENTER]**.
   • "Timer Programming" screen will appear.
   • You can modify the end time, recording media and recording mode.

3. Use **[›]** to select "OK", then press **[⊙ ENTER]**.

Timer Programming   19:00   THU   02/08/2012

Date	Start	End	CH	REC To
THU 02/08	19 : 30	21 : 00	DTV 1	HDD
			Programme A	Remain 140 : 00

Mode(TS)

OK

Cancel

Select each category with [RIGHT].
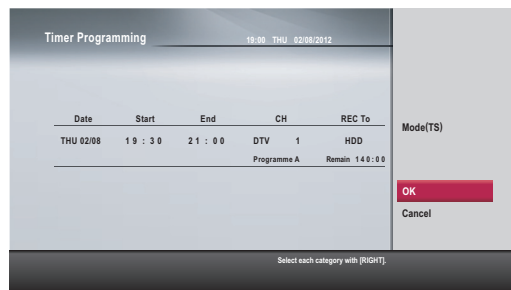
4. Press **[↩ BACK]** to finish.

Manual Timer Programming

`HDD` `USB-HDD` `BD-RE` `BD-R`

If the programme you wish to record is unable to set from the programme guide screen, you can manually programme a timer recording for it. Manual timer programming allows you to programme timer recordings for the next one month.
>> Preparation
• To record to a USB-HDD, connect it to the unit.
• To record to a disc, place a recordable disc in the unit.

1. Press **[TIMER REC.]** to call up "Timer Programming" screen.

2. Press **[SUB MENU]** to call up the sub menu.

3. Use **[∧/∨]** to select "New Programme", then press **[⊙ ENTER]**.

   ```
   Timer Programming                    19:00  THU  02/08/2012

   ■■ ■  Programme AAA
           WED  01/08   19:00 – 20:00   1   Station A        Information
        Programme BBB                                        Programme Change
        THU  02/08   18:00 – 18:30   2   Station B
        Programme CCC
        THU  02/08   21:00 – 2:00    3   Station C           Delete
                                                             Delete multi prog.

                                                             New Programme
                                                             Skip
   ```
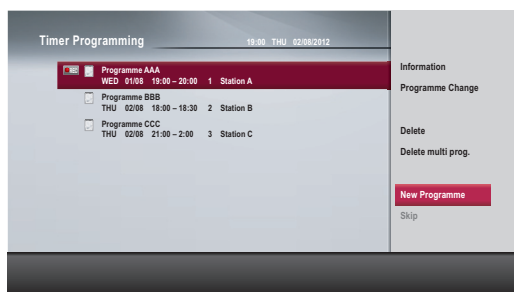
4. Use **[⟨/⟩]** to select "Date", "Start", "End", "CH" and "REC To", then set each item using **[∧/∨]**.
   • For every week / every day recording
     You can select it at "Date" pressing **[∨]** multiple times.

5. Press **[⟩]** to move to the sub menu.

6. Press **[∧]** to select "Mode", then press **[⊙ ENTER]**. The recording mode list will appear. Use **[∧/∨]** to select your desired recording mode, then press **[⊙ ENTER]**.
   • When timer programming a DTV channel in the recording mode other than TS, the programme will be recorded in TS mode first, then it will be converted to the selected recording mode after the unit is turned off.
   • When timer programming a DTV channel in the recording mode other than TS, "Remain" in the timer programming screen still shows the remaining time based on TS mode recording.
   • When timer programming a DTV channel to a BD-RE / BD-R disc, only TS mode is available.

7. Press **[∨]** to move to "OK", then press **[⊙ ENTER]**.
   • **If timer programmes overlap, refer to "When timer programmes overlap" on page 38.**
   • **To programme another timer recording, repeat steps 2 to 7.**

8. Press **[↵ BACK]** to finish.

Dual Recording

This unit can record 2 DTV programmes or record 1 DTV programme and another recording from an external device simultaneously.
>> Preparation
• Start recording the first programme.

1. Start recording another programme.
   • To record a programme currently being viewed (Refer to "Recording a Programme Currently On Air" on page 33.)
   • To programme a timer recording from the programme guide (Refer to "Programming a Timer Recording from "Programme Guide"" on page 34.)
   • To manually programme a timer recording (Refer to "Manual Timer Programming" on page 35.)
   • **To pause a dual recording**
     Refer to "To pause recording (for HDD / USB-HDD only)" in "Recording a Programme Currently On Air" on page 33.
   • **To pause the recording during chase play or simultaneous rec/play, press [■] to stop playback beforehand.**
   • **To stop a dual recording**
     Refer to "To stop recording" in "Recording a Programme Currently On Air" on page 33.
   • **To stop the recording during chase play or simultaneous rec/play, press [■] to stop playback beforehand.**

◆ Possible dual recording on this unit
• **When recording both to** `HDD`
  - DTV ➡ `HDD`
  - DTV or external input ➡ `HDD`

• **When recording to** `HDD` **and** `USB-HDD`
  - DTV or external input ➡ `HDD`
  - DTV ➡ `USB-HDD`

• **When recording to** `HDD` **and** `BD-RE` `BD-R`
  - DTV or external input ➡ `HDD`
  - DTV or external input ➡ `BD-RE` `BD-R`

• **When recording to** `USB-HDD` **and** `BD-RE` `BD-R`
  - DTV ➡ `USB-HDD`
  - DTV or external input ➡ `BD-RE` `BD-R`

• This unit cannot record from an external device to a USB-HDD or to the HDD and a BDAV disc simultaneously.
• For DTV programme recording, the recording mode is TS only. The titles recorded in TS mode, however, can be converted to AF / AN / AE, XP / SP / LP / EP mode after this unit is turned off.
• Dual recording cannot be performed to a USB-HDD.
• This unit can record 2 DTV programmes or 1 DTV programme and content from the external input (AV) simultaneously.
• Dual recording from the external input (AV) is not possible.
• During high-speed dubbing for HDD > BD-RE / BD-R, this unit can perform a dual recording to the HDD/USB-HDD other than the dubbing.

(!) Note
• During dual recording, channels other than the recording channels cannot be viewed.

6

Recording

Recording from an External Device

To record from an external device connected to this unit, switch this unit to the external input (AV). For how to operate the external device, please refer to the user manual of the device.

To record a cable-TV programme

>> Preparation
- Connect the cable-TV's home terminal / set-top box.
- Complete "External Input Audio" setting.
- Switch the cable-TV's home terminal / set-top box to the desired channel.

1. Switch this unit to the external input. (Refer to "Viewing from an External Device" on page 23.)

2. Start recording.
   - **Refer to page 33 for how to record.**
   - **Refer to page 35 for how to programme a timer recording.**

(!) **Note**

- Please turn on the home terminal / set-top box before a timer recording starts.
- During a dual recording, you can only view the currently recorded channels on this unit.

Confirming / Modifying / Cancelling Timer Programmes, Stopping a Timer Recording

Confirming timer programmes

1. Press **[TIMER REC.]** to call up "Timer Programming" screen.
   (Refer to "Guide to the "Timer Programming" screen" on page 34.)
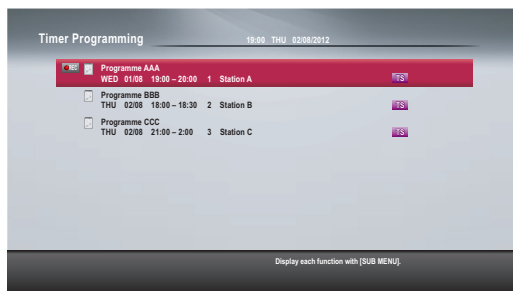
   - **To move to next page**
     Press [RED] / [GREEN].
   - For the timer programmes set from the programme guide, select a programme, then press **[⊙ ENTER]** or **[SUB MENU]**. In the sub menu, select "Information" to confirm the programme.

2. Press **[⤺ BACK]** to finish.

Skipping weekly / daily timer recording temporarily

1. Press **[TIMER REC.]** to call up "Timer Programming" screen.

2. Use **[∧/∨]** to select a programme you wish to skip temporarily, then press **[SUB MENU]**.

3. Use **[∧/∨]** to select "Skip", then press **[⊙ ENTER]**.

   - "Skip" will appear. Next recording of this programme will be skipped.
   - To cancel skip setting, proceed to steps 2 and 3 to cancel it.

4. Press **[⤺ BACK]** to finish.

(!) **Note**

- Skip setting will be effective one time only. Once a programme is skipped, the skip setting will be cancelled.

Modifying a timer programme

◆ **Modifying a timer programme from "Timer Programming"**

1. Press **[TIMER REC.]** to call up "Timer Programming" screen.

2. Use **[∧/∨]** to select a timer programme to modify, then press **[SUB MENU]**.

3. Use **[∧/∨]** to select "Programme Change", then press **[◉ ENTER]**.

4. Use **[‹/›]** to move to the item, then modify it using **[∧/∨]**.

```
Timer Programming                    19:00  THU  02/08/2012




       Date        Start      End        CH        REC To      Mode(TS)
    THU 02/08     19 : 30    21 : 0 0    DTV    1    HDD
                                      Programme A    Remain  140 : 0 0

                                                            OK

                                                            Cancel



                              Select each category with [RIGHT].
```
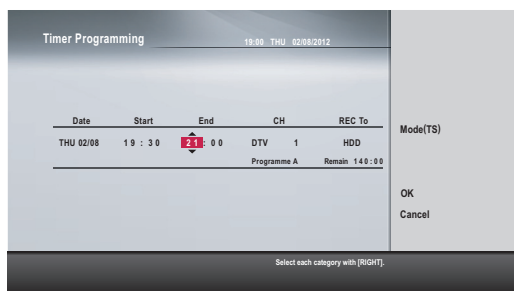
5. Use **[›/∧]** to move to "Mode", then press **[◉ ENTER]**.

6. Use **[∧/∨]** to select the desired recording mode, then press **[◉ ENTER]**.

7. Use **[∧/∨]** to select "OK", then press **[◉ ENTER]**.
   • **If timer programmes overlap, refer to "When timer programmes overlap" on page 38.**

8. Press **[⤺ BACK]** to finish.

◆ **Modifying a timer programme from "Programme Guide"**

1. Press **[GUIDE]** to call up the programme guide screen (Refer to "Guide to the "Programme Guide" screen" on page 19.)

2. Use **[∧/∨/‹/›]** to select the timer programme to modify, then press **[◉ ENTER]**.

3. Use **[∧/∨]** to select "Programme Change", then press **[◉ ENTER]**

4. Modify the timer programme.

5. Press **[›]**, then use **[∧/∨]** to select "OK", then press **[◉ ENTER]**.

6. Press **[⤺ BACK]** to finish.

(!) **Note**

For timer recording in progress…
• For manual timer programme, only the end time can be modified.

Cancel an unnecessary timer programme

◆ **Cancelling a timer programme set from the programme guide**
• Cancellation will be one-by-one.

1. Press **[GUIDE]** to call up the programme guide screen.
   (Refer to "Guide to the "Programme Guide" screen" on page 19.)

2. Use **[∧/∨/‹/›]** to select a timer programme to cancel, then press **[◉ ENTER]**.

3. Use **[∧/∨]** to select "Delete", then press **[◉ ENTER]**.
   • A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[◉ ENTER]**.

4. Press **[⤺ BACK]** to finish.

6

Recording

◆ **Cancelling a timer programme from the "Timer Programming" screen**

1. To cancel one timer programme
   1) Press **[TIMER REC.]** to call up the "Timer Programming" screen.
   2) Use **[∧/∨]** to select the timer programme to cancel, then press **[SUB MENU]**.
   3) Use **[∧/∨]** to select "Delete", then press **[⊙ ENTER]**.

   To cancel multiple timer programmes
   4) Press **[TIMER REC.]** to call up the "Timer Programming" screen.
   5) Press **[SUB MENU]** to call up the sub menu.
   6) Use **[∧/∨]** to select "Delete multi prog.", then press **[⊙ ENTER]**.
   7) Use **[∧/∨]** to select the timer programmes to cancel, then press **[⊙ ENTER]**.
      - "✓" will be displayed next to the selected timer programmes.
   8) Press **[>]** to select "OK", then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select "Yes" in the confirmation message window, then press **[⊙ ENTER]**.

3. Press **[⤺ BACK]** to finish.

Stopping the timer recording in process

1. If chase play or simultaneous rec/play is being performed, press **[■]** to stop it beforehand.

2. Press **[■]** to stop the recording.

3. Use **[∧/∨]** to select "Yes" in the confirmation message window, then press **[⊙ ENTER]**.
   - The recording (from the beginning to where it was stopped) will be one title. (It may take a moment to accept next operation.)
   - **To stop a dual recording Switch to the recording channel, then press [■].**

Additional Information about Recording

Overall recording

• Recording will automatically stop in case the HDD / disc becomes full.

Overall timer recording

◆ **When a timer recording is set**
• "🕒" appears on the display of the unit.

Right before the timer recording
• If the unit is powered off, it will automatically be turned on 2 minutes before a timer recording starts.

After a timer recording
• The recording will automatically stop.

Alternate recording

When a timer recording cannot be performed for the following reasons, the unit will record to the HDD (if possible), then notify on the "Timer Programming" screen.
• If the disc is not recordable or there is no disc in the unit.
• If the BD-RE/-R disc or the USB-HDD does not have enough capacity for the recording.
• If a recordable USB-HDD is not connected to the unit.

When a normal recording / instant timer recording / dubbing and a timer recording overlap

In the following cases, a normal recording / instant timer recording will be cancelled 2 minutes before the timer recording.
• When a dual recording is already being performed
• When a dual recording cannot be performed
For normal-speed dubbing, it will be cancelled 2 minutes before a timer recording starts.

When timer programmes overlap

◆ **A confirmation message will be displayed when the last timer recording is set.**
• Confirm the message, then press **[⊙ ENTER]**. "Timer Programming" screen will be displayed. If there is a programme which will not be recorded or partially recorded due to overlapping, "⚠" will appear and the programme will be shown in light blue.
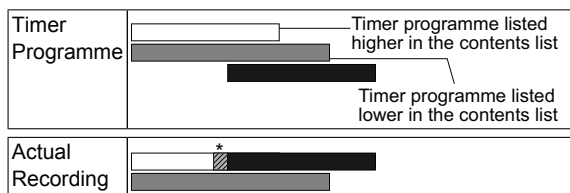
◆ **To confirm overlapping timer recordings**
• Press **[TIMER REC.]** to call up "Timer Programming" screen. If there is a programme which will not be recorded or partially recorded due to overlapping, "⚠" will appear and the programme will be shown in light blue.

◆ When more than 3 timer recordings overlap

- If the entire programme or part of the programme overlaps, the programme of the later schedule will preferentially be recorded.

Timer Programme	
Actual Recording	*

- When 2 timer recordings will start at the same time, the timer recording located lowest in the "Timer Programming" screen will preferentially be recorded.

Timer Programme	Timer programme listed higher in the contents list / Timer programme listed lower in the contents list
Actual Recording	*

- If the end time of a timer recording and the start time of next timer recording are exactly the same time, the last 15 seconds (approx.) of the earlier recording will be cut.

Timer Programme	
Actual Recording	*
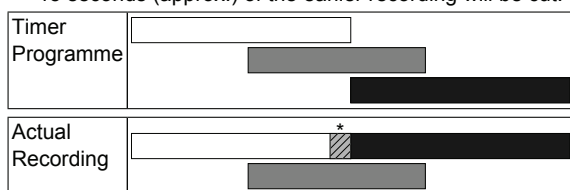
* ▨ (for about 15 seconds) will not be recorded.

◆ When more than 2 timer recordings overlap in the condition that a dual recording is not possible (Refer to page 35)

- The latter timer recording will be given priority.
- If the start time of both timer programmes are the same, the timer programme listed lower in the "Timer Programming" list will be given priority.
- In the earlier recording, the last 15 seconds before the latter recording overlaps will be cut (including the case that the end time of the earlier recording and the start time of the latter recording are exactly the same time).

◆ Overall

- When recovered from a power outage, this unit will automatically be turned on and perform the system configuration. During system configuration, "WAIT" will be displayed on the display panel.
- If a timer recording is interrupted due to a power outage, a notification message will appear in the "Timer Programming" screen.

◆ By type of recording

If a power outage occurs during normal recording (by pressing **[● REC.]** while viewing a DTV programme)
- Recording will be terminated.
- This unit will automatically be turned off after system configuration.

If a power outage occurs before a timer recording.
- After recovering from a power outage, the clock will be readjusted. Timer programmes will remain.

If a power outage occurs while a timer recording is in progress.
- Recording will be terminated at the time of power outage.
- If recovering from the power outage before the end time of the timer recording, this unit will resume recording to the end time, after system configuration.
- If recovering from the power outage after the end time of the timer recording, the recording will be terminated at the time of power outage. This unit will automatically be turned off after system configuration.

◆ By type of recording media

For HDD / USB-HDD
- The recording title will be split into 2 pieces (before and after power outage) and listed in the "Contents List" screen.
- A small part of the recording right before a power outage may be lost.
- The entire recording before a power outage may be lost according to the circumstances of power outage.
- There are cases that you need to initialise the HDD / USB-HDD according to the circumstances of power outage.
- If a power outage occurs during a timer recording to the USB-HDD, depending on the USB-HDD, this unit may resume recording to the internal HDD.

For BD-RE / BD-R discs
- The disc may become no longer usable according to the circumstances of power outage.
- If there is a timer recording right after recovering from the power outage and this unit cannot record to the disc for some reason, the timer recording will be performed to the HDD. This recording will be listed in the "Contents List" for HDD.

- "①" appears on the failed timer programme in "Timer Programming" screen, and the programme is shown in grey. If selecting the programme then press **[◉ ENTER]**, information will be displayed. Selecting "Return" will bring you back to "Timer Programming" screen. Selecting "Delete message" will delete the programme from the "Timer Programming" screen.

6

Recording

Before Playback

Contents list

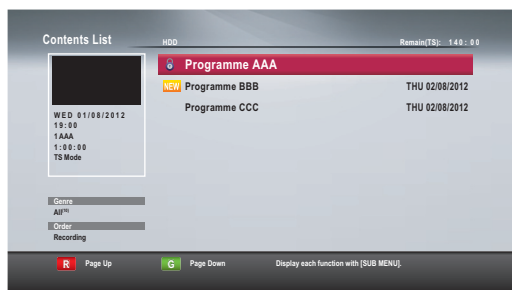HDD USB-HDD BD-RE BD-R -RW(VR) +RW(+VR) +R(+VR)

To view a recorded title, call up the "Contents List" screen, then select the desired title to play back.
"Title" in this owner's manual refers to a DTV programme recorded on this unit.

◆ To call up the "Contents List" screen

1) Press **[HDD]** / **[DISC]** / **[USB]** to select the media to operate.
2) Press **[CONTENTS LIST]**.

• You can also call up the contents list by pressing **[⌂ HOME]**, then selecting "Contents List".
• **You can return to the DTV screen by pressing [CONTENTS LIST] again.**

Guide to the "Contents List" screen (e.g., HDD)

Contents List	HDD	Remain(TS): 140 : 0 0
	🔒 **Programme AAA**	
	NEW **Programme BBB**	THU 02/08/2012
	Programme CCC	THU 02/08/2012

WED 01/08/2012
19:00
1 AAA
1:00:00
TS Mode

Genre
All[TS]
Order
Recording

| R Page Up | G Page Down | Display each function with [SUB MENU]. |

• **To view a different page, use [RED] / [GREEN] to switch between pages.**
• **If you wish to narrow down the titles by genre or sort...**
    1) Press **[SUB MENU]** to call up the sub menu.
    2) For disc operation, proceed to 4).
       For HDD / USB-HDD operation, select "Genre/Order", then press **[⊙ ENTER]** .
    3) To narrow down the titles by genre, use **[∧ / ∨]** to select "Genre", then press **[⊙ ENTER]**.
    • Select the desired genre from the genre list, then press **[⊙ ENTER]**.
    4) To sort titles, use **[∧ / ∨]** to select "Order", then press **[⊙ ENTER]**.
    • Sort types will be displayed. Select the desired sort type, then press **[⊙ ENTER]**. For a disc, sorting will start. For the HDD / USB-HDD, proceed to 5).

Sort type

Recording	Sorts titles in the order of recording date. (For discs, in the order of title number.)
Name	Sorts titles in alphabetical order.
New	Sorts titles in the order from new to old. (If the recording date is unknown, the title will appear at the end of the list.)
Old	Sorts titles in the order from old to new. (If the recording date is unknown, the title will appear at the end of the list.)

    5) Use **[∧ / ∨]** to select "OK", then press **[⊙ ENTER]**.

ⓘ Note

• In disc mode, narrowing down by genre is not available.
• This unit cannot play back AVCHD files directly from a USB device.

Resume point

• The resume point will be saved by pressing **[■]** during playback.
• To remove the resume point, press **[■]** again in stop mode.

HDD USB-HDD

Only one resume point can be saved per title.

[▶] / [⊙ ENTER]	Restarts playback from the resume point.
[SUB MENU]	Allows you to select "Resume Playback" / "Play From Start".

BD-RE BD-R -RW(VR) +RW(+VR) +R(+VR)

Only one resume point can be saved per disc.

[▶] / [⊙ ENTER]	Resumes playback only when you select the title which you last played. Otherwise, playback will start from the beginning of the title.
[SUB MENU]	Only "Play From Start" is available.

Audio CD DISC(DivX®)

Only one resume point can be saved per disc.

[▶]	Resumes playback only when you select the track which you last played. Otherwise, playback will start from the beginning of the track.
[⊙ ENTER]	Resumes playback from the beginning of the track.
[SUB MENU]	Not available

HDD USB-HDD BD-RE BD-R BD-Video -RW(VR) +RW(+VR) +R(+VR) DVD-Video Audio CD DISC(JPEG) DISC(DivX®)

Pressing **[▶]** without calling up the "Contents List" screen will resume playback from the resume point of the title / track where it was last played.

ⓘ Note

• Resume playback may not function with some discs.

In the following cases, the resume point will be lost.
• When **[■]** is pressed in stop mode (For HDD, the currently selected title will lose the resume point.)
• When deleting the title / editing the title or disc (The resume point in the undeleted / unedited title will be lost as well.)
• When formatting
• After recording, the resume point will be saved in the recorded title. (The resume point per title on the HDD will remain.)

For discs only
• When opening the disc tray
• When finalising the disc
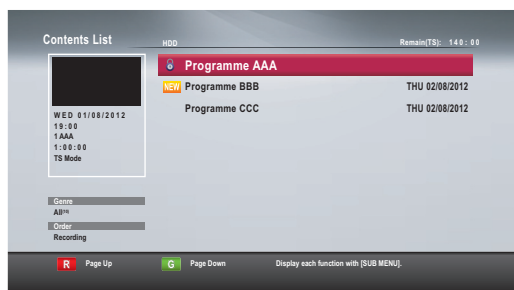
Playing Back a Programme (Title)

[HDD] [USB-HDD] [BD-RE] [BD-R] [-RW(VR)] [+RW(+VR)] [+R(+VR)]

This unit can play back titles recorded on the HDD / disc, and AVCHD contents dubbed from USB devices.

>> Preparation
- When playing back from a USB-HDD, connect it to the unit
- When playing back a disc, place it in the unit.
- Press **[HDD]** / **[DISC]** / **[USB]** accordingly.

1. Press **[CONTENTS LIST]** to call up the "Contents List" screen.
   - When you place an Audio CD in the unit, the "Contents List" screen will automatically be displayed.

2. Use **[∧/∨]** to select the desired title.

Contents List	HDD		Remain(TS): 140 : 00
	🔴 **Programme AAA**		
	NEW **Programme BBB**		THU 02/08/2012
WED 01/08/2012	**Programme CCC**		THU 02/08/2012
19:00			
1 AAA			
1:00:00			
TS Mode			

| R | Page Up | G | Page Down | Display each function with [SUB MENU]. |

3. Press **[▶]** or **[⊙ ENTER]** to start playback.
   - For the HDD / USB-HDD, you can choose where to start playback from the sub menu. Refer to "Resume point" on page 40.
   - **To stop playback**
     Press [■]. (Resume point will be saved.)
   - **If the password entry screen appears when playing back a disc, refer to "◆ Configuring "BD Rating Level" / "DVD Rating Level"" on page 66.**
   - **If the PIN Code entry screen appears, refer to "PIN Code entry screen" on page 46.**

🛈 **Note**
- DVD's which are dubbed on this unit and finalised on other recorders are playable on this unit.

Playing Back a Commercially Available Disc

>> Preparation
- Press **[DISC]**.

🛈 **Note**
- It may take extra time to read some discs.

Playing back a Blu-ray Disc™ / DVD
[BD-Video] [DVD-Video]

1. Place a disc in the unit.
   - Some discs automatically start playback.
   - If the disc menu appears, follow the instructions on screen.

2. Press **[▶]** to start playback.

◆ **Operations from the disc menu or pop-up menu***

* Only when it is available on the disc.

Various operations are available on the disc menu. For BD-Video, various operations can be performed during playback. Please refer to the disc instructions on how to operate the contents of the disc menu / pop-up menu vary on the disc. Below is a general example.

[DISC MENU]	Used to call up the selection screen for the disc menu. Use **[∧/∨]** to select the desired menu.
[CONTENTS LIST]	Used to call up the top menu of the disc.
[∧/∨/⟨/⟩] **[⊙ ENTER]**	Used to select and confirm a menu item.

Playing an Audio CD
[Audio CD]

1. Place an Audio CD in the unit.
   - Track list will appear.
   - Press **[CONTENTS LIST]** to call up the track list when a disc is already in the unit.

2. Use **[∧/∨]** to select the desired track, then press **[▶]** or **[⊙ ENTER]**.
   - **To stop playing, press [■]. (Resume point will be saved.)**

Playing back a Blu-ray 3D™ disc
[BD-Video]

>> Preparation
- Connect this unit and a 3D compatible TV with a High-Speed HDMI cable.
- On the 3D TV, activate the 3D mode (if necessary).
- Press **[DISC]**.

1. Place a Blu-ray 3D™ disc in the unit.

2. Press **[▶]**.
   - **To change the 3D setting on this unit**
     "Home Menu" > "Settings" > "3D settings", then change further settings.
   - **To play back in the 2D mode**
     "Home Menu" > "Settings" > "3D settings" > "3D Playback", then change "Auto(3D)" to "2D".

7

Playback

Playing back a media containing MP3 / WMA / DivX® / JPEG Files

`DivX®` `MP3` `WMA` `JPEG`

>> Preparation
• When playing back from a disc, place it in the unit.
• Press **[DISC]**.

1. Press **[CONTENTS LIST]** to call up the contents list.
   • When playing back from a USB device, connect it to the unit, then go to "Home Menu" > "Contents List", then select "USB".

2. Select the desired file using **[∧ / ∨ / ⟨ / ⟩]**, then press **[⊙ ENTER]**.

Playable file types and file extensions

• ".mp3" (MP3)   • ".wma" (WMA)
• ".divx" (DivX®)   • ".avi" (DivX®)   • ".mkv"
• ".jpg" (JPEG)   • ".jpeg" (JPEG)

Recommended spec for DivX® / MKV files

Item	Support
Playable Codec of DivX® (AVI) files	DivX® 3.x / 4.x / 5.x / 6.x
Playable Codec of MKV files	MPEG2 / MPEG4-AVC (H.264)
Maximum size of image	1,920 x 1,080
VBV maximum bit rate	20,000 kbps
Sampling frequency of audio	16 kHz - 48 kHz
Playable Audio type of DivX® (AVI) files	MPEG1 audio layer 3 (MP3) / MPEG1 audio layer 2 / Dolby Digital
Playable Audio type of MKV files	MPEG1 audio layer 3 (MP3) / Dolby Digital / MPEG BC / PCM / AAC
Playable Subtitle file extensions	.ass / .smi / .srt / .ssa / .sub* / .txt* *.sub and .txt files may not be recognised.

◆ Playing back a DivX® file with an external subtitle file

`DivX®`

Subtitles created by the user can be displayed during DivX® playback.
• Make sure that the appropriate language is selected in the "DivX Subtitle Language" in the setup menu in order to avoid character corruption. (Refer to page 62.)

1. In step 2 above, highlight the desired file to play back, then press **[YELLOW]**.
   • List of extensions of the subtitle files will appear.

2. Select the desired extension, then press **[⊙ ENTER]**.

> **Subtitle List**
> Off
> SMI
> **SRT**
> SUB
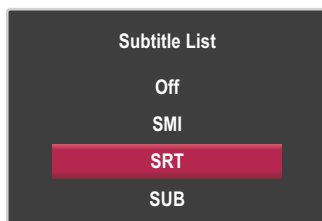
   • DivX® with the subtitle will start playing back automatically.

⚠ Note for USB device

• This unit cannot read files from a USB device in the following conditions.
   - When the disc tray is in motion
   - During disc load, HDD / disc recording, HDD / disc playback, editing or dubbing
   - While the title list or file list of disc is displayed
   - While the "Settings" / "Timer Programming" / "Programme Guide" screen is displayed
• Do not disconnect the USB device while the indicator on the device is flickering.

⚠ Note for MP3 / WMA

• To stop playback, press **[■]** while playing.
• For MP3 / WMA files recorded in VBR (Variable Bit Rate), the unit may not display the actual elapsed time.

⚠ Note for DivX® subtitle

• Playback file and the subtitle file must have the same name.
• Playback file and the subtitle file must locate in the same folder. (DivX® subtitle files are, however, not displayed in the list.)
• The subtitles that exceed the playback time will not be displayed.

Various Playback Functions

>> Preparation
• When playing back from a USB-HDD, connect it to the unit.
• When playing back a disc, place it in the unit.
• When playing back from a USB device, connect it to the unit.
• Press **[HDD]** / **[DISC]** / **[USB]** accordingly.

Change the playback speed

• Sound will be muted except for certain materials.

◆ Fast forward / fast reverse playback

`HDD` `USB-HDD` `BD-RE` `BD-R` `BD-Video` `-RW` `-R(Video)` `+RW(+VR)` `+R(+VR)` `DVD-Video` `DVD(AVCHD)` `Audio CD` `DivX®` `MP3` `WMA`

During playback, press **[◀◀]** / **[▶▶]**.
• Each time you press of **[◀◀]** / **[▶▶]**, the speed increases up to 5 steps. (3 steps for Audio CD's / MP3 / WMA / DivX® files.)
• For Audio CD's / MP3 / WMA files, the sound is just about recognisable where it is playing.
• Press **[▶]** to return to normal playback.

◆ Fast forward playback with audio

`HDD` `USB-HDD` `BD-RE` `BD-R` `BD-Video` `-RW` `-R(Video)` `+RW(+VR)` `+R(+VR)` `DVD-Video` `DVD(AVCHD)` `DivX®`

During playback, press **[▶▶]**.
• By one press of **[▶▶]**, the speed increases 1.3 x.
• Press **[▶]** to return to normal playback.

◆ Pause

`HDD` `USB-HDD` `BD-RE` `BD-R` `BD-Video` `-RW` `-R(Video)` `+RW(+VR)` `+R(+VR)` `DVD-Video` `DVD(AVCHD)` `Audio CD` `DivX®` `MP3` `WMA` `JPEG`

During playback, press **[❚❚]**.
• Press **[▶]** to resume playback.

◆ Slow forward / slow reverse playback

| HDD | USB-HDD | BD-RE | BD-R | BD-Video | -RW | -R(Video) |
| +RW(+VR) | +R(+VR) | DVD-Video | DVD(AVCHD) | DivX® |

During pause, press **[◀◀] / [▶▶]**.
- Each time you press **[◀◀] / [▶▶]**, the speed increases up to 3 steps.
- Press **[▶]** to resume playback.
- Press **[❙❙]** to pause playback.
- You can fast forward / fast reverse by pressing and holding **[◀◀] / [▶▶]**.

◆ Frame by frame playback

| HDD | USB-HDD | BD-RE | BD-R | BD-Video | -RW | -R(Video) |
| +RW(+VR) | +R(+VR) | DVD-Video | DVD(AVCHD) | DivX® |

- During playback, press **[❙❙]**, then press **[❙◀◀] / [▶▶❙]**.

(❗) **Note**

- For the following media / files, slow reverse / frame by frame (reverse) are not available.
  - BD-Video / DVD-Video / DVD-RW(AVCHD) / DVD-R(AVCHD) / DVD+RW(AVCHD) / DVD+R(AVCHD) / DivX®
- For the following titles / recordings, the slow reverse playback speeds are up to 2 steps.
  - Titles / recordings recorded in the AF / AN / AE mode or MPEG-4 AVC/H.264 format.
- Fast forward playback with audio is not available when playing back a BD-Video disc in 3D. During fast forward / fast reverse, the images are displayed in 2D.

Skipping forward / backward

◆ Skipping to the desired point

HDD	USB-HDD	BD-RE	BD-R	BD-Video	-RW	-R(Video)
+RW(+VR)	+R(+VR)	DVD-Video	DVD(AVCHD)	Audio CD
DivX®	MP3	WMA	JPEG

Press **[❙◀◀] / [▶▶❙]** during playback.
- Every press of **[❙◀◀] / [▶▶❙]** will skip the current chapter / track.
- Single press of **[❙◀◀]** will skip backward to the beginning of the current chapter.

◆ Instant skip / Instant replay

| HDD | USB-HDD | BD-RE | BD-R | BD-Video | -RW | -R(Video) |
| +RW(+VR) | +R(+VR) | DVD-Video | DVD(AVCHD) |

During playback, press **[↶ I.REPLAY] / [↷ I.SKIP]**.
- Every press of **[↶ I.REPLAY] / [↷ I.SKIP]** skips / replays based on the setting in "Playback". (up to 10 presses at a time)

◆ Search

HDD	USB-HDD	BD-RE	BD-R	BD-Video	-RW	-R(Video)
+RW(+VR)	+R(+VR)	DVD-Video	DVD(AVCHD)	Audio CD
DivX®	MP3	WMA	JPEG

1. During playback, press **[SUB MENU]** to call up the play menu, then select "Search" using **[∧/∨]**, then press **[⊙ ENTER]**.

Search
Audio
Subtitle
Repeat
Noise Reduction
Super Resolution
Angle
PiP
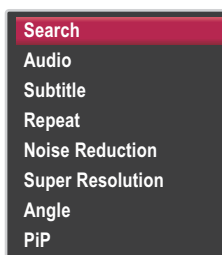
2. Use **[∧/∨]** to select the desired search option.
   - Every press of **[∧/∨]** shifts the search option.
   - Available search options differ depending on the media / file being played back.

Playback media / file	Search options
HDD USB-HDD	Time search ➡ Chapter search ➡ Time search ➡ ...
BD-RE BD-R BD-Video -RW -R(Video) +RW(+VR) +R(+VR) DVD-Video DVD(AVCHD)	Time search ➡ Title search ➡ Chapter search ➡ Time search ➡ ...
Audio CD DivX®	Time search ➡ Track search ➡ Time search ➡ ...
MP3 WMA JPEG	Track search only

3. Press **[⟩]** to move to highlight the value (chapter number, track number, etc.) you wish to enter, then enter your desired value using **[∧/∨]** or **[number buttons]**, then press **[⊙ ENTER]**.
   - If you enter the wrong value, press **[⟨]**.

Repeat playback

HDD	USB-HDD	BD-RE	BD-R	BD-Video	-RW	-R(Video)
+RW(+VR)	+R(+VR)	DVD-Video	DVD(AVCHD)	Audio CD
DivX®	MP3	WMA	JPEG

1. During playback, press **[SUB MENU]** to call up the play menu, then select "Repeat" using **[∧/∨]**, then press **[⊙ ENTER]**.

Search
Audio
Subtitle
Repeat
Noise Reduction
Super Resolution
Angle
PiP
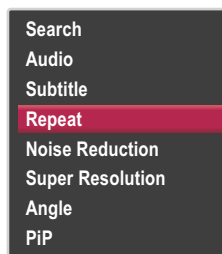
2. Use **[∧/∨]** to select the desired repeat playback option.
   - Available repeat playback options differ depending on the media being played back.

7

Playback

Playback media / file	Repeat playback options
HDD USB-HDD BD-Video -RW(Video) -R(Video) +RW(+VR) +R(+VR) DVD-Video DVD(AVCHD)	Off ➡ Chapter repeat ➡ Title repeat ➡ Off ➡ ...
BD-RE BD-R -RW(VR)	Off ➡ Chapter repeat ➡ Title repeat ➡ All ➡ Off ➡ ...
Audio CD DivX® MP3 WMA JPEG	Off ➡ Track repeat ➡ All ➡ Off ➡ ...

- To stop repeat playback, select "Off" in step 2.
- To completely stop playback, press **[■]**.

(!) Note

- The repeat setting will be cancelled if an additional operation shown below goes beyond the current repeat range.
  - Skip
  - Instant skip
  - Chapter / Title / Track /Time search
  - Instant replay

Playing back a playlist created on another device
BD-RE BD-R -RW(VR)

1. While the "Contents List" screen is displayed, press **[SUB MENU]** to call up the sub menu, select "Playlist" using **[∧/∨]**, then press **[⊙ ENTER]**.

- This unit cannot create or edit a playlist.

Chase play during recording
HDD USB-HDD

You can start playback from the beginning of the title during recording.

1. Press **[HDD]** / **[USB]** to switch to the recording media.

2. Press **[CONTENTS LIST]** to call up the "Contents List" screen.

3. Use **[∧/∨]** to select the title which is being recorded with the icon (REC1) / (REC2).

4. Press **[▶]** for chase play.
   - **To stop chase play**
     Press **[■].** This will stop playback, but the recording is going on.
   - **To stop the recording**
     Press **[■]**, then select "Yes" at the confirmation message, then press **[⊙ ENTER]**.

(!) Note

- If fast forward is performed during chase play, then chase play catches up to the ongoing recording, chase play will switch to normal playback. (The recording will keep going.)
- If the operation media (HDD / DISC / USB) is switched to another during chase play, playback will stop.

Switching Settings During Playback

>> Preparation
- To play back from a USB-HDD, connect it to the unit.
- To play back a disc, place it in the unit.
- Press **[HDD]** / **[DISC]** / **[USB]** accordingly.

- **If the password entry screen appears when playing back a disc, refer to "◆ Configuring "BD Rating Level" / "DVD Rating Level"" on page 66.**

Switching the audio language / subtitle language / camera angle

- If the password entry screen appears when playing back a disc, refer to "◆ Configuring "BD Rating Level" / "DVD Rating Level"" on page 66.

◆ Switching the audio language
HDD USB-HDD BD-RE BD-R BD-Video -RW -R(Video) +RW(+VR) +R(+VR) DVD-Video DVD(AVCHD) DivX®

You can switch the audio if the programme has multiple audio streams (Main / Sub).

1. Press **[AUDIO]** to call up the audio information.
   - You can also call up the audio information by pressing **[SUB MENU]**, then selecting "Audio 1".

2. Selecting the desired audio stream.
HDD USB-HDD BD-RE BD-R -RW -R(Video) +RW(+VR) +R(+VR) DVD-Video DVD(AVCHD)
   - Use **[∧/∨]** to switch the audio.
   - When the selected audio is in stereo, and item selection appears to the right, you can switch "Stereo" > "Right" > "Left" using **[∧/∨]**.
   - When the selected audio has the main audio / sub audio, and item selection appears to the right, you can switch "Main/Sub" > "Main" > "Sub" using **[∧/∨]**.

BD-Video
   - Use **[∧/∨]** to select "Primary" or "Secondary", then press **[⊙ ENTER]** to move to the audio selection area, then switch the audio using **[∧/∨]**.
   - When "Video/Audio" > "BD Audio Mode" is set to "HD Audio Output", the secondary audio will not be output.

◆ Switching the subtitles
HDD USB-HDD BD-RE BD-R -RW -R(Video) +RW(+VR) +R(+VR) DVD-Video DVD(AVCHD) DivX®

When the title has multiple subtitles, you can select a desired subtitle and set it on / off. (This function is available for the titles recorded on this unit in recording mode of TS.)

1. Press **[SUBTITLE]** to call up the subtitle information.
   - You can also call up the subtitle information by pressing **[SUB MENU]**, then selecting "Subtitle".

Search
Audio
Subtitle
Repeat
Noise Reduction
Super Resolution
Angle
PiP
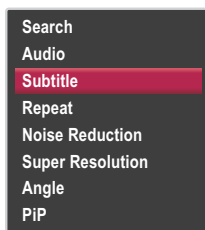
2. Use **[∧/∨]** to select your desired subtitles.

◆ Switching the subtitles on BD-Video
BD-Video

For BD-Video, you can set the subtitles and subtitle style for each of the primary video / secondary video if available.

1. During playback, press **[SUB MENU]** to call up the play menu, then select "Subtitle" using **[∧/∨]**, then press **[⊙ ENTER]**.

2. Select "Primary" / "Secondary" / "Style" using **[∧/∨]**, then press **[⊙ ENTER]** to move to the subtitle selecting area, then switch the subtitles using **[∧/∨]**.

◆ Switching the camera angles
BD-Video DVD-Video

When the title has multiple camera angles, you can view another angle of the scene during playback.

1. During playback, press **[SUB MENU]** to call up the play menu, then select "Angle" using **[∧/∨]**, then press **[⊙ ENTER]**.

Search
Audio
Subtitle
Repeat
Noise Reduction
Super Resolution
Angle
PiP

2. Use **[∧/∨]** to select your desired angle.

⚠ Note

- When another angle is available, "📹" will be displayed. (You can turn off the icon. Refer to page 62.)
- For BD / DVD-Video, please refer to the instructions of the disc for audio / subtitles / camera angle.

Noise reduction
HDD USB-HDD BD-RE BD-R BD-Video -RW -R(Video)
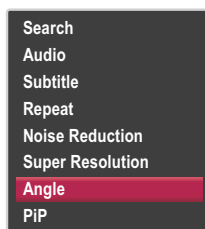+RW(+VR) +R(+VR) DVD-Video DVD(AVCHD) DivX®

1. During playback, press **[SUB MENU]** to call up the play menu, then select "Noise Reduction" using **[∧/∨]**, then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select your desired setting.

Noise Reduction   On ⬍

Super resolution
HDD USB-HDD BD-RE BD-R BD-Video -RW -R(Video)
+RW(+VR) +R(+VR) DVD-Video DVD(AVCHD) DivX®

Super Resolution enhances SD quality images output in 1080i / 1080p from the HDMI jack, which gives crisper images.

1. During playback, press **[SUB MENU]** to call up the play menu, then select "Super Resolution" using **[∧/∨]**, then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select your desired setting.

Super Resolution   On ⬍

PiP (BONUSVIEW™) setting
BD-Video

BD-Video discs have the PiP feature which enables to display the secondary video within the primary video screen. You can change the PiP setting whenever the scene contains the secondary video.

- Refer to the user manual of the disc for how to activate the secondary video.

Primary video   Secondary video
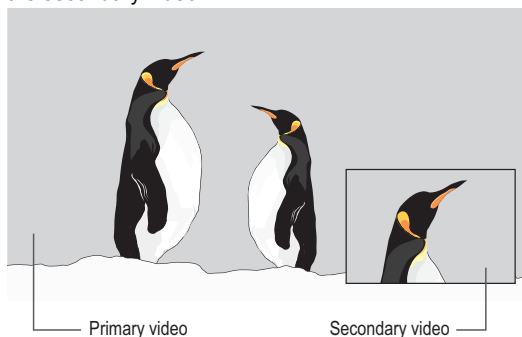
1. During BD-Video playback, press **[SUB MENU]** to call up the play menu, then use **[∧/∨]** to select "PiP", then press **[⊙ ENTER]**.

   - Setting for the secondary video is only available when the primary and the secondary videos are playing simultaneously.

2. Use **[∧/∨]** to select the desired setting, then press **[⊙ ENTER]**.

PiP   1/1 ⬍

Virtual package

`BD-Video`

Virtual Package compatible BD-Video discs let you enjoy various functions during playback by using data copied and stored on the local storage device. This unit uses the internal HDD as a local storage device.

- Images / audio may stop during playback.
- To delete Virtual Package data stored on the HDD, press **[⌂ HOME],** then select "Settings" > "Others" > "Initialisation" > "Delete BD Video data", then perform "Delete Virtual package".

PIN Code entry screen

`BD-RE` `BD-R`

If a PIN Code has been set to the disc on another manufacturer's Blu-ray Disc™ recorder to restrict viewing of the disc, the PIN Code input screen will be displayed. Please enter the PIN Code. (This unit is unable to set or change a PIN Code.)

1. Use **[number buttons]** to enter the PIN Code.

Viewing JPEG Files

`JPEG`

Playing a slide show

Guide to the "Thumbnail" screen for JPEG files

>> Preparation
- When viewing from a disc, press **[DISC]**.

1. Place a disc / connect a USB device which contains JPEG files.

2. File type selection screen will appear. Use **[∧/∨]** to select "Photo" or "View photos.", then press **[⊙ ENTER]**.
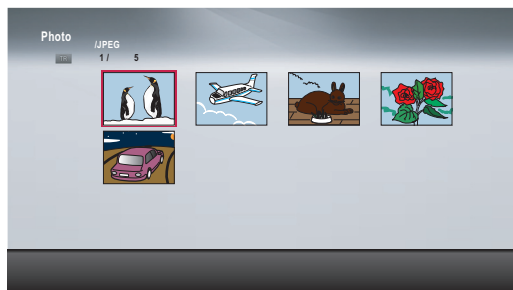   - The "Thumbnail" screen will be displayed.
   - For discs containing JPEG files only, the thumbnail screen will automatically appear (the file type selection screen will not appear).
   - **If the file type selection screen is not displayed**
   1) Press **[⌂ HOME]** to call up the home menu.
   2) Use **[∧/∨/〈/〉]** to select "Contents List", then press **[⊙ ENTER]**.
   3) Use **[∧/∨]** to select the media that contains JPEG files, then press **[⊙ ENTER]**.
   4) Use **[∧/∨]** to select "Photo", then press **[⊙ ENTER]**.

3. Use **[∧/∨/〈/〉]** to select the desired file, then press **[⊙ ENTER]**.
   - **If you wish to view all files in a folder,** use **[∧/∨/〈/〉]** to select the folder, then press **[⊙ ENTER]**.
   - **To view a different page,** use **[RED]** / **[GREEN]** to switch between pages.

4. Press **[⊙ ENTER]** or **[▶]** to start a slide show.
   - A slide show will display the selected JPEG file followed by the rest of the files in turn.
   - The slide show speed can be set from "Home Menu" > "Settings" > "Playback" > "Slide Show".
   - **To rotate a picture**
     During slide show, press **[〈/〉]**. The picture rotates 90 degrees.
   - **To pause or stop slide show**
     Press **[❙❙]** to pause. (Press **[▶]** or **[❙❙]** to resume. Press **[■]** to stop the slide show.
     - A slide show from a USB device will not save the resume point.

ⓘ Note

- If there is an unrecognizable file, "⊘" will be displayed and the file will be skipped.
- A slide show will automatically stop 2 minutes before a timer recording starts.
- A slide show is not available during recording / dubbing.

Recommended spec

◆ Maximum number of folders / files

CD-RW / -R	255 folders / 999 files
Other media	999 folders / 9,999files

◆ Resolutions

Sub sampling (4:4:4)	32 × 32 - 4,096 × 4,096
Sub sampling (4:2:2 or 4:2:0)	32 × 32 - 5,120 × 5,120

- Each file must be smaller than 12 MB

ⓘ Note

- Files with extensions other than JPEG cannot be read.
- Progressive JPEG files are not compatible.
- Motion JPEG files are not compatible.
- Some JPEG files may not be read depending on the file condition.

Playing Back a Disc Containing an AVCHD High-Definition Video

`DVD(AVCHD)`

This unit can play back AVCHD High-Definition videos on a disc recorded on HD camcorders. (The disc needs to be finalised on said recording camcorder.)
This unit can also play back AVCHD High-Definition videos dubbed to the internal HDD.
>> Preparation
• Press **[DISC]**.

1. Place a disc in the unit.
    • If the disc contains an AVCHD video, it will automatically start playing back.
      If it does not start, press **[▶]**.
    • If the disc menu is displayed, refer to the user manual of the recording device on how to operate. Below is a general example.

2. Use **[∧/∨/⟨/⟩]** to select the desired title/item, then **[⊙ ENTER]**.
    • **To stop play back,** press **[■]**. (Resume point will be saved.)

(!) Note

• AVCHD videos stored on a USB device cannot be played back directly from the device. In order to play back on this unit, dub the videos to the internal HDD first.

Additional Information about Playback

Overall playback

• For Blu-ray Disc™ / DVD, the picture and audio may stop momently as the playback shifts from the first layer to the second layer of the disc.
• When playing back a title recorded in TS mode, the screen may stop or show block noise as the title shifts to another title.
• After finishing playback of a disc, the last image may be paused and left on screen or the disc menu may be displayed. If the same image is displayed over an extended time period, it may cause screen burn-in on a CRT display / plasma TV.
• Depending on the disc, some playback functions, such as resume playback / playback speed change / skipping / language change / angle change / repeat playback and others may be unavailable.
• Playback cannot be performed during finalisation / initialisation.
• This unit outputs a video in the same output format as the disc. For instance, if you place an NTSC format disc, the unit will output the video in NTSC.

Cinavia™
Cinavia Notice

This product uses Cinavia technology to limit the use of unauthorized copies of some commercially-produced film and videos and their soundtracks. When a prohibited use of an unauthorized copy is detected, a message will be displayed and playback or copying will be interrupted. More information about Cinavia technology is provided at the Cinavia Online Consumer Information Center at
http://www.cinavia.com
To request additional information about Cinavia by mail, send a postcard with your mailing address to: Cinavia Consumer Information Center, P.O. Box 86851, San Diego, CA, 92138, USA. This product incorporates proprietary technology under license from Verance Corporation and is protected by U.S. Patent 7,369,677 and other U.S. and worldwide patents issued and pending as well as copyright and trade secret protection for certain aspects of such technology. Cinavia is a trademark of Verance Corporation. Copyright 2004-2012 Verance Corporation. All rights reserved by Verance. Reverse engineering or disassembly is prohibited.

About "Contents List"

• "Contents List" is not available with finalised DVD-RW / -R (Video) and DVD+RW / +R (+VR) discs. Please play the disc from the disc menu.
• If you call up "Contents List" during repeat playback, the repeat setting will be lost.
• When dubbing a disc authored on another device to this unit's HDD, the channel numbers shown in "Contents List" will be blank unless the disc has the channel information on it.

About audio / subtitles / camera angle switch

Audio / subtitle
• Some video discs let you switch audio / subtitles from the disc menu.
• When switching audio, the image may stop or the screen may go black momently.
• If this unit is turned off or the disc tray is opened, the setting will be restored to how they are set in "Settings" > "Language" > "Audio Language" / "Subtitle Language". (For some video discs, the setting will be restored to the disc's default setting.)
• When switching the subtitles, it may take a while to become effective.
• For BD-Video / DVD-Video, the subtitles during fast-forward / fast-reverse playback is not available except in 1.3 x playback mode.

Camera angle
• When switching the camera angle, it may take a while to become effective.
• If the disc tray is opened, the setting will be restored to "1".

7

Playback

Before Editing

Available editing functions

Editing items	HDD	USB-HDD	BD-R BD-RE	-RW(VR)	+R +RW	-R(Video) -RW(Video)
"Title Delete": To delete one title	✓	✓	✓	✓	✓	—
"Delete Multiple Titles": To delete multiple titles at one time	✓	✓	✓	✓	✓	—
"Delete All Titles": To delete all titles on the media	✓	✓	—	—	—	—
"Delete All Unprotected Titles": To delete all titles except protected titles	✓	✓	—	—	—	—
"Scene Delete": To delete parts of a title	✓	✓	—	—	—	—
"Edit Title Name": To rename the title	✓	✓	✓	✓	✓	—
"Add" / "Delete": To add / delete chapter marks	✓	✓	✓	✓	✓	—
"Hide Chapter": To set chapters to skip during playback	—	—	—	—	✓	—
"Title Dividing": To divide a title	✓*1	✓*1	—	—	✓ RW only	—
"Protect On→Off" /"Protect Off→On": To set the title protection "On" / "Off"	✓*1	✓*1	✓	✓	—	—
"Edit Disc Name": To rename the disc name	—	—	✓	✓	✓	✓*4
"Edit USB-HDD Name": To rename the USB-HDD	—	✓	—	—	—	—
"Disc Protect On→Off" / "Disc Protect Off→On": To set the disc protection "On" / "On"	—	—	✓	✓	✓	—
"USB-HDD Protect On→Off" / "USB-HDD Protect Off→On": To set the USB-HDD protection "On" / "Off"	—	✓*1	—	—	—	—
"Format": To format a disc	—	—	✓ RE only	✓	✓ RW only	✓ RW only
"Finalise": To finalise a disc	—	—	✓ R only	✓*2	✓	✓*3

✓ : Available

— : Not available

*1 For a title scheduled to convert to a different recording mode, editing for the title is not available.
*2 This unit can undo finalisation only on DVD-RW(VR) discs which were finalised on this unit.
*3 The disc will automatically be finalised after dubbing is completed.
*4 You can rename the disc when dubbing.

(!) Note

• When the title or the disc is protected, editing shown above cannot be performed during dubbing.
• During recording, only the following editing can be performed.
  - While recording to the HDD: One-title deletion / multiple-titles deletion on HDD / USB-HDD / BDAV / DVD-RW / DVD+RW / DVD+R
  - While recording to BDAV: One-title deletion / multiple-titles deletion on HDD / USB-HDD
  - While recording to a USB-HDD: One-title deletion / multiple-titles deletion on HDD / BDAV / USB-HDD / DVD-RW / DVD+RW / DVD+R
• On some BD-R discs, editing functions may not work properly.

Guide to the edit menu screen

>> Preparation
• When editing on a USB-HDD, connect it to the unit.
• When editing on a disc, place it in the unit.
• Press **[HDD]** / **[DISC]** / **[USB]** accordingly.

◆ **Common operation for editing**

1. Press **[CONTENTS LIST]** to call up the "Contents List" screen.

2. Use **[∧/∨]** to select the title to edit, then press **[SUB MENU]**.

3. Use **[∧/∨]** to select "Edit", then press **[⊙ ENTER]**.

Adding / Deleting a Chapter Mark

| HDD | USB-HDD | BD-RE | BD-R | -RW(VR) | +RW(+VR) | +R(+VR) |

Adding a chapter mark

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. **[∧/∨]** to select "Chapter Mark", then press **[⊙ ENTER]**.

3. "Add" is highlighted. Press **[⊙ ENTER]**.

4. Forward until you reach the point where you wish to add a chapter mark, then press **[⊙ ENTER]**.
   - **[▶]** / **[I◀◀]** / **[▶▶I]** / **[◀◀]** / **[▶▶]** / **[II]** are available to play back.

5. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

Deleting a chapter mark

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. Use **[∧/∨]** to select "Chapter Mark", then press **[⊙ ENTER]**.

3. Use **[∧/∨]** to select "Delete", then press **[⊙ ENTER]**.

4. Play back the chapter which you wish to delete, then press **[⊙ ENTER]**.
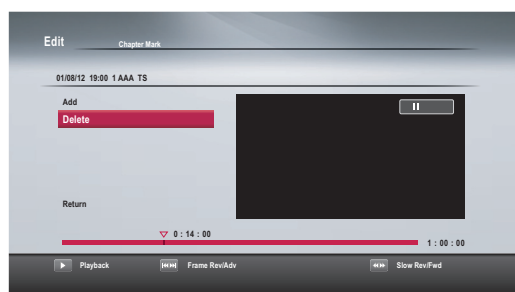
   - If this chapter is to be deleted, press **[⊙ ENTER]** while this part is playing back.
   - **[▶]** / **[I◀◀]** / **[▶▶I]** / **[◀◀]** / **[▶▶]** / **[II]** are available to play back.

5. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

Hiding chapters

| +RW(+VR) | +R(+VR) |

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. Use **[∧/∨]** to select "Hide Chapter", then press **[⊙ ENTER]**.

3. During the visible chapter playback ("Visible" appears on the preview screen), use **[∧/∨]** to select "Hidden", then press **[⊙ ENTER]**.
   - The chapter will be hidden.
   - **[▶]** / **[I◀◀]** / **[▶▶I]** / **[◀◀]** / **[▶▶]** / **[II]** are available to play back.
   - You can make a hidden chapter visible again by selecting "Visible" during hidden chapter playback.

Changing a Title Name / Protecting a Title

Guide to editing a title name

◆ Available characters

Button	Roman character / Symbol	Number
[0]	Space	0
[1]	32 symbols[*1]	1
[2]	ABCabc	2
[3]	DEFdef	3
[4]	GHIghi	4
[5]	JKLjkl	5
[6]	MNOmno	6
[7]	PQRSpqrs	7
[8]	TUVtuv	8
[9]	WXYZwxyz	9
[RED]	Switch to Number	Switch to Roman character / Symbol
[GREEN]	—	—
[YELLOW]	—	—
[BLUE]	Delete	Delete

[*1] Every press of **[1]** changes the character in the following order.
+ - = ` ^ ' " | \ $. , ( ) < > [ ] { } / _ @ ~ : ; ! ? % & # *

1. Select the desired character set.

   - You can switch the character set ("ABC" / "123") by pressing **[RED]**.
   - To enter a lower-case letter, "a" for instance, press **[2]** repeatedly until the "a" appears.
   - If you enter a wrong letter, press **[BLUE]** to delete it.

2. After having entered your desired name, press **[⊙ ENTER]**.
   - A conformation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

3. Press **[↩ BACK]** repeatedly to exit.

Changing a title name

`HDD` `USB-HDD` `BD-RE` `BD-R` `-RW(VR)` `+RW(+VR)` `+R(+VR)`

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. Use **[∧/∨]** to select "Edit Title Name", then press **[⊙ ENTER]**.

3. Enter a new title name, then press **[⊙ ENTER]**. (Refer to "Guide to editing a title name" on page 49.)

4. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

5. Press **[↩ BACK]** to finish.

Protecting a title

`HDD` `USB-HDD` `BD-RE` `BD-R` `-RW(VR)`

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. Use **[∧/∨]** to select "Protect Off→On", then press **[⊙ ENTER]**.

3. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.
   - " 🔒 " will appear on the protected titles.

4. Press **[↩ BACK]** to finish.
   - You can cancel protection by selecting "Protect On→Off" on a protected title in step 2.

Available operations for a protected title
Operations
Cancelling title protection
Dubbing protected titles
HDD initialisation (deleting all titles)
Disc initialisation (deleting all titles)

Deleting Unnecessary Titles

`HDD` `USB-HDD` `BD-RE` `BD-R` `-RW(VR)` `+RW(+VR)` `+R(+VR)`

⚠ Note

- Once a title is deleted, it will not be able to undo. Make sure it is the correct title before deleting.

>> Preparation
- When editing on a USB-HDD, connect it to the unit.
- When editing on a disc, place it in the unit.
- Press **[HDD]** / **[DISC]** / **[USB]** accordingly.

Deleting a single title

1. Press **[CONTENTS LIST]** to call up the "Contents List" screen.

2. Use **[∧/∨]** to select a title to delete, then press **[SUB MENU]**.

3. Press **[∧/∨]** to select "Title Delete", then press **[⊙ ENTER]**.

4. Confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.
   - The title will be deleted.

5. Press **[↩ BACK]** to finish.

Delete multiple titles at one time

1. Press **[CONTENTS LIST]** to call up the "Contents List" screen.

2. Press **[SUB MENU]**.

3. Use **[∧/∨]** to select "Delete Multiple Titles", then press **[⊙ ENTER]**.

4. In the title list, highlight the titles you wish to delete, then press **[⊙ ENTER]**.
   - Repeat the procedure until all the titles you wish to delete are selected.
   - To deselect a title, press **[⊙ ENTER]** on a highlighted title.

5. Once you have selected all the unnecessary titles, press **[⟩]**, then press **[⊙ ENTER]** on "OK".

6. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

7. Press **[↩ BACK]** to finish.

⚠ Note

- The title currently being recorded cannot be deleted.

About remaining time after deleting titles
`HDD` `USB-HDD` `BD-RE` `-RW(VR)` `+RW(+VR)` Remaining time will increase.
`BD-R` `+R(+VR)` Remaining time will not increase.

Deleting Parts of a Title

`HDD` `USB-HDD`

Deleting parts (scenes) cannot be undone. Make sure it is the correct part to delete.

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. Use **[∧/∨]** to select "Scene Delete", then press **[⊙ ENTER]**.

3. With "Start" highlighted, find the start point, then press **[⊙ ENTER]**.

4. With "End" highlighted, find the end point, then press **[⊙ ENTER]**.

5. With "Preview" highlighted, then press **[⊙ ENTER]**.
   - 5 seconds before and after the deleting scene will be previewed.

6. Use **[∧/∨]** to select "Delete", then press **[⊙ ENTER]**.

7. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

8. Press **[↩ BACK]** to finish.

- For steps 3 and 4, **[▶] / [I◀◀] / [▶▶I] / [◀◀] / [▶▶] / [II]** are available to play back.

Dividing a Title

`HDD` `USB-HDD` `+RW(+VR)`

ⓘ Note

- Dividing a title cannot be undone. Please make sure it is the correct title to divide.

>> Preparation
- When editing on a USB-HDD, connect it to the unit.
- When editing on a disc, place it in the unit.
- Press **[HDD]** / **[DISC]** / **[USB]** accordingly.

1. Follow steps 1 to 3 in "◆ Common operation for editing" on page 48.

2. Use **[∧/∨]** to select "Title Dividing", then press **[⊙ ENTER]**.

3. Find the point where you wish to divide the title, then press **[⊙ ENTER]**.
   - **[▶] / [I◀◀] / [▶▶I] / [◀◀] / [▶▶] / [II]** are available to play back.

4. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.
   - To continue dividing, select the title to divide, then press **[SUB MENU]**, then select "Edit" and repeat steps 2 to 4.

5. Press **[↩ BACK]** to finish.
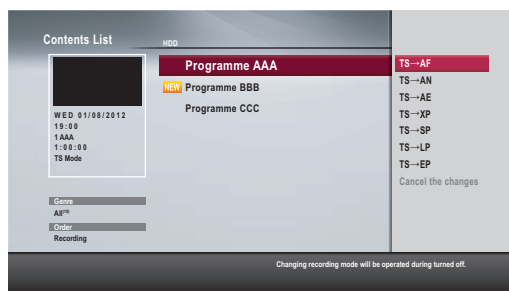
Converting the Recording Mode (Image Quality)

`HDD` `USB-HDD`

By converting the recording mode (image quality) of a recorded title, you can use the HDD more efficiently. (Converting a title recorded in the TS quality into AF / AN / AE / XP / SP / LP / EP.)

>> Preparation
- When editing on a USB-HDD, connect it to the unit.
- Press **[HDD]** or **[USB]** accordingly.

1. Press **[CONTENTS LIST]** to call up the "Contents List" screen.

2. Use **[∧/∨]** to select the title to edit, then press **[SUB MENU]**.

3. Use **[∧/∨]** to select "Recording Mode", then press **[⊙ ENTER]**.

4. Select the desired recording mode, then press **[⊙ ENTER]**.

- Recording mode conversion will be performed 5 minutes after the unit is turned off. "⏏" will be displayed on the display of this unit.
- Conversion will take the same length of time as the title duration.
- **To verify the conversion has finished**
  The conversion has finished if "– – → – –" is not displayed on the contents list screen.

ⓘ Note

- Conversion cannot be performed if the title is protected or the title is currently being recorded.
- Conversion will stop if the unit is turned on while converting a title. It will start again 5 minutes after the unit is turned off next time.
- Conversion will not be performed when attempting a conversion on a USB-HDD while it is not connected to the unit.

8

Editing

Media Management

Renaming a disc / USB-HDD
USB-HDD BD-RE BD-R -RW(VR) +RW(+VR) +R(+VR)

>> Preparation
• When editing on a USB-HDD, connect it to the unit.
• When editing on a disc, place it in the unit.

Press **[⌂ HOME]**, then select "Media Manager".

1. Use **[∧/∨]** to select "BD/DVD Menu" or "USB-HDD Menu", then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select "Edit Disc Name" or "Edit USB-HDD Name", then press **[⊙ ENTER]**.
   • "Edit USB-HDD Name" cannot be selected before registering the USB-HDD.

3. Enter a name for the disc or USB-HDD.
   • For the available characters and how to enter a name, refer to "Guide to editing a title name" on page 49.
   • Press **[⊙ ENTER]** when you have entered the name.

4. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

5. Press **[↩ BACK]** to finish.

Protecting a disc / USB-HDD
USB-HDD BD-RE BD-R -RW(VR) +RW(+VR) +R(+VR)

>> Preparation
• When editing on a USB-HDD, connect it to the unit.
• When editing on a disc, place it in the unit.
• Press **[DISC]** / **[USB]** accordingly.

Press **[⌂ HOME]**, then select "Media Manager".

1. Use **[∧/∨]** to select "BD/DVD Menu" / "USB-HDD Menu", then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select "Disc Protect Off→On"/ "USB-HDD Protect Off→On", then press **[⊙ ENTER]**.

3. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.

4. Press **[↩ BACK]** to finish.
   • You can cancel protection by selecting "Disc Protect On→Off" / "USB-HDD Protect On→Off" in step 2.

Finalising a disc recorded on this unit
BD-R -RW(VR) +RW(+VR) +R(+VR)

Finalising a disc recorded on this unit makes the disc playable on other devices, such as Blu-ray Disc™ players / recorders / PC's.

>> Preparation
• Place a disc in the unit to finilise.

Press **[⌂ HOME]**, then select "Media Manager".

1. Use **[∧/∨]** to select "BD/DVD Menu", then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select "Finalise", then press **[⊙ ENTER]**.

3. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.
   • Finalisation process cannot be cancelled once it has begun.

◆ For DVD-Video
After dubbing is completed, the disc will automatically be finalised. You cannot manually finalise a disc.

(!) Note
• During a finalisation process, do not turn off the unit or unplug the AC cord as it may cause damage to the disc or malfunction of the unit.
• This unit may not be able to finalise a disc which was recorded on another device.
• For BD-R, finalisation cannot be performed when a timer recording will start within 2 minutes.
• For DVD-RW(VR) / DVD+RW(+VR) / DVD+R(+VR), finalisation cannot be performed when a timer recording will start within 90 minutes.
• Chapter information will remain after finalisation.
• Even if the disc is finalised, it may not be playable depending on the player / recorder / PC.
• If a power outage occurs during finalisation, the BD-R / DVD-R / DVD+R disc may become unusable.

Undoing finalisation
-RW(VR)

This unit can undo finalisation of DVD-RW (VR) discs only, which were finalised on this unit.
By undoing finalisation, you can record to the disc again.
Please select "Undo Finalise" in step 2 in "Finalising a disc recorded on this unit".

Deleting all recording data on the HDD / USB-HDD

ⓘ Note

• Recording data deleted due to disc initialisation cannot be undone. Make sure it is the correct media to initialise.

HDD **USB-HDD**

Press **[⌂ HOME]**, then select "Media Manager".

1. Use **[∧/∨]** to select "HDD Menu" / "USB-HDD Menu" , then press **[⊙ ENTER]**.

2. If you wish to delete titles including the protected titles, select "Delete All Titles", if excluding the protected titles but other unprotected titles, select "Delete All Unprotected Titles" using **[∧/∨]**, then press **[⊙ ENTER]**.

3. A confirmation message will appear. Use **[∧/∨]** to select "Yes" , then press **[⊙ ENTER]**.
   • Deleting process cannot be cancelled once it has begun.

Reinitialising (reformatting) a disc

BD-RE **-RW(Video)** **-RW(VR)** **+RW(+VR)**

>> Preparation
• Press **[DISC]**.

You can initialise a disc multiple times. Note that all data will be deleted.

Press **[⌂ HOME]**, then select "Media Manager".

1. Use **[∧/∨]** to select "BD/DVD Menu", then press **[⊙ ENTER]**.

2. Use **[∧/∨]** to select "Format", then press **[⊙ ENTER]**.
   • For a DVD-RW disc, select a format type.

3. A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.
   • Initialisation process cannot be cancelled once it has begun.
   • For a BD-RE disc, it will be initialised in BDAV format.

ⓘ Note

• During the initialisation process, do not turn off the unit or unplug the AC cord as it may cause damage to the disc or malfunction of the unit.
• Disc initialisation cannot be performed when a timer recording starts within 15 minutes.
• This unit may not be able to re-finalise discs once finalised on another device.
• To initialise brand-new, unfinalised discs (BD-RE / BD-R / DVD-RW / DVD-R / DVD+RW / DVD+R), refer to "Initialise (format) a brand-new Blu-ray Disc™" on page 27.

9

Media Management

Before Dubbing

Available dubbing types

◆ When dubbing multiple titles at one time (dubbing from the dubbing list)

| HDD | ⟷ | USB-HDD |

| HDD | ⟷ | BD-RE BD-R -RW(VR) +RW(+VR) +R(+VR) |

| HDD | ⟶ | -RW(Video) -R(Video) |

| DVD(AVCHD) | ⟶ | HDD |

| USB(AVCHD) | ⟶ | HDD |

Registering the titles to the dubbing list.
- You can select multiple titles at one time.
- You can dub in a different recording mode.

◆ When dubbing one title (dubbing from the contents list)

| HDD | ⟷ | BD-RE BD-R -RW -R(Video) +RW(+VR) +R(+VR) |

Easy dubbing from the "Contents List" screen.
- You can dub one title from the "Contents List" screen.

ⓘ Note

- Most commercially available video discs and rental video discs are protected with a copy guard. It is not possible to dub such discs.
- When dubbing a finalised DVD-RW(Video) / DVD-R(Video) disc to the HDD, please do it from an external device.
- For DVD-RW(AVCHD) / DVD-R(AVCHD) / DVD+RW(AVCHD) / DVD+R(AVCHD), only discs finalised on the recording device are possible to dub to this unit.

Recording mode for dubbing

◆ When dubbing from the contents list

Dubbing source		Dubbing to...		
Media	Rec. mode	Media	speed	Rec. mode (fixed)
HDD	TS	BD-RE BD-R	High	Same as source
		BD-RE BD-R	Normal	Between AF / AN / AE, XP / SP / LP / EP
		-RW(VR) -RW(Video) -R(Video) +RW +R	Normal	Between XP / SP / LP / EP
	AF / AN / AE	BD-RE BD-R	High	Same as source
		BD-RE BD-R	Normal	Between AF / AN / AE, XP / SP / LP / EP
		-RW(VR) -RW(Video) -R(Video) +RW +R	Normal	Between XP / SP / LP / EP
	XP / SP / LP / EP	BD-RE BD-R	Normal	Between XP / SP / LP / EP
		-RW(VR)	High	Same as source
		-RW(Video) -R(Video) +RW +R	Normal	Between XP / SP / LP / EP
BD-RE BD-R	TS	HDD	High	Same as source
			Normal	Between AF / AN / AE, XP / SP / LP / EP
	AF / AN / AE	HDD	High	Same as source
			Normal	Between AF / AN / AE, XP / SP / LP / EP
	XP / SP / LP / EP	HDD	Normal	Between XP / SP / LP / EP
-RW(VR)	XP / SP / LP / EP	HDD	High	Same as source
+RW +R	XP / SP / LP / EP	HDD	Normal	Between XP / SP / LP / EP
-RW(Video) -R(Video)	XP / SP / LP / EP	HDD		Not possible

◆ When dubbing from the dubbing list

Dubbing source		Dubbing to...		
Media	Rec. mode	Media	speed	Available Rec. mode
HDD	TS	USB-HDD	High	High
		USB-HDD	Normal	AF / AN / AE, XP / SP / LP / EP
		BD-RE BD-R	High	High
		BD-RE BD-R	Normal	AF / AN / AE, XP / SP / LP / EP
		-RW(VR) -RW(Video) -R(Video) +RW +R	Normal	XP / SP / LP / EP
	AF / AN / AE	USB-HDD	High	High
		USB-HDD	Normal	AF / AN / AE, XP / SP / LP / EP
		BD-RE BD-R	High	High
		BD-RE BD-R	Normal	AF / AN / AE, XP / SP / LP / EP
		-RW(VR) -RW(Video) -R(Video) +RW +R	Normal	XP / SP / LP / EP
	XP / SP / LP / EP	USB-HDD	High	High
		USB-HDD	Normal	XP / SP / LP / EP
		BD-RE BD-R	Normal	XP / SP / LP / EP
		-RW(VR)	High	High
		-RW(Video) -R(Video) +RW +R	Normal	XP / SP / LP / EP
USB-HDD	TS, AF / AN / AE	HDD	High	High
		HDD	Normal	AF / AN / AE, XP / SP / LP / EP
	XP / SP / LP / EP	HDD	High	High
		HDD	Normal	XP / SP / LP / EP
BD-RE BD-R	TS, AF / AN / AE	HDD	High	High
		HDD	Normal	AF / AN / AE, XP / SP / LP / EP
	XP / SP / LP / EP	HDD	Normal	XP / SP / LP / EP
-RW(VR)	XP / SP / LP / EP	HDD	High	High
+RW +R	XP / SP / LP / EP	HDD	Normal	XP / SP / LP / EP
-RW(Video) -R(Video)	XP / SP / LP / EP	HDD	Not possible	

⚠ Note

- For a title with bilingual audio, high-speed dubbing from the HDD to a DVD-RW(Video) / DVD-R(Video) disc or DVD+RW(+VR) / DVD+R(+VR) disc cannot be performed.
- For a title recorded in EP mode, high-speed dubbing from the HDD to a DVD+RW(+VR) / DVD+R(+VR) disc cannot be performed.
- For a title longer than 5 hours, high-speed dubbing from the HDD to a DVD+RW(+VR) / DVD+R(+VR) disc cannot be performed.

About the "High-speed dubbing" and "Normal-speed dubbing"

◆ High-speed dubbing

- By using a high-speed recording compatible disc, dubbing will be performed for a shorter length of time than the title duration.
- High-speed dubbing is performed in the same recording mode (image quality) as the original title.
- While high-speed dubbing, the channel which is selected on the unit will be displayed.

◆ Normal-speed dubbing (at the speed of 1 x)

- Normal-speed dubbing takes the same length of time or longer as the original title.
- When the dubbing is in a different recording mode (image quality), it is performed as a normal-speed dubbing. Note that a higher recording mode will not make the image quality better when dubbing.

About dubbing restrictions

	Title with no copy restriction	Copy-once title
USB-HDD → HDD	Copy / Move	Move
BD-RE, BD-R, -RW(VR), +RW(+VR), +R(+VR) → HDD	Copy	Move[*1]
HDD → USB-HDD	Copy / Move	Move
HDD → BD-RE, BD-R	Copy	Move
HDD → -RW(VR)	Copy	Move
HDD → -RW(Video), -R(Video)	Copy	—
HDD → +RW, +R	Copy	—

— : Dubbing is not possible.

[*1] Dubbing from a DVD or finalised BD-R disc is not possible.

◆ About programmes with no copy restriction

These programmes will be dubbed as "Copy" and the original titles (recording data) will remain on the source media.

◆ About copy-once programmes

These programmes will be dubbed as "Move" and the original titles (recording data) will be deleted from the source media.

About "Copy" and "Move"

For copy-once titles, "Copy" / "Move" will affect the original title (dubbing source) on the HDD. When copying, the original title will remain on the HDD whereas when moving, the original title will be deleted from the HDD.

For a title containing a part which must "Move" when dubbing

- If the title contains a part which must "Move" (not "Copy"), the whole title will be dubbed as "Move".
- If the title contains a part which must "Move" and the part is deleted, the whole title will still be dubbed as "Move". If such title is divided into the "Copy" part and "Move" part, the divided two titles will still be dubbed as "Move".

Dubbing along with bilingual recording audio (dual audio) / surround audio / subtitles

Refer to "Recording along with bilingual audio (dual audio) / multi audio / surround audio / subtitles" on page 30.

ⓘ Note

- Please use the HDD as a temporary data storage device.
- It is highly recommended to copy important recordings to discs.
- A title containing still images authored on a video camcorder or PC cannot be dubbed.
- When dubbing from the HDD to a DVD-RW(Video) /-R (Video) disc, the disc will automatically be finalised.
  If you wish to dub multiple titles to a disc, please do it from the dubbing list.
  - When dubbing from the HDD to a DVD-RW(Video) /-R (Video) disc, you may need to change the setting in "Settings" > "Video/Audio" > "TV Aspect" to the appropriate aspect based on the dubbing source.
- This unit can perform dubbing from a DVD to the HDD only when the title has no copy protection. Copy-once titles and most commercially available videos cannot be dubbed.

One Title Dubbing from "Contents List" screen

`HDD` ⟷ `BD-RE` `BD-R` `DVD`

\>> Preparation
- When dubbing from a disc to the HDD, place the disc in the unit, then press **[DISC]**.
- When dubbing from the HDD to a disc, place a recordable disc in the unit, then press **[HDD]**.

1. Press **[CONTENTS LIST]** to call up the "Contents List" screen.

2. Use **[∧/∨]** to select a title to dub, then press **[SUB MENU]**.

3. Use **[∧/∨]** to select "Dubbing", then press **[⊙ ENTER]**.
   - A confirmation message will appear. Use **[∧/∨]** to select "Yes", then press **[⊙ ENTER]**.
   - Dubbing will start. "DUB" will be displayed on the display of the unit.
   - **To stop dubbing**
     Press [■]. A confirmation message will appear. Use [∧/∨] to select "Yes", then press [⊙ ENTER].
   - "DUB" on the display will disappear when the dubbing finishes.

◆ When dubbing to a DVD-RW (Video) / -R (Video) disc

After dubbing finishes, the disc will automatically start finalising the disc.

ⓘ Note

- From the "Contents List" screen, only one title dubbing can be performed at a time.

Dubbing Multiple Titles at One Time

\>> Preparation
- Prepare as follows according to the dubbing media.

Dubbing direction & Preparation	Proceed to ...
`HDD` ➡ `USB-HDD` • Connect a USB-HDD to dub to (as a recording media).	Step 2
`USB-HDD` ➡ `HDD` • Connect a USB-HDD to dub from (as a source).	
`HDD` ➡ `BD-RE` / `BD-R` / `-RW(VR)` / `-RW(Video)` `-R(Video)` / `+RW(+VR)` / `+R(+VR)` • Place a disc to dub to (as a recording media).	
`BD-RE` / `BD-R` / `-RW(VR)` / `+RW(+VR)` / `+R(+VR)` / `DVD(AVCHD)` ➡ `HDD` • Place a disc to dub from (as a source).	
`USB(AVCHD)` ➡ `HDD` • Connect a USB device (USB memory stick) to dub from (as a source). The selection screen will automatically appear.	Step 1

1. Use **[∧/∨]** to select "Copy AVCHD to HDD", then press **[⊙ ENTER]**, then proceed to step 5.

2. Press **[⌂ HOME]** to call up the home menu.

3. Use **[∧/∨/‹/›]** to select "Dubbing", then press **[⊙ ENTER]**.

4. Use **[∧/∨]** to select the dubbing direction, then press **[⊙ ENTER]**.

5. Use **[∧/∨]** to select a title to dub, then press **[⊙ ENTER]**.
   - Pressing **[⊙ ENTER]** will show the numbers of the dubbing order next to the titles.
   - **To continue to select another title**
     Repeat the same procedure.
   - **To deselect a title**
     Highlight the title you wish to deselect, then press [⊙ ENTER].

6. After you have selected all the desired titles, press **[›]**.

7. Press **[∧]** to select "Picture quality", then press **[⊙ ENTER]**.

8. Use **[∧/∨]** to select your desired recording mode (image quality), then press **[⊙ ENTER]**.
   - Available recording modes differ depending on the recording mode of the source title and the recording method on the media.

9. After having selected the recording mode, press **[›]** to select "OK", then press **[⊙ ENTER]**.
   - Please confirm the dubbing list. If you wish to modify the list, see the following.
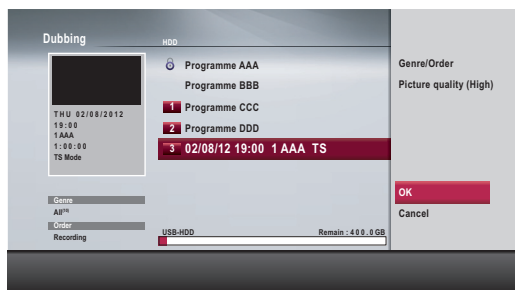
- All the registered titles will be dubbed in order.

◆ **To add a title to the dubbing list**
1) Use **[∧ / ∨]** to select "Add", then press **[⊙ ENTER]**.
   - The title selection screen will appear.
2) Use **[∧ / ∨]** to select a title, then press **[⊙ ENTER]**.

◆ **To delete a title from the dubbing list**
1) Use **[∧ / ∨]** to select "Delete", then press **[⊙ ENTER]**.
2) Use **[∧ / ∨]** to select a title, then press **[⊙ ENTER]**.
3) A confirmation message will appear. Use **[∧ / ∨]** to select "Yes", then press **[⊙ ENTER]**.

◆ **To delete all titles from the dubbing list**
1) Use **[∧ / ∨]** to select "Delete All", then press **[⊙ ENTER]**.
2) A confirmation message will appear. Use **[∧ / ∨]** to select "Yes", then press **[⊙ ENTER]**.

◆ **To change dubbing order in the dubbing list**
1) Use **[∧ / ∨]** to select "Change order", then press **[⊙ ENTER]**.
2) Use **[∧ / ∨]** to select a title, then press **[⊙ ENTER]**.
3) Use **[∧ / ∨]** to move the title to your desired position, then press **[⊙ ENTER]**.

10. After the modification to the dubbing list, use **[∧ / ∨ / ⟨ / ⟩]** to select "OK", then press **[⊙ ENTER]**.

11. "Start" is highlighted. Press **[⊙ ENTER]**.
   - When the dubbing is HDD ↔ USB-HDD, "Start (move)" or "Start (copy)" will appear.
   - "DUB" will be displayed on the display of the unit.
   - **To stop dubbing**
     Press **[■]**, then select "Yes" in the confirmation window, then press **[⊙ ENTER]**.
     - "DUB" on the display will disappear when the dubbing finishes.

◆ **When dubbing to a DVD-RW (Video) / -R (Video) disc**
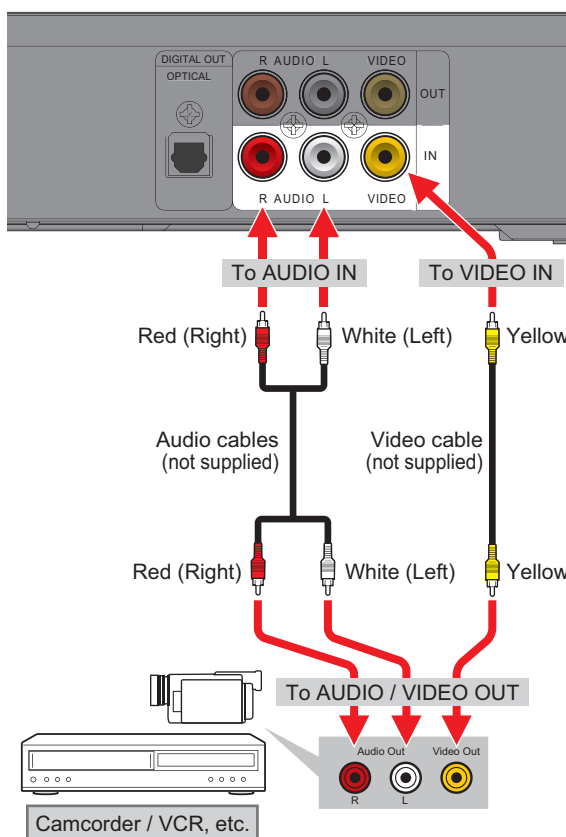After dubbing finishes, the disc will automatically start finalising the disc.

⚠ **Note**

When the dubbing is from the HDD to a DVD-RW (Video) / DVD-R (Video) disc, you can rename the disc.
1) In step 11, select "Setting for disc name", then press **[⊙ ENTER]**.
2) Enter a name, then press **[⊙ ENTER]**.

Dubbing from a VCR / Camcorder

◆ **Connection to an external device to this unit**

◆ Dubbing from an External Device

\>> Preparation
- Press **[HDD]** when dubbing to the HDD.
- Place a recordable disc in the unit, then press **[DISC]** when dubbing to a disc.
- Configure the "External Input Audio" setting in "Home Menu" > "Settings" > "Recording".

1. Switch the unit to the external input.
   - Follow step 1 to 3 in "Switching to the external input" on page 23.

2. Select a recording mode.
   - Refer to "Changing the recording mode (image quality)" on page 33.
   - Available recording modes are XP / SP / LP / EP.

3. Start playback on the connected device.
   - To operate the connected device, refer to the user manual of the device.

4. Press **[● REC.]**.
   - Recording will start.
   - **To pause recording (HDD)**
     Press [❙❙].
     - To resume, press **[❙❙]** again.
   - **To stop recording**
     Press [■].
     - If you stop recording, the recording (from the beginning to where it was stopped) will be one title. (It may take a moment to accept next operation.)
   - **To stop recording (dual recording, chase play, simultaneous rec/play)**
     Refer to "Recording a Programme Currently On Air" on page 33.

(!) Note

- This unit cannot dub commercially available video discs / rental video discs / rental video tapes for copyright protection reasons.

Additional Information about Dubbing

Overall dubbing

For HD-quality movies recorded on a digital camcorder
- Depending on the camcorder, scenes recorded on the same day may be separate titles. Please refer to the user manual of the camcorder for details.

Chapter marks when dubbing
- When dubbing, chapter marks will be dubbed along with the title. When normal-speed dubbing to DVD-Video, chapter marks will be added based on the chapter interval setting in "Settings" > "Recording" > "Auto Chapter".

Cinavia™
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To request additional information about Cinavia by mail, send a postcard with your mailing address to: Cinavia Consumer Information Center, P.O. Box 86851, San Diego, CA, 92138, USA. This product incorporates proprietary technology under license from Verance Corporation and is protected by U.S. Patent 7,369,677 and other U.S. and worldwide patents issued and pending as well as copyright and trade secret protection for certain aspects of such technology. Cinavia is a trademark of Verance Corporation. Copyright 2004-2012 Verance Corporation. All rights reserved by Verance. Reverse engineering or disassembly is prohibited.

If a dubbing is cancelled / a power outage occurs while dubbing

Other than -RW(Video) -R(Video)
- Dubbing source:
  - The contents remain.
- Dubbing to
  HDD USB-HDD BD-RE -RW(VR) +RW(+VR):
  - The dubbing will not be performed.
  BD-R +R(+VR):
  - The data will be written to the disc until the cancellation / power outage, yet it cannot be played back.

For -RW(Video) -R(Video)
  -RW(Video):
  - Reformat will be required.
  -R(Video):
  - The disc will become unplayable or unusable.

- If the message
  "Abnormality occurred in USB connection.
  USB device has been stopped automatically." appears while dubbing from a USB device, this unit will become inoperable. In this case, disconnect the USB device, and the message will disappear and this unit will become operable.

When high-speed dubbing from the HDD to a disc

Dubbing a title (1 hour long) from the HDD to a 4x BD-R

Recording mode		Required time	Speed
TS	DTV (HD)	7 minutes	8 x
	DTV (SD)	4 minutes and 30 seconds	13 x
AF	DTV (HD)	6 minutes and 30 seconds	9 x
AN		5 minutes	12 x
AE	DTV (HD) 4.36 Mbps	3 minutes 10 seconds	19 x
	DTV (HD) 2Mbps	2 minutes	30 x

Dubbing a title (1 hour long) from the HDD to a 6x DVD-R

Recording mode		Required time	Speed
XP	DTV (HD)	10 minutes	6 x
SP		5 minutes and 30 seconds	11 x
LP		3 minutes	20 x
EP	DTV (HD) 6 hours	2 minutes and 20 seconds	26 x
	DTV (HD) 8 hours	2 minutes and 10 seconds	28 x

- Required time may differ depending on the conditions of the disc and dubbing source.
- The speed indication, such as 8x / 12x / 30x, is not the time ratio based on the actual title duration.
- For a 2x BD-RE/-R disc, a high-speed dubbing will be performed at the maximum speed of 2x. For a 4x / 6x BD-R disc, a high-speed dubbing will be performed at the maximum speed of 4x.
- If playback / recording on the HDD is performed while high-speed dubbing, it may take extra time to dub.

When high-speed dubbing from a disc to the HDD
- Dubbing will be performed at the equivalent speed of 2x of a HDD-to-disc dubbing.

Using This Unit as a Home Media Server

HDD   USB-HDD

This function allows you to view contents recorded on this unit's HDD / USB-HDD* via DLNA client devices connected to your home network.

* JPEG / MP3 / WMA / DivX® / MKV files stored on a USB device, such as USB memory stick, cannot be streamed over DLNA.

• "Client device" referred to here is a DLNA compatible player connected to the home network to which this unit is connected. These devices can access the contents stored on home media servers (e.g., this unit) over the home network.

To operate the DLNA client device, please refer to the user's manual of the device.

>> Preparation
• Connect this unit and a DLNA client device to the home network.
• Press **[⌂ HOME]**, then select "Settings" > "Network Settings" > "Media Share" > "On".

1. On the client device, select this unit as a DLNA server.

2. Select either the HDD folder or the USB-HDD folder according to the content (title) you wish to play back.

3. Select the desired title, then start playback.

ⓘ Note

• This unit cannot be used as a client device.
• 2 or more client devices cannot play back simultaneously from this unit.

About playback on the client device

◆ In the following cases, playback on a client device is not possible.

When the following operations are being performed on this unit:
• During playback of BD-Video / DVD-RW (AVCHD) / DVD-R (AVCHD) disc
• Operation screen related to dubbing is being displayed.
• During dubbing
• When the following screen for a title on the HDD / USB-HDD is being displayed:
  - "Edit"   - "Genre/Order"
  - "Dubbing"   - "Title Delete"
  - "Recording Mode"   - "Delete Multiple Titles"

• During configuration of the following in "Home Menu" > "Settings" > ...
  - "Network Connection"   - "Initialisation"
  - "Media Share"   - "Download Update"
  - "Standby settings"

• When the following menu is being displayed in "Home Menu" > "Media Manager" > ...
  - "HDD Menu"
  - "USB-HDD Menu"
• When simultaneous rec/play is performed on the USB-HDD or the contents list is being displayed during recording
• During recording mode conversion while the unit is powered off
• During software update

◆ In the following cases, playback on a client device will stop or a confirmation message will appear.

When the following operations are performed on this unit.
• When playing back a BD-Video / DVD-RW (AVCHD) / DVD-R (AVCHD) disc.
• While recording and playback are being performed simultaneously on the USB-HDD connected to the unit.
• When selecting a dubbing direction in the dubbing selection screen.
• When configuring the following in "Home Menu" > "Settings" > ...
  - "Network Connection"   - "Initialisation"
  - "Media Share"   - "Title Delete"
  - "Media Share"   - "Download Update"
• When selecting "Home Menu" > "Media Manager" > "HDD Menu" while playing back a title on the internal HDD.
• When selecting "Home Menu" > "Media Manager" > "USB-HDD Menu" while playing back a title on the USB-HDD.
• When selecting the following for a title on the HDD / USB-HDD:
  - "Edit"   - "Title Delete"
  - "Dubbing"   - "Delete Multiple Titles"
  - "Title Delete"

◆ In the following case, the home network connection may be lost*.

• When the following operation is performed on this unit:
  - "Initial Setting"
    *If you lost a connection, configure "Home Menu" > "Settings" > "Media Share" > "On" again.

◆ In the following cases, playback on a client device will stop.

• When playing back a title(s) on the USB-HDD from the client device and the unit simultaneously and then a timer recording starts.

Function Setup

Using "Settings" menu

In the "Settings" menu , you can access various kinds of menus, and customise them as you prefer.

1. Press **[⌂ HOME]** to call up the home menu.

2. Use **[∧/∨/〈/〉]** to select "Settings", then press **[⊙ ENTER]**.

3. Use **[∧/∨]** to select the desired setting item, then press **[⊙ ENTER]**.
   • Press **[↩ BACK]** if you wish to move back to one left column.
   • If a confirmation message appears, use **[∧/∨/〈/〉]** to select "Yes", then press **[⊙ ENTER]**.

4. Press **[↩ BACK]** repeatedly to exit.

ⓘ Note

• If calling up the setting menu during playback, playback will automatically stop.

Category	Menus / Options		
Video/Audio	TV Aspect	4:3 Letter Box	Allows you to adjust the aspect ratio of the video source which is different from your TV's ratio to fit your TV monitor without distorting the picture. **"4:3 Letter Box"**:Outputs the image at 4:3 letter box in full width with black bars at the top and bottom. **"4:3 Pan & Scan"**: Outputs the image at 4:3 pan & scan in full height with both sides trimmed. **"16:9 Wide"**: Outputs the image at 16:9 wide. **"16:9 Squeeze"**: If the video source is 4:3, outputs the image at 4:3 squeeze. If the video source is 16:9, outputs the image at 16:9.
		4:3 Pan & Scan	
		16:9 Wide	
		16:9 Squeeze	
	Still Mode	Auto	Adjusts picture resolution and quality in still mode. **"Auto"**: Automatically selects the best resolution setting ("Frame" or "Field") based on the data characteristics of the pictures. **"Field"**: Stabilises the pictures, although the picture quality may become coarse due to the limited amount of data. Select "Field" when the pictures are still unstable even if "Auto" is selected. **"Frame"**: Displays relatively motionless pictures in higher resolution. "Frame" improves the picture quality, although it may unstabilise the pictures due to alternate output of 2-field data. • An individual picture on the TV screen is called "Frame", which consists of two separate images called "Field". Some pictures may be blurred at the auto setting in "Still Mode" setting due to their data characteristics.
		Field	
		Frame	
	Dolby D / Dolby D+ / Dolby TrueHD	PCM	Sets how to output the digital audio source. If your amplifier / receiver is compatible with multi-channel audio format such as Dolby Digital, DTS®, or MPEG, etc., select "Bitstream". If not, select "PCM". When playing back a title in HDD, BD-RE/-R, or VR mode DVD-RW, select "PCM" so that you can switch to main audio (L), sub audio (R), or a combination of both (L / R) using your amplifier / decoder.
		Bitstream	
	DTS / DTS-HD	PCM	
		Bitstream	
	MPEG	PCM	
		Bitstream	
	BD Audio Mode	Mix Audio Output	For Blu-ray Disc™, selects whether to output the secondary and interactive audio with primary audio if it is available or only the primary audio. **"Mix Audio Output"**: The audio for the secondary video and the interactive application will be output together with the audio for the primary video. • The secondary audio is the audio for the secondary video (Directors comment etc.) and the interactive audio is the audio for the interactive application (Button click sounds etc.). **"HD Audio Output"**: Outputs only the primary audio. Set this mode in order to output Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS or DTS-HD audio of Blu-ray Disc™ through HDMI connection.
		HD Audio Output	
	DRC	Auto	Sets whether to compress the range of sound volume (Dynamic Range Control) when Dolby Digital, Dolby Digital Plus or Dolby TrueHD audio is played back. **"Auto"**: When the discs recorded in Dolby TrueHD format are in playback, this unit detects DRC setting of the disc and set "DRC" setting to "On" or "Off" automatically.
		On	
		Off	
Video/Audio (Cont'd)	Down Sampling	On	Sets the digital audio output when playing back Blu-ray Disc™ or DVD recorded in LPCM. **"On"**: LPCM signals are converted to 48 kHz for output. Set to "On" when using digital connections to an AV amplifier that is not compatible with sampling frequencies of 96 kHz. **"Off"**: For Blu-ray Disc™ and DVD recorded in LPCM without copyright protection, 2-channel audio signals up to 96 kHz are output as LPCM signals. If the audio source is 192 kHz, it is down converted to 96 kHz.
		Off	
Language	Audio Language	Original	Sets the audio language for BD-Video or DVD-Video playback. **"Original"**: Activates the disc's original language. **"Other"**: If you select "Other", enter a 4-digit-code for the desired language (Refer to page 67). • Only the languages which the disc supports can be selected.
		English	
		Other	
	Subtitle Language	Off	Sets the subtitle language for BD-Video or DVD-Video playback. **"Other"**: If you select "Other", enter a 4-digit-code for the desired language (Refer to page 67). • Only the languages supported by the disc can be selected.
		English	
		Other	
	Disc Menu Language	English	Sets the language for disc menu. **"Other"**: If you select "Other", enter a 4-digit code for the desired language (Refer to page 67). • Only the languages supported by the disc can be selected.
		Other	

Category	Menus / Options				
Language (Cont'd)	DivX Subtitle Language	Czech	German	Russian1	Sets the language for DivX® subtitle.
		Dutch	Hungarian	Russian2	
		English	Italian	Spanish	
		French	Polish	Swedish	
HDMI	HDMI Video Resolution	Auto	720p	1080p	Sets the resolution of the video signal being output from the HDMI OUT jack. "Auto": HDMI video resolution will be selected automatically depending on the connected HDMI device. • When "1080p" is selected, even if the video source is 1080p24, it will be output in 1080p50. • Even if the video material is 1080p24 and "1080p24" is selected, when connected device is not compatible with 1080p24, it will be output in 1080p50. • Even if "720p" is selected, when the playing material is not 720p, it will be output in 1080i. • By pressing and holding [▶] for 5 seconds or longer, "HDMI Video Resolution" will automatically be set to "Auto".
		480p/576p	1080i	1080p24	
	HDMI Deep Colour	Auto			Reduces the posterisation effect of the playback picture. "Auto": Reduces the posterisation effect by automatically outputting up to 36 bit colour whenever the unit recognises the connected display device supports Deep Colour feature. "Off": Outputs the standard 24 bit colour.
		Off			
	Progressive Mode	Auto			Sets the optimum progressive mode for the image material output from HDMI OUT jack. "Auto": The progressive mode will detect 24-frame film material (movies) and automatically select appropriate progressive mode. "Video": Suited for playing back video material discs (TV shows or animation).
		Video			
	HDMI Audio Out	On			Sets whether to output the audio from the HDMI OUT jack.
		Off			
	SIMPLINK	On			Sets whether to utilise the SIMPLINK function.
		Off			
3D settings	3D Playback	Auto(3D)			"Auto(3D)": The images will be output in 3D for a 3D compatible TV, 2D for a conventional TV. "2D": The 3D contents will be output in 2D. • Some discs cannot output 2D images.
		2D			
	3D Type	Frame packing			"Frame packing": Outputs 3D images in frame packing mode (Left and right image packed into one video frame). "Side by side": Outputs 3D images in side by side mode (One video frame is split vertically into 2 parts: the left part is intended for the left eye, right part for the right eye.) "Checkerboard": Outputs 3D images in checkerboard mode (Combines left and right images and outputs left / right / top / bottom parts alternately.) • PAL contents in 720p cannot be played back.
		Side by side			
		Checkerboard			
	3D perspective				Allows you to set the perspective when outputting 3D images.
	3D screen display	On (Side by side)			"On": Displays the menu on the side of the screen. • This setting may not work with some menus. "Off": Displays the menu in its original position.
		Off (Normal)			
Playback	BD Rating Level	Password	Off		Sets the rating level for Blu-ray Disc™ playback.
			Age Setting		
	DVD Rating Level	Password	Off		Sets the rating level for DVD playback.
			8	4	
			7	3	
			6	2	
			5	1	
	Password Change	Password			Sets new password for the parental lock.
	Instant Skip	5 seconds	10 seconds		When you press [·⟶ I.SKIP], the playback picture will skip forward by the amount of time you set here.
		30 seconds	1 minute		
		5 minutes			
	Instant Replay	5 seconds	10 seconds		When you press [⟵· I.REPLAY], the playback picture will skip backward by the amount of time you set here.
		30 seconds	1 minute		
		5 minutes			
	Angle Icon	On			Sets whether to display the angle icon on the TV when playing back the scene with various angles.
		Off			

Category	Menus / Options			
Playback (Cont'd)	Slide Show	5 seconds		Sets the slide show speed.
		10 seconds		• Large-size JPEG files take a few moments to be displayed.
Recording	Auto Chapter	Off		Inserts the chapter marks automatically with every time interval you set here.
		5 minutes	20 minutes	• The length of chapters may slightly deviate.
		10 minutes	30 minutes	• When dubbing a title which has chapter marks, the chapter marks will automatically be dubbed as they are and the interval setting of "Auto Chapter" will not be effective. However, in the case of normal-speed dubbing from the HDD to a DVD-RW (Video) / DVD-R (Video) disc, chapter marks will be added according to the interval setting of "Auto Chapter".
		15 minutes	60 minutes	
	AE Mode	4.36 Mbps	2 Mbps	Refer to page 29 for details.
	EP Mode	6 hours	8 hours	
	Aspect Ratio (Video Format)	Auto		When dubbing to a video mode DVD at the normal speed, it allows you to choose the desired recording aspect ratio.
		4:3		**"Auto"**: First aspect ratio of the title to be dubbed will be applied and be kept throughout the recording.
		16:9		**"4:3"**: Records in the aspect ratio of 4:3. **"16:9"**: Records in the aspect ratio of 16:9. • For BD-RE / -R, or VR mode DVD-RW, it will be recorded in the same aspect ratio with the title to be dubbed. • For DVD+RW / +R, the image will always be recorded in aspect ratio of 4:3.
	Recording Audio Select (XP)	PCM		Allows you to choose "PCM" or "Dolby D" when recording the external input audio in "XP" mode or when dubbing a title to Blu-ray Disc™ / DVD in "XP" mode.
		Dolby D		**"PCM"**: Records PCM audio for the best quality sound. **"Dolby D"**: Records Dolby Digital audio for good quality sound. • PCM stands for Pulse Code Modulation. It changes analogue sound to digital sound without compressing audio data. • When the recording mode is set to other than "XP", the unit records "Dolby D" audio automatically even if you select "PCM".
	Subtitle Recording	On		When dubbing a title recorded in TS mode, and when it has subtitle information, you can choose whether to dub the subtitle as a part of the image.
		Off		• The subtitle will be recorded as an image, so it cannot be turned on/off when playing back the dubbed title. • The English subtitles will preferentially be selected. • If the preset language does not exist in the title, no subtitle will be recorded.
	Make Recording Compatible	On		This unit prohibits the additional writing to the +VR which has different type of title list created on other unit.
		Off		To make recording to such discs possible, select "On" in this menu. • When additional recording is made on this unit, the title list type will be replaced with this unit's.
	Bilingual Recording Audio	Main		Selects either "Main" or "Sub" when dubbing a title with bilingual audio to a video mode or +VR mode DVD.
		Sub		• When recording to the HDD / Blu-ray Disc™ / DVD-RW (VR), both "Main" and "Sub" will be recorded regardless of your setting here. And you can choose the desired audio format as you playback later.
	External Input Audio	Stereo		When the external input audio is a bilingual broadcast, you can choose "Stereo" or "Bilingual" as the recording audio.
		Bilingual		• This setting is only for recording external input (AV). • See also "Bilingual Recording Audio" above.
	Video Colour System	Auto		Allows you to select the appropriate colour system to match your TV. **"Auto"**: The video colour system will be set automatically according to the recording material.
		PAL		**"PAL"**: The video colour system will be set to PAL.
		SECAM		**"SECAM"**: The video colour system will be set to SECAM. • During recording, when a signal other than PAL or SECAM is detected, an error message appears on the screen and recording will be paused. Recording will be resumed when a PAL or SECAM signal is detected. • Regardless of the setting here, recording colour system is fixed to PAL. • When PAL is selected, but the input signal is SECAM or vice versa, the colour will not be recorded correctly.

Category	Menus / Options				
Clock	Clock Setting **Clock Setting** **01** / 08 / 2012 (WED)　15 : 00 **Press [ENTER].**				Press **[⊙ ENTER]** so that the entry fields will be available. Enter the date (day / month / year) and time using **[∧ / ∨]** , then press **[⊙ ENTER]**. • Use **[‹ / ›]** to go back and forth among the fields. • Your clock setting will be lost if either there is a power failure or the unit is unplugged for more than 30 seconds. • If "Auto Clock Setting" is set to "On" you cannot select "Clock Setting".
	Auto Clock Setting	On				Allows the unit to adjust the clock automatically by referring to the DTV time signal. • Make sure "Initial Setting" or "Auto Tuning" is completed. (Refer to page 16) • Auto clock adjustment will be performed at the following time. • NSW/ACT (3:00), VIC (3:00), TAS (3:00), QLD (2:00), SA (2:30), NT (1:30), WA (1:00)
		Off				
	Time Zone	NSW/ACT	WA			Sets the region where you live.
		VIC	TAS			
		QLD	NT			
		SA				
Network Settings	Network Connection	Auto				
		Manual	IP Address Setting	Auto(DHCP)		Sets the IP address. In most cases, you can connect to the Internet without making any changes to the default setting.
				Manual		
			IP Address			
			Subnet Mask			
			Default Gateway			
			DNS Setting	Auto(DHCP)		Sets the DNS setting. In most cases, you can connect to the Internet without making any changes to the default setting.
				Manual		
			Primary DNS			
			Secondary DNS			
			Proxy Setting	Use		Sets the proxy server. In most cases, you can connect to the Internet without using proxy server.
				Do Not Use		
			Connection Speed	Auto		Sets the connection speed. In most cases, you can connect to the Internet without making any changes to the default setting.
				10BASE Half		
				10BASE Full		
				100BASE Half		
				100BASE Full		
			Connection Test			Perform a network connection test. After you change the IP address or DNS setting, always perform this test.
	BD-Live Setting	Allow				You can restrict Internet access when BD-Live™ functions are used.
		Limited Allow				
		Prohibit				
	Displaying network status					You can confirm "MAC Address", "Connected server", "IP Address", "Subnet Mask", "Default Gateway", "Primary DNS", "Secondary DNS", "Proxy Setting", "Proxy Port" and "Connection Speed".
	Media Share	On				By setting this to "On", you can use this unit as a home media server and your DLNA compatible devices / players can access the contents stored on this unit's HDD / USB-HDD. • When this setting is "On", "Standby settings" will be set to "Normal Standby" automatically.
		Off				
Others	Auto Standby	On				Setting this to "On" places the unit in standby mode automatically if the unit remains inactive for more than 3 hours.
		Off				
	Panel Display	On				**"On"**: Always on. **"Off"**: Always off. **"Power Interlock"**: When the unit is on, the display panel is on, when the unit is off, the display panel is off.
		Off				
		Power Interlock				
	TV screen protection	On				If the unit has been inactive for more than 15 minutes while displaying the home menu screen / setting screen, the screen will automatically be turned to the DTV screen. If the track list for Audio CD / DivX® / MP3 / WMA / contents list for JPEG files has been displayed, screen saver will start.
		Off				

Category	Menus / Options		
Others (Cont'd)	Standby settings	Normal Standby	This setting allows you to select whether to have this unit in energy save mode. **"Normal Standby"**: The unit in "Normal Standby" mode can boot up faster than "ECO Standby", power consumption during standby mode will increase. **"ECO Standby"**: The unit in "ECO Standby" mode takes longer to boot up than "Normal Standby", power consumption during standby mode will decrease. • When "SIMPLINK" or "Media Share" is set to "On", this setting will automatically be set to "Normal Standby". • When set to "Normal Standby", the unit is technically powered-on during standby mode and ... - Power consumption during standby mode will increase. - The cooling fan on the rear panel may spin to avoid a rise of temperature inside the cabinet.
		ECO Standby	
	Quick Booting	7:00~10:00 19:00~22:00 10:00~13:00 22:00~1:00 13:00~16:00 1:00~4:00 16:00~19:00 4:00~7:00	During the periods of time set here, the boot time will be shorter. • You can select up to 2 periods of time. (e.g. 7:00 ~ 10:00 and 16:00 ~ 19:00) • During the selected periods of time… - Power consumption during standby mode will increase. - The cooling fan on the rear panel may spin to avoid a rise of temperature inside the cabinet. • Do not unplug the AC cord during the selected periods of time. It may cause malfunction of the unit. If unplugging, deactivate "Quick Booting" for the period of time, then turn this unit off before unplugging.
	DivX(R) VOD	Register	This menu item provides you with the DivX® VOD registration code. The DivX® registration code is required when downloading DivX® VOD files from the Internet. To learn more about DivX® VOD, visit www.divx.com/vod.
		Deregister	To deregister this unit from the activated device list of your DivX® VOD player, a deregistration code is required. This menu item provides you with the deregistration code, and also prompt you to the registration screen in case you wish to reregister this unit for another DivX®.
	Product Info		Indicates product info and the current software version.
	Download Update		Downloads the latest software through the DTV signal.
	Download Update in Standby	On	Performs the "Download Update" automatically while the unit is in standby mode. As to the time schedule, refer to the explanation in "Auto Clock Setting" on page 64.
		Off	
	Initialisation	Delete BD Video data	Initialises all BD-Video data including application data (game score, etc.), virtual package data (downloaded special contents, audio, subtitles, etc.)
		Initialise Settings	Resets the setting items to the default settings, except for "BD Rating Level", "DVD Rating Level" and "Network Settings" in "Settings".
		Initialise for Network setting	Resets the setting items in "Network Settings" in "Settings" to the default settings.
		Initialise for Personal information	Resets the unit to the factory default (the HDD will be initialised), then turn the unit off. • Some settings on this unit contain your personal information. In case this unit is given away or discarded, it is recommended that you perform "Initialise for Personal information".

◆ Configuring "BD Rating Level" / "DVD Rating Level"

`BD-Video` `DVD-Video`

1. Press **[⌂ HOME]**, then select "Playback" > "BD Rating Level" or "DVD Rating Level".

   • Password entry screen will appear.

2. Use **[0]** - **[9]** to enter a 4-digit number.

   • **"0000" cannot be used for a password.**
   • An entered number is replaced with an "*".
   • If a password has not been registered yet, the number you just entered will be registered.
   • **If you enter a wrong number**
     Use **[‹]** to move back or use **[∧ / ∨]** to select "Clear all", then press **[⊙ ENTER]**.

3. Use **[∧ / ∨]** to select the desired item to modify.

DVD rating level

"Off": No restriction
"8": Weak (Most DVD's are allowed)
"1": Strong (Only DVD's for children are allowed)

Blu-ray Disc™ rating level

"Off": No restriction
"Age Setting": Enter age using **[0]** - **[9]**.

4. Press **[↺ BACK]** repeatedly to exit.

   • **Unlocking the parental control on a commercially available disc**
     Enter the same password used above.
     - Parental lock is unlocked until this unit is turned off.

◆ Changing the password

1. Press **[⌂ HOME]**, then select "Playback" > "Password Change"

   • Password entry screen will appear.

2. Use **[0]** - **[9]** to enter the current password.

   • An entered number is replaced with an "*".
   • New password entry screen will appear.
   • **If you enter a wrong number**
     Use **[‹]** to move back or use **[∧ / ∨]** to select "Clear all", then press **[⊙ ENTER]**.

3. Use **[0]** - **[9]** to enter a new password.

   • **"0000" cannot be used for a password.**

4. Confirmation screen will appear. Enter the password again, then press **[⊙ ENTER]**.

5. Press **[↺ BACK]** repeatedly to exit.

Software Update

You can update the unit using the latest software to enhance the product's operation and / or add new features.

Downloading the Software through the DTV Signal:
You can download the latest software through the air and update this unit.

1. Press **[⌂ HOME]**, then select "Settings" > "Others" > "Download Update", then press **[⊙ ENTER]**.

   • A confirmation message will appear.

2. Use **[∧ / ∨]** to select "Yes", then press **[⊙ ENTER]**.

   • The unit will start scanning all the DTV channels for the latest software.

If software is found, the unit will start loading it automatically. After loading completes, the unit will automatically reboot and start updating. When updating completes, the unit will automatically reboot.

ⓘ Note

• If "Download Update in Standby" is set to "On" in "Settings", the unit will perform "Download Update" automatically while the unit is in standby.

Using a USB memory stick:
You can download the latest software (if a newer version is available) from LG's website and save the software on a USB memory stick. By connecting the USB memory stick to the unit, you can update your unit.

>> Preparation
• Prepare an empty USB memory stick.
• Have your PC ready to use the Internet.

`On PC`

1. Using an Internet browser, go to http://www.lg.com/global/support, then download the latest software.

2. Save the software on a USB memory stick.

`On Unit`

3. In stop mode, connect the USB memory stick to the USB port on the front of the unit.

4. A confirmation message will appear. Use **[‹ / ›]** to select "Yes", then press **[⊙ ENTER]**.

5. After 2 reboots, disconnect the USB memory stick.

ⓘ Note

• Do not change the file name of the downloaded file.
• Do not save any other files than the downloaded software on the USB memory stick.
• Do not turn off the unit or disconnect the USB memory stick during update process.
• Software update cannot be performed when there is a timer recording within 15 minutes.
• It may take extra time to load the software.
• You can confirm the current software version on the unit by pressing **[⌂ HOME]**, then select "Settings" > "Others" > "Product Info"".

Language Code List

Lauguage	Abbrev.	Code	Lauguage	Abbrev.	Code	Lauguage	Abbrev.	Code
Afar	aa	4747	Georgian	ka	5747	Sesotho	st	6566
Abkhazian	ab	4748	Kazakh	kk	5757	Sundanese	su	6567
Afrikaans	af	4752	Greenlandic	kl	5758	Swedish	sv	6568
Amharic	am	4759	Cambodian	km	5759	Swahili	sw	6569
Arabic	ar	4764	Kannada	kn	5760	Tamil	ta	6647
Assamese	as	4765	Korean	ko	5761	Telugu	te	6651
Aymara	ay	4771	Kashmiri	ks	5765	Tajik	tg	6653
Azerbaijani	az	4772	Kurdish	ku	5767	Thai	th	6654
Bashkir	ba	4847	Kirghiz	ky	5771	Tigrinya	ti	6655
Byelorussian	be	4851	Latin	la	5847	Turkmen	tk	6657
Bulgarian	bg	4853	Lingala	ln	5860	Tagalog	tl	6658
Bihari	bh	4854	Laothian	lo	5861	Setswana	tn	6660
Bislama	bi	4855	Lithuanian	lt	5866	Tonga	to	6661
Bengali;Bangla	bn	4860	Latvian;Lettish	lv	5868	Turkish	tr	6664
Tibetan	bo	4861	Malagasy	mg	5953	Tsonga	ts	6665
Breton	br	4864	Maori	mi	5955	Tatar	tt	6666
Catalan	ca	4947	Macedonian	mk	5957	Twi	tw	6669
Corsican	co	4961	Malayalam	ml	5958	Ukrainian	uk	6757
Czech	cs	4965	Mongolian	mn	5960	Urdu	ur	6764
Welsh	cy	4971	Moldavian	mo	5961	Uzbek	uz	6772
Danish	da	5047	Marathi	mr	5964	Vietnamese	vi	6855
German	de	5051	Malay	ms	5965	Volapuk	vo	6861
Bhutani	dz	5072	Maltese	mt	5966	Wolof	wo	6961
Greek	el	5158	Burmese	my	5971	Xhosa	xh	7054
English	en	5160	Nauru	na	6047	Yiddish	yi	7155
Esperanto	eo	5161	Nepali	ne	6051	Yoruba	yo	7161
Spanish	es	5165	Dutch	nl	6058	Chinese	zh	7254
Estonian	et	5166	Norwegian	no	6061	Zulu	zu	7267
Basque	eu	5167	Occitan	oc	6149			
Persian	fa	5247	(Afan)Oromo	om	6159			
Finnish	fi	5255	Oriya	or	6164			
Fiji	fj	5256	Panjabi	pa	6247			
Faroese	fo	5261	Polish	pl	6258			
French	fr	5264	Pashto;Pushto	ps	6265			
Frisian	fy	5271	Portuguese	pt	6266			
Irish	ga	5347	Quechua	qu	6367			
Scots Gaelic	gd	5350	Rhaeto-Romance	rm	6459			
Galician	gl	5358	Kirundi	rn	6460			
Guarani	gn	5360	Romanian	ro	6461			
Gujarati	gu	5367	Russian	ru	6467			
Hausa	ha	5447	Kinyarwanda	rw	6469			
Hebrew	he	5451	Sanskrit	sa	6547			
Hindi	hi	5455	Sindhi	sd	6550			
Croatian	hr	5464	Sangho	sg	6553			
Hungarian	hu	5467	Serbo-Croatian	sh	6554			
Armenian	hy	5471	Singhalese	si	6555			
Interlingua	ia	5547	Slovak	sk	6557			
Indonesian	id	5550	Slovenian	sl	6558			
Interlingue	ie	5551	Samoan	sm	6559			
Inupiak	ik	5557	Shona	sn	6560			
Icelandic	is	5565	Somali	so	6561			
Italian	it	5566	Albanian	sq	6563			
Japanese	ja	5647	Serbian	sr	6564			
Javanese	jv	5668	Siswat	ss	6565			

Troubleshooting

If the unit operates unexpectedly, follow the instructions below first, before requesting service for this unit.

Some simple checks or a minor adjustment on your part may solve the problem and restore proper operation.

• Also check the antenna, TV, AV amplifier and other devices connected to the unit and read the user manuals.

◆ Trouble checkup

1. Refer to "Symptom / Things to check" in the following chart and try to find your situation.

    • If it does not solve the problem, proceed to step 2.

2. Try the following.

    • Please remove the disc, disconnect the USB-HDD / USB device beforehand if possible.
    1) Press the power button on the front panel to turn off the unit. (By pressing and holding the power button for 8 seconds or longer, you can force turn off the unit.)
    2) Unplug the AC power cord, then wait a few seconds.
    3) Plug the AC power cord back in.
    4) Turn on the unit and see if the unit operates properly.
    • If it does not solve the problem, proceed to step 3.

3. Try the following.

    1) Press the reset button inside the front cover using a paper clip or other straight, thin object.
    • This unit will automatically be turned on, perform the system configuration, then will be turned off.
    • This unit is not operable during system configuration. Please wait until it is completed.
    2) Turn on the unit and see if the unit operates properly.

⚠ Note

• After reset, please perform the necessary configurations, such as timer programming and other settings.
• If you have tried all the above then the problem has still not been solved, unplug the AC cord and contact the retailer you purchased the unit from.

	Symptom	Things to check
Power	The power does not turn on.	• Is the AC power cord connected securely? • Are the batteries in the remote control still good? • If none of above, try step 2 in "◆ Trouble checkup" on page 68.
	The unit automatically turns on by itself.	• If "⬇D" is shown on the display panel, the unit is in the process of recording mode conversion. • If "⬇D" and "UPDATE" are shown on the display panel, the unit is downloading for a software update. • The unit will automatically turns on 2 minutes before a timer recording.
	The "Initial Setting" screen is displayed when turning on the unit.	• The "Initial Setting" screen appears when you turn on this unit for the first time.
	When turning on / off the TV, the unit turns on / off automatically.	• This happens when connecting the unit to an LG brand TV which supports the "SIMPLINK" functions and both the unit and TV's "SIMPLINK" is set to "On". (It may not function depending on the model.)
	The unit automatically turns off.	• Is "Settings" > "Others" > "Auto Standby" not set to "On"? • If above is not the case, try step 2 in "◆ Trouble checkup" on page 68.
	It takes a while to shot down the unit.	• When the unit is in the process of finishing the system or updating the system information, it may take extra time to shut down the unit.
Overall the unit / Disc / USB	The display panel is off.	• Is "Settings" > "Others" > "Panel Display" not set to "Off"?
	The unit is not operable.	• When "⊘" is displayed on screen, the operation is prohibited. • Are the batteries in the remote control still good? • When this unit is turned on for the first time after purchase, the "Initial Setting" screen will appear. • During "Initial Setting", recording / playback and other operations are not possible. • If none of above, try step 2 in "◆ Trouble checkup" on page 68. • The more titles there are stored on the HDD, the longer the unit will take to boot up when plugging in the AC power cord.
	The HDD is not operable.	• Is "HDD" on the front panel lighted? If no, press **[HDD]** on the remote control.

Symptom	Things to check
The disc is not operable.	• Is "DISC" on the front panel lighted? If no, press **[DISC]** on the remote control. • Is a disc in this unit? • Depending on the disc, playback speed control is not available.
The disc tray does not open / close.	• When the dubbing list is displayed, the disc tray may not open / close. • If an unsupported disc is placed in this unit, the disc tray may not open. In this case, press the power button on the unit for 8 seconds or longer to turn off the unit, then press **[⏏ OPEN/CLOSE]** button. If this does not solve the problem, try step 2 in "◆ Trouble checkup" on page 68.
The setting screen / sub menu are not displayed or items are not selectable.	• When the operation is not available, the item may not be displayed or selectable. • Does your TV's external source input corresponds to the unit's output?
This unit does not operate properly.	• If the unit is under condensation conditions, let the unit sit (powered on) for at least 2 hours.
The display panel shows an abnormal indication.	• Try step 2 in "◆ Trouble checkup" on page 68.
The USB device is not operable. The USB device is not readable.	• Is the USB device compatible with this unit? • Is the USB cable connected securely? • If connecting a USB device during recording / playback / dubbing, it may not be recognised.
While a USB device is connected, this unit becomes inoperable.	• It is caused by the USB device which has a problem during playback / slide show or while dubbing the contents to the HDD. In this case, disconnect the USB cable, then reconnect it.
TV programme is not displayed.	• Are the connections, the antenna — this unit — TV, made correctly? • Are the cables / cords connected to the correct terminals (including input / output)? • Are the cables / cords connected securely? • When connecting this unit and TV with an HDMI cable, be sure that the resolution in "Settings" > "HDMI" > "HDMI Video Resolution" is set to the correct resolution which the TV supports. If you are not sure, press and hold **[▶]** for 5 seconds or longer. This configures the resolution to "Auto" and the selected channel should be displayed. • When "HDMI Video Resolution" is set to "Auto" or "1080p24", the video out jack (yellow) may not output a signal. In this case, disconnect the HDMI cable or set the current resolution to another. • Does your TV's external source input corresponds to the unit's output?
TV's image quality became low after connecting this unit.	• Do you use a DTV signal splitter? If so, a TV signal booster (commercially available) may improve. If a signal booster is not effective, contact the retailer you purchased the unit from. • When this is not in use, place it in standby mode (turn off the unit, not unplug the AC power code). • Avoid arranging the RF cable, HDMI cable and LAN cable, etc. close together. • Try "Auto Tuning" in "DTV Menu" > "Installation".
Unable to switch channels.	• During a dual recording, other than the recording channels cannot be viewed. • During playback, this unit is unable to switch channels.

Subtitles are not displayed while viewing a DTV programme.	• Be sure "Subtitle" in the sub menu is not set to "Off".
	  - The sub menu can be called up by pressing **[SUB MENU]** while viewing a DTV programme.
	  - There are cases in which a subtitle language appears available while the subtitle information is not actually broadcasted.

"Programme Guide" is not displayed.	• "Programme Guide" is not available until this unit receive the EPG data after tuning is completed.
A different programme is recorded from the timer programming set from "Programme Guide".	• There are cases in which a broadcast station airs a different programme from the scheduled programme. This causes an inconsistency between the actual air and the information in the programme guide.

Overall the unit / Disc / USB (Cont'd)

Viewing a programme / switching channels

Others

12

Symptom	Things to check
Recording / Timer programming	
Unable to record.	• Is the title copy-protected? • Is the programme record-prohibited? • Is there enough capacity on the recording media? If no, delete unnecessary titles or use another recording media. • The recording media may have reached the maximum number of titles?. In this case, delete unnecessary titles or use another recording media. • Is the antenna connection made properly?
Unable to record to the disc.	• Use a recordable disc. • This unit is unable to record directly to a DVD-RW / -R disc and +RW / +R disc. (Dubbing to the disc is possible.) • This unit may be unable to make additional recording to a disc which is recorded on another device. • Recording may fail if the disc is scratched or dirty. • Is the disc protected or finalised?
Unable to record from another device, such as the cable tv's set-top box / VCR, etc.	• Is this unit switched to the external input (AV)? • Is the connected device turned on? • Are the cables / cords connected to the correct terminals (including input / output)? • Direct recording from the external input (AV) to a USB-HDD is not possible. (Dubbing from the HDD to a USB-HDD is possible.)
Unable to programme a timer recording / Programmed timer recording failed.	• If a timer programme is set to skip, it will not be recorded. • If a power outage occurs, a timer recording may not be performed properly. • If the unit is in the process which cannot be interrupted, such as finalising / formatting a disc, downloading a software update, a timer recording cannot be performed.
The recorded title cuts before the programme ends.	• Do multiple timer programmes overlap? • This also happens when the end time of the earlier programme and the start time of the latter programme are exactly the same.
Unable to perform a dual recording.	• This unit is unable to perform a dual recording (both programmes) simultaneously to one disc / USB-HDD.
Unable to record to a USB-HDD.	• Is the USB-HDD connected to the unit recordable? • The USB-HDD formatted on another device is not compatible with this unit. • Is the USB-HDD not protected? • Direct recording from the external input (AV) to a USB-HDD is not possible. (Dubbing from the HDD to a USB-HDD is possible.)
Playback	
Unable to play back a disc.	• Is the TV switched to the correct source input which is associated with this unit? • Is the disc compatible with this unit? Is the disc a blank disc? • Is the disc placed upside-down? • This unit may not play back a disc recorded on another recorder or PC. • This unit cannot play back an unfinalised DVD-RW (Video) / DVD-R (Video) disc recorded on another recorder. • Some discs may not be playable depending on the recording conditions, the specifications of the disc or due to scratches / dirt on the disc. • Confirm BD / DVD-Video rating level in "Settings" > "Playback" > "BD Rating Level" or "DVD Rating Level".
Playback does not start from the beginning of the title.	• Select "Play From Start" in the sub menu.
The picture and audio stops momently.	• This happens when the playback shifts from the first layer to the second layer of the disc.
The screen aspect does not seem correct.	• Is the setting in "Settings" > "Video/Audio" > "TV Aspect" is set to the correct aspect? • When the DVD disc has the specific screen aspect setting (e.g. 4:3 16:9 LB 16:9 PS), the pictures may be displayed in a different aspect from the TV.

Symptom	Things to check
During playback, the images are distorted / discoloured.	• The images may be distorted during fast forward / fast reverse. • Is the unit connected directly to the TV? If connected via a VCR, playback may not operate properly due to the copy guard. • Electric waves from a cell-phone and other devices near this unit may cause distortion of images.
DVD stops playback on its own.	• Some DVD's have a pause signal which automatically stops playback.

Audio is not output / Subtitles are not displayed.	• For connected devices (e.g. AV amplifier), confirm the following.
	  - Is the connected device turned on?
	  - Is the IN/OUT switch of the connected device selected correctly?
	  - Are the cables / cords connected to the correct terminals (including input / output)?
	• Is the "Video/Audio" setting in "Settings" set correctly based on the capability of the connected device?
	• The selected subtitle language must be included on the disc.

When playing back a title recorded from the external input (AV), it outputs 2 mixed audio.	• Before recording, change the setting in "Settings" > "Recording" > "External Input Audio" > "Stereo" to "Bilingual".
Unable to switch the dual audio of digital audio.	• When "Settings" > "Video/Audio" > "Dolby D / Dolby D+ / Dolby TrueHD" / "DTS / DTS-HD" or "MPEG" is set to "Bitstream" and the audio is output from DIGITAL OUT (OPTICAL), the audio is not switchable. In this case, change the setting from "Bitstream" to "PCM".
Unable to switch the audio language and subtitle language when playing back a disc.	• Does the disc contain multiple languages? • Some discs let you switch the audio language and subtitle language using the disc menu. Refer to the manual of the disc for how to operate.
Unable to switch the camera angles	• This function is only available in the scenes with multiple angles.
For a title recorded in other than TS mode, "TS→XX" (e.g. TS→AE) is displayed.	• All direct recordings are performed in TS mode. In the case of "TS→AE", it means the title was recorded in TS mode and it will be converted to AE mode after the unit goes standby. Recording mode conversion will be performed in the order of older to newer titles in the contents list.
Unable to delete a title / Unable to edit a title / chapter marks / disc.	• If the title / media is protected, it is not possible to delete or edit. Cancel protection on the media before editing. • For a finalised disc, title deletion / editing is not possible. • For a title to be converted to a different recording mode, title dividing / title protecting is not possible. • If a USB-HDD contains a title which is waiting to be converted, this USB-HDD cannot be protected.
Unable to add a chapter.	• The number of chapters may have reached the maximum number for the media. In this case, delete unnecessary chapter marks.
Disc capacity will not increase after deleting some titles.	• For BD-R / DVD-R / DVD+R discs, title deletion will not increase the disc capacity.
Unable to redo title deletion / dividing.	• Deleted / divided titles cannot be undone. Make sure the title is the correct one when editing.
The disc finalised on this unit cannot be played on another DVD player.	• Some DVD players cannot play back a disc finalised on this unit.
Unable to undo finalisation.	• This unit can only undo finalisation on DVD-RW (VR) finalised on this unit.
Unable to dub a disc.	• Most commercially available video discs are protected with a copy guard. It is not possible to dub such discs. • Unfinalised DVD-RW (Video) / DVD-R (Video) discs recorded on another recorder cannot be dubbed. • This unit may be unable to dub the disc if it is scratched and dirty. • This unit may be unable to dub the disc if it is formatted on another recorder. • To dub a protected copy-once title, cancel protection first.
After dubbing, the original title will be deleted.	• For copy-once titles, the title will be dubbed as "move" to another media and the original title on the source media will be deleted.
The subtitles will not be dubbed.	• Set "Settings" > "Recording" > "Subtitle Recording" to "On". With this setting, the subtitles will be burned in the images and it cannot be turned "On" / "Off".

Playback (Cont'd) / Title deletion / Editing / Dubbing

Others / 12

Symptom	Things to check
USB-HDD	
The USB-HDD is not usable.	• Turn on the USB-HDD first, then turn on this unit. • Connect the USB-HDD securely to this unit and configured it properly. • A newly connected USB-HDD needs to be registered to this unit before using.
Unable to record to the USB-HDD.	• The USB-HDD may be full. If that is the case, dub some titles to the internal HDD or delete some titles to make room for the new recording.
The titles stored on the USB-HDD disappeared.	• If a power failure occurs (e.g. lightning, unplugging the AC cord, the circuit breaker was thrown, etc.), the contents on the USB-HDD may disappear. If this happens and/or the USB-HDD became inoperable, reregister the USB-HDD.
The programme that was supposed to be recorded to the USB-HDD was recorded to the internal HDD.	• Confirm that the USB-HDD is connected securely to this unit and turned on. • Make sure that the USB-HDD is registered to this unit. • There are cases, depending on the connected device, that programmed timer recordings will be performed to the HDD (alternate recording) if a power outage occurs.
The titles on the USB-HDD cannot be played back.	• After recording, the USB-HDD may have been unregistered. If unregistered, the titles on the USB-HDD will be unplayable. When reregistering the USB-HDD, it will be formatted.
SIMPLINK	
The SIMPLINK functions do not operate.	• The SIMPLINK functions are only available when connecting this unit and LG's SIMPLINK compatible TV with an HDMI cable and the SIMPLINK setting on both devices is completed. • The SIMPLINK functions will no longer be effective if this unit's AC cord or HDMI cable is unplugged. To restore the settings, connect the AC cord and HDMI cable securely to this unit, switch the TV's external source input to this unit, or set "Settings" > "HDMI" > "SIMPLINK" to "Off", then set it "On" again.
Remote control	
The remote control does not operate .	• Are the batteries in the remote control still good?
The HDD is not operable.	• Is the "HDD" on the front panel lighted? If no, press **[HDD]**.
The disc is not operable.	• Is the "DISC" on the front panel lighted? If no, press **[DISC]**.
The USB-HDD is not operable.	• Is the "USB" on the front panel lighted? If no, press **[USB]**.
The TV is not operable.	• Are the batteries in the remote control still good? If the batteries are exhausted, only TV control may become inoperable.
Others	
A lot of noise is generated from inside this unit's cabinet.	• While downloading the EPG data and software update, this unit may generate noise. • When high-speed dubbing and the cooling fan is spinning fast, this unit may generate more noise than usual.
The password for "BD Rating Level" / "DVD Rating Level" or the PIN Code for "Parental Control" is forgotten.	• For "BD Rating Level" / "DVD Rating Level", go to "Home Menu" > "Settings" > "Playback", then highlight either "BD Rating Level" or "DVD Rating Level", then enter "210499" using **[number buttons]**. • For "Parental Control", go to "Home Menu" > "DTV Menu", "Parental Control", then highlight "Channel Lock" or "DTV Rating", then enter "210499" using **[number buttons]**.

If a following message appears...

Message example	Meaning / what to do
Overall operations	
⊘	• Currently, the operation is prohibited.
This device will be powered off soon by auto off function.	• Because "Auto Standby" is set to "On", this unit will be powered off shortly. Any operation will cancel the auto-standby function this time. • If you wish to turn off the function, set "Settings" > "Others" > "Auto Standby" to "Off".
You cannot operate this during dubbing.	• Because a dubbing is being performed, the operation is currently not available.
Please insert the valid disc.	• Although a timer recording to a disc will start shortly, a recordable disc is not found in the unit. Check the disc.
Please connect valid USB-HDD.	• Although a timer recording to a USB-HDD will start shortly, a recordable USB-HDD is not found. Please check the USB-HDD.
Disc / USB device	
Please eject the disc. Playback feature may not be available on this Disc.	• The disc may be unsupported or scratched and dirty. Remove the disc and check the disc.
Region Error Playback is not authorized in your region.	• The region code of the disc does not correspond to this unit. Eject the disc.
Abnormality occurred in USB connection. USB device has been stopped automatically.	• The USB device has a problem during playback / slide show or while dubbing the contents. Disconnect the USB device.
Cannot find USB-HDD, Or USB-HDD which cannot be recorded in this device is connected.	• This unit cannot recognise the USB-HDD. Check the USB-HDD. • Recognisable USB-HDD's are from 64 GB to 4 TB.
Recording	
It was not completed properly because of an error.	• An error occurred and the recording was interrupted. It may be caused by a malfunction of the HDD or scratches and dirt on the disc.
You cannot record because it is prohibited to record.	• The programme is record-prohibited.
Cancel recording because of insufficient capacity	• The recording was cancelled because the recording media became full.
The recording time exceeded 8 hours. Recording was stopped.	• The maximum duration of one title is 8 hours.
Timer programming	
Built-in HDD does not have enough space to record. If space is not ensured when you record, at the end of the programme cannot be recorded.	• There is not enough capacity on the HDD / USB-HDD / disc to complete a recording. Press **[⊙ ENTER]**, then check the capacity of the recording media.
Remaining capacity of disc is not enough. If space is not ensured when you record, a programme will be recorded on HDD if the HDD has enough space.	
Remaining capacity of the USB-HDD is not enough, If space is not ensured when you record, a programme will be recorded on HDD if the HDD has enough space.	
Deletion / editing / dubbing	
It was not completed properly because of an error.	• The disc may be scratched or dirty. Press **[⊙ ENTER]** to close the message window, then eject the disc and check the disc.
The title is protected / This title is not dubbed as this disc is protected.	• Cancel disc protection.
This title can be registered only once.	• A title which will be dubbed as "move" can be registered to the dubbing list only once.
Cannot add title. Limit exceeded.	• The dubbing list is full. • The maximum number of titles in the dubbing list is 36 titles.
Exceeds 8 hours	• A title longer than 8 hours cannot be dubbed.
Disc is full. Cannot dub to this disc.	• The total data size of the dubbing titles exceeds the available capacity of the dubbing media. Try to dub less titles or prepare a larger dubbing media.
Display panel	
↓D	• "↓D" and "UPDATE" indicate that this unit is downloading a software update. Do not turn off the unit until an update is completed. • "↓D" may be displayed while organising the system data.
WAIT	• This unit is in a process of system configuration and not operable. The unit will become operable after the indicator disappears.

Glossary

AAC (Advanced Audio Coding)
A lossy compression and encoding scheme for digital audio. Audio files which have been encoded with AAC generally achieve better sound quality than MP3 at similar bit rates.

AACS (Advanced Access Content System)
A content protection scheme used with Blu-ray Disc™.

AVCHD
AVCHD is a new format for high definition video camcorders which can record and play high-resolution HD images.

BD-J
Some BD-Video discs contain Java application software called BD-J, which enables various interactive functions other than normal content playback.

BD-Live™
BD-ROM version 2 Profile 2.0, which contains new functions (e.g. Internet connection), in addition to the BONUSVIEW™ function.

Bit rate
The amount of data of audio / video conveyed or processed per second.

Bitstream
Audio signal which is compressed and converted to a digital signal. It is converted to a compatible audio signal according to the capability of the audio amplifier.

Chapter
Just as a book is split up into several chapters, a title on a BD-Video or DVD-Video disc is usually divided into chapters. See also "Title".

Copy protection
The function for prevention of unauthorised copying of broadcast programmes and video materials. For this reason, this unit does not record broadcast programmes and videos with an embedded copy-protection signal.

Copy-once broadcast
Digital broadcast programmes which allow you to record only once for the copyright protection and prevention of unauthorised copying. When a copy-once broadcast programme is recorded then copied to another storage device, the programme moves to the destination device, and will be deleted from the original device.

CPRM (Content Protection for Recordable Media)
Copyright protection technology for the copy-once broadcast programmes. To record copy-once programmes and/or the dubbing-ten programmes to a DVD, a CPRM compatible disc is needed.

Deep Colour
Deep colour reproduces more realistic colours without colour banding than the traditional 8-bit colour system.

DivX®
DivX® is a codec (compression / decompression) which can compress images to a very small amount of data. The software can compress video data from almost any devices to the size that can be sent on the Internet without dropping visual quality of the images.

Dolby Digital Plus
The next generation digital audio compression technology developed as an extension to Dolby Digital. Blu-ray Disc™ supports 7.1 multi-channel surround sound output.

Dolby Digital
A method to compress digital sound developed by Dolby Laboratories. It offers you stereo sound (2ch) or multi-channel audio.

DRC (Dynamic Range Control)
Dynamic range is audio level differences between the minimum and maximum level in the audio source of a title recorded in the Dolby Digital format. DRC makes it easier to hear audio at a lower volume while viewing a movie at night.

EPG
Electronic Programme Guide.

Finalising
The process to make BD-R, DVD-RW/-R and DVD+RW/+R discs recorded on this unit, compatible with other players.

GB (Gigabyte)
A unit for the capacity of storage devices and recording media, such as HDD's / USB-HDD's / USB memory sticks / discs (Blu-ray™ / DVD).

HD quality
The picture quality of High-Definition digital broadcasting. The effective scan lines of the screen is 720 or 1080. HD digital broadcasting enables higher picture and sound quality than SD (Standard-Definition) broadcasting.

HDD (Hard Disk Drive)
Large capacity data storage device used in digital video recorders, PC's, etc. HDD is able to read and write data quickly, with high retrieval performance. This unit is equipped with an internal HDD (You cannot replace the internal HDD on your own).

HDMI (High-Definition Multimedia Interface)
A digital interface between an audio and video source. It can transmit component video, audio and control signal with one cable connection.

Initialisation (formatting)
This process initialises a recordable disc to be ready for this unit or to change the recording method.

Interlace scanning (576i)
The process of building an image from two fields, which has been used by the majority of televisions. The first field consists of the odd numbered scan lines and the second field even numbered lines. This process displays an image at the frame rate of 25 frames per second.

JPEG (Joint Photographic Experts Group)
A method of compressing still picture files. You can copy JPEG files on BD-RE / -R, DVD-RW / -R, DVD+RW / +R, CD-RW / -R or a USB memory stick from a computer and play back the files on this unit.

Letterbox
A method to fit the wide screen (16:9) images in a standard-definition television screen (4:3), keeping the aspect ratio by adding black bars on both the top and bottom of the television screen.

Linear PCM (Linear Pulse Code Modulation)
A method to record digital audio without compression.

MP3 (MPEG audio layer 3)
MP3 is a method of compressing files. You can copy MP3 files on BD-RE / -R, DVD-RW /-R, DVD+RW / +R, CD-RW / -R, or USB memory stick from the computer and play back the files on this unit.

MPEG, MPEG-2, MPEG-4 AVC/H.264
MPEG stands for Moving Picture Experts, which is the international standard of video / audio compression. MPEG-2 is used to record materials for DVD's. MPEG-4 AVC/H.264 is used to record High-Definition materials.

Pan & scan
A method to fit the wide screen (16:9) images in a standard-definition television screen (4:3), keeping the aspect ratio by cropping both the left and right sides of the original images.

Parental level
Setting in digital broadcast programmes and video materials which makes it possible to control the types of viewable scenes. This function prevents children from viewing violent scenes and such.

Progressive scanning (576p)
As opposed to interlace scanning, this process displays 576 scan lines at a time at the frame rate of 50 frames per second. Progressive scanning enables denser and less flickering images than interlace scanning.

Region code
Region associated discs and players with the particular areas of the world. This unit will only play discs with the compatible region code. The region code of this unit may be found on the rear panel. Some discs are compatible with more than one region or all regions.

Resume playback
This unit memorises where you stopped playback, so you can continue from where you left off.

SD quality
The quality of the Standard-Definition digital broadcasting. The effective scan lines of the screen is 576.

SIMPLINK
It enables the integrated system control between this unit and an LG television.

Title
A collection of chapters on BD-video or DVD-video. See also "Chapter".

Track
Audio CD uses tracks to divide up the content of a disc. The BD-Video or DVD-Video equivalent is called a Chapter. See also "Chapter".

USB (Universal Serial Bus)
An interface to connect electronic devices. For this unit, USB is used to connect to a digital camcorder / digital camera to view JPEG photos on your television screen and retrieve High-Definition movies (recorded in the AVCHD format) from a camcorder.

VBR (Variable Bit Rate)
A recording method which controls the amount of data in a recording by detecting the differences in the speed of motions in the content. This technology makes the recorder record more efficiently and produce smaller movie files.

Virtual Package
The function which copies data to other media (local storage) from the Internet and plays the secondary video, secondary audio and subtitles at the same time. The method of the playback varies depending on the disc.

WMA (Windows Media™ Audio)
Windows Media™ Audio is the audio compressing technology developed by Microsoft. You can copy Windows Media™ Audio files on BD-RE / -R, DVD-RW / -R, DVD+RW / +R, CD-RW / -R, or USB memory stick from a computer and play back on this unit.

Specifications

General	
HDD	1 TB (BR629T) / 500 GB (BR625T)
Power requirements	220 – 240 V ± 10 %, 50 Hz ± 0.5 %
Power consumption	31 W (BR629T) / 27 W (BR625T)
Weight	3.0 kg (BR629T) / 2.7 kg (BR625T)
Dimensions (width x height x depth)	430.3 x 53.2 x 262.5 mm
Operating temperature	5°C to 40°C
Operating humidity	Less than 80% (no condensation)
TV system	DVB-T Standard Compliant
Recording	
Recording format	BDAV format (BD-RE, BD-R), Video Recording (VR) format (DVD-RW only), video format (DVD-RW, DVD-R), +VR format (DVD+RW, DVD+R)
Recordable discs	BD-RE, BD-R, DVD-ReWritable, DVD-Recordable, DVD+ReWritable, DVD+Recordable
Video recording format	
Compression format	MPEG-2, MPEG-4 AVC(H.264)
Audio recording format	
Sampling frequency	48 kHz
Compression format	Dolby Digital Linear PCM (XP mode) Dolby Digital Plus (TS mode) MPEG (TS mode) AAC(TS mode) HE-AAC(TS mode)
Tuner	
DVB-T channels	
VHF Band III	6 - 12 ch
UHF Band IV	27 - 35 ch
UHF Band V	36 - 69 ch
Input / Output	
Front Panel:	
USB port (TYPE A)	USB 2.0 (DC 5 V Max 500 mA)
Rear Panel:	
VHF / UHF antenna input / output terminal	75 Ω
Audio input /output	Two RCA connectors each
Video input /output	One RCA connector each
Input /output level	1 Vp-p (75 Ω) each
Audio output	Two RCA connectors
Output level	2 Vrms (output impedance less than 1 KΩ)
Video output	One RCA connector
Output level	1 Vp-p (75 Ω)
Digital audio output	One Optical jack
HDMI output	HDMI Jack
LAN terminal	10 BASE-T / 100 BASE-TX

(!) Note

• The specifications and design of this product are subject to change without notice.

Maximum number of titles / chapters / characters

The actual number which a media can contain may be smaller than the numbers shown here depending on the contents and for other reasons.

For HDD / USB-HDD
Titles: 2,000
Chapters per title: 999

For BD-RE / BD-R disc
Titles: 200
Chapters per title: 100
Chapters per disc: 999

For DVD-RW (VR)
Titles: 99
Chapters per disc: 999

For DVD-RW (Video) / DVD-R (Video)
Titles: 36
Chapters per title: 99

For DVD+RW (+VR) / DVD+R (+VR)
Titles: 49
Chapters per title: 99
Chapters per disc: 254

Others
Timer programmes: 100
Titles in the dubbing list: 36
Maximum duration of a recording title: 8 hours
Title name / disc name: Up to 60 characters*

* For DVD-RW (Video) / DVD-R (Video), up to 30 characters for a title name, up to 60 characters for a disc name.

License

This section describes software license used for this product. This product uses some open source software:

Program name	EULA
linux	Exhibit A
busybox	Exhibit A
dhcpcd	Exhibit A
directfb	Exhibit B
glibc	Exhibit B
gmp	Exhibit B
liexif	Exhibit B

Program name	EULA
FLAC	Exhibit C
Tremor	Exhibit C
Oniguruma	Exhibit C
universalchardet	Exhibit D

Program name	EULA
expat	Exhibit E
giflib	Exhibit E
libxml2	Exhibit E
cURL	Exhibit E
Free Type	Exhibit F
LibJPEG	Exhibit F
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<u>Exhibit A</u>

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Version 2, June 1991

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LibJPEG

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12

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The IJG distribution formerly included code to read and write GIF files.

To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce

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