Thank you for purchasing this product. Please read these instructions carefully before using this product, and save this manual for future use.

- This Blu-ray Disc Player / HDD Recorder is for viewing and recording free to view channels only. It does not receive pay TV or encrypted channels.

### Region management information

**BD-Video:** This unit can play BD-Video discs supporting the region code “B”.

- e.g.,

**DVD-Video:** This unit can play DVD-Video discs supporting the region number “4” or “ALL”.

- e.g.,
# Safety precautions

## WARNING

### Unit

- To reduce the risk of fire, electric shock or product damage,
- Do not expose this unit to rain, moisture, dripping or splashing.
- Do not place objects filled with liquids, such as vases, on this unit.
- Use only the recommended accessories.
- Do not remove covers.
- Do not repair this unit by yourself. Refer servicing to qualified service personnel.
- Do not let metal objects fall inside this unit.
- Do not place heavy items on this unit.

### AC mains lead

- To reduce the risk of fire, electric shock or product damage,
- Ensure that the power supply voltage corresponds to the voltage printed on this unit.
- Insert the mains plug fully into the socket outlet.
- Do not pull, bend, or place heavy items on the lead.
- Do not handle the plug with wet hands.
- Hold onto the mains plug body when disconnecting the plug.
- Do not use a damaged mains plug or socket outlet.

- The mains plug is the disconnecting device. Install this unit so that the mains plug can be unplugged from the socket outlet immediately.

### Small object

- Keep the Memory Card out of reach of children to prevent swallowing.

## CAUTION

### Unit

- This unit utilizes a laser. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- Do not place sources of naked flames, such as lighted candles, on this unit.
- This unit may receive radio interference caused by mobile telephones during use. If such interference occurs, please increase separation between this unit and the mobile telephone.
- This unit is intended for use in moderate climates.

### Placement

- Place this unit on an even surface.
- To reduce the risk of fire, electric shock or product damage,
- Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure this unit is well ventilated.
- Do not obstruct this unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
- Do not expose this unit to direct sunlight, high temperatures, high humidity, and excessive vibration.
Batteries
- Danger of explosion if battery is incorrectly replaced. Replace only with the type recommended by the manufacturer.
- Mishandling of batteries can cause electrolyte leakage and may cause a fire.
  - Do not mix old and new batteries or different types at the same time.
  - Do not heat or expose to flame.
  - Do not leave the battery(ies) in a car exposed to direct sunlight for a long period of time with doors and windows closed.
  - Do not take apart or short circuit.
  - Do not recharge alkaline or manganese batteries.
  - Do not use batteries if the covering has been peeled off.
  - Remove batteries if you do not intend to use the remote control for a long period of time.
  - Store in a cool, dark place.
- When disposing the batteries, please contact your local authorities or dealer and ask for the correct method of disposal.

Supplied accessories
Please check and identify the supplied accessories.
(Product numbers correct as of February 2013. These may be subject to change.)

Remote control (N2QAYB000757): 1 pc.
Batteries for remote control: 2 pcs.
AC mains lead: 1 pc.
RF coaxial cable: 1 pc.
HDMI cable: 1 pc.
- Do not use AC mains lead with other equipment.

Indemnity concerning recorded content
Panasonic does not accept any responsibility for damages directly or indirectly due to any type of problems that result in loss of recording or edited content (data), and does not guarantee any content if recording or editing does not work properly. Likewise, the above also applies in a case where any type of repair is made to the unit (including any other non-HDD related component).

Restriction on use of unauthorized copied content
This unit adopts the following technology for copyright protection.

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.
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About descriptions in these operating instructions
- These operating instructions are applicable to models DMR-PWT635 and DMR-PWT530. The illustrations in these Operating Instructions show images of DMR-PWT635 unless otherwise indicated.
- [PWT635] indicates features applicable to DMR-PWT635 only.
- [PWT530] indicates features applicable to DMR-PWT530 only.
- Pages to be referred to are indicated as "± ±".
## Getting started

### HDD and media information

#### Recordable/playable contents

<table>
<thead>
<tr>
<th>Media type</th>
<th>Standard symbol</th>
<th>Playable contents</th>
<th>Recordable contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-in hard disk drive (HDD)</td>
<td>HDD</td>
<td>• Video</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• AVCHD/AVCHD 3D</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• JPEG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MPO (3D photo)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MP3</td>
<td></td>
</tr>
<tr>
<td>External hard disk drive (USB HDD)</td>
<td>USB HDD</td>
<td>• Video(^1)</td>
<td>–</td>
</tr>
<tr>
<td>(USB HDD)</td>
<td></td>
<td>• AVCHD/AVCHD 3D(^2, 3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SD Video (MPEG2)(^4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MP4</td>
<td>MPEG2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Xvid</td>
<td>MKV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• JPEG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MPO (3D photo)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MP3</td>
<td></td>
</tr>
<tr>
<td>BD-Video</td>
<td>BD-V</td>
<td>• Video</td>
<td>–</td>
</tr>
<tr>
<td>BD-RE</td>
<td>BD-RE</td>
<td>• Video</td>
<td>–</td>
</tr>
<tr>
<td>BD-R</td>
<td>BD-R</td>
<td>• Video</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• AVCHD/AVCHD 3D</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• JPEG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MPO (3D photo)</td>
<td></td>
</tr>
<tr>
<td>DVD-Video(^5)</td>
<td>DVD-V</td>
<td>• Video</td>
<td>–</td>
</tr>
<tr>
<td>DVD-R</td>
<td>DVD-R</td>
<td>• Video</td>
<td>–</td>
</tr>
<tr>
<td>DVD-R DL</td>
<td>DVD-R DL</td>
<td>• Video</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• AVCHD(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Xvid</td>
<td>MKV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• JPEG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MPO (3D photo)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MP3</td>
<td></td>
</tr>
</tbody>
</table>
### Getting started

**§1** It cannot be recorded directly. (Only compatible with copying from the built-in HDD)

**§2** Recorded with AVCHD format compatible devices (Panasonic video camera, etc.). It may not be able to play back depending on the device.

**§3** It cannot be played back directly from the USB HDD or USB memory. Playback is possible by copying to the HDD. (⇒ 54)

**§4** Recorded with SD-Video format compatible devices (Panasonic video camera, etc.). It can be played back only after copying to HDD. (⇒ 55)

**§5** Includes finalised DVD-R, DVD-R DL, DVD-RW, +R and +R DL.

---

<table>
<thead>
<tr>
<th>Media type</th>
<th>Standard symbol</th>
<th>Playable contents</th>
<th>Recordable contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD-RW</td>
<td>DVD-RW</td>
<td>• Video • AVCHD${}^2$</td>
<td>–</td>
</tr>
<tr>
<td>+R/+R DL</td>
<td>+R</td>
<td>• Video • AVCHD${}^2$</td>
<td>–</td>
</tr>
<tr>
<td>+RW</td>
<td>+RW</td>
<td>• Video • AVCHD${}^2$</td>
<td>–</td>
</tr>
<tr>
<td>Audio CD (CD-DA)</td>
<td>CD</td>
<td>• Music</td>
<td>–</td>
</tr>
<tr>
<td>CD (including CD-R/RW)</td>
<td>CD</td>
<td>• Xvid • MKV • JPEG • MP3 • MPO (3D photo)</td>
<td>–</td>
</tr>
<tr>
<td>SD Cards</td>
<td>SD</td>
<td>• AVCHD/AVCHD 3D${}^2, 3$ • SD Video (MPEG2)$^4$ • MP4 • JPEG • MPO (3D photo)</td>
<td>• JPEG • MPO (3D photo)</td>
</tr>
<tr>
<td>USB memory</td>
<td>USB</td>
<td>• AVCHD/AVCHD 3D${}^2, 3$ • SD Video (MPEG2)$^4$ • MP4 • MPEG2 • Xvid • JPEG • MPO (3D photo) • MKV • MP3</td>
<td>–</td>
</tr>
</tbody>
</table>

---

*¹ It cannot be recorded directly. (Only compatible with copying from the built-in HDD)

*² Recorded with AVCHD format compatible devices (Panasonic video camera, etc.). It may not be able to play back depending on the device.

*³ It cannot be played back directly from the USB HDD or USB memory. Playback is possible by copying to the HDD. (⇒ 54)

*⁴ Recorded with SD-Video format compatible devices (Panasonic video camera, etc.). It can be played back only after copying to HDD. (⇒ 55)

*⁵ Includes finalised DVD-R, DVD-R DL, DVD-RW, +R and +R DL.

---

*The producer of the disc can control how discs are played. So you may not always be able to control play as described in these operating instructions. Read the disc’s instructions carefully.

*With certain recording states and folder structures, the play order may differ or playback may not be possible.
Getting started

HDD and media information

Playable contents on a DLNA server

When this unit works as a DLNA client (⇒ 57), following contents are playable.

- Recorded video
- AVCHD
- MP4
- MPEG2
- JPEG
- MPO (3D photo)
- MP3
- FLAC

* Only when the server is another DIGA. (⇒ 56)

* Depending on the server, the contents other than stated above can be played back.

About extension of files

<table>
<thead>
<tr>
<th>File format</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP4</td>
<td>.MP4</td>
</tr>
<tr>
<td></td>
<td>.mp4</td>
</tr>
<tr>
<td></td>
<td>.MOV</td>
</tr>
<tr>
<td></td>
<td>.mov</td>
</tr>
<tr>
<td>MPEG2</td>
<td>.MPG</td>
</tr>
<tr>
<td></td>
<td>.mpg</td>
</tr>
<tr>
<td></td>
<td>.MPEG</td>
</tr>
<tr>
<td></td>
<td>.mpeg</td>
</tr>
<tr>
<td></td>
<td>.M2TS</td>
</tr>
<tr>
<td></td>
<td>.m2ts</td>
</tr>
<tr>
<td></td>
<td>.MTS</td>
</tr>
<tr>
<td></td>
<td>.mts</td>
</tr>
<tr>
<td></td>
<td>.TS</td>
</tr>
<tr>
<td></td>
<td>.ts</td>
</tr>
<tr>
<td>Xvid</td>
<td>.AVI</td>
</tr>
<tr>
<td></td>
<td>.avi</td>
</tr>
<tr>
<td>Subtitle text files</td>
<td>.SRT</td>
</tr>
<tr>
<td></td>
<td>.srt</td>
</tr>
<tr>
<td></td>
<td>.SUB</td>
</tr>
<tr>
<td></td>
<td>.sub</td>
</tr>
<tr>
<td></td>
<td>.TXT</td>
</tr>
<tr>
<td></td>
<td>.txt</td>
</tr>
<tr>
<td>MKV</td>
<td>.MKV</td>
</tr>
<tr>
<td></td>
<td>.mkv</td>
</tr>
<tr>
<td>Subtitle text files</td>
<td>.SRT</td>
</tr>
<tr>
<td></td>
<td>.srt</td>
</tr>
<tr>
<td></td>
<td>.SSA</td>
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<tr>
<td></td>
<td>.ssa</td>
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<td></td>
<td>.ASS</td>
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<tr>
<td></td>
<td>.ass</td>
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<tr>
<td></td>
<td>.SUB</td>
</tr>
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<td></td>
<td>.sub</td>
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<td></td>
<td>.TXT</td>
</tr>
<tr>
<td></td>
<td>.txt</td>
</tr>
<tr>
<td>JPEG</td>
<td>.JPG</td>
</tr>
<tr>
<td></td>
<td>.jpg</td>
</tr>
<tr>
<td>MPO (3D photo)</td>
<td>.MPO</td>
</tr>
<tr>
<td></td>
<td>.mpo</td>
</tr>
<tr>
<td>MP3</td>
<td>.MP3</td>
</tr>
<tr>
<td></td>
<td>.mp3</td>
</tr>
</tbody>
</table>

* The video file and subtitle text files are inside the same folder, and the file names are the same except for the file extensions.

* Some files may not be played back even if they have these extensions.
Getting started

You can use an external HDD in the following two ways. (A single HDD cannot handle those two ways simultaneously.)

• For recorded titles
  Moving titles in the built-in HDD to a USB HDD to save the capacity of the built-in HDD.
  • The USB HDD must first be registered on this unit. (☞ 61)

• For data files
  Playing back MP4, JPEG, MP3, etc. (data files) in a USB HDD with this unit.
  • The USB HDD must be formatted in FAT12, FAT16, FAT32 and NTFS file system.
  • The USB HDD over 2 TB is not usable.

• This unit supports USB 2.0 High Speed.
• Although this unit can use USB 3.0 devices as USB 2.0 devices, in certain cases USB 3.0 devices cannot be used due to differing connector shape, larger current ratings, etc. (Use of USB 2.0 devices is recommended.)
• This unit does not recognize USB HDDs other than those in which the size of one sector is 512-bytes. (For details, consult the dealer of your USB HDD.)
• This unit does not guarantee connection with all USB devices.

Notes

Notes for an External HDD (USB HDD)
You can use an external HDD in the following two ways. (A single HDD cannot handle those two ways simultaneously.)

• For recorded titles
  Moving titles in the built-in HDD to a USB HDD to save the capacity of the built-in HDD.
  • The USB HDD must first be registered on this unit. (☞ 61)

• For data files
  Playing back MP4, JPEG, MP3, etc. (data files) in a USB HDD with this unit.
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• This unit does not recognize USB HDDs other than those in which the size of one sector is 512-bytes. (For details, consult the dealer of your USB HDD.)
• This unit does not guarantee connection with all USB devices.

Notes for the disc

• Disc recorded on a recorder, PC, etc.
  • It may be necessary to finalize the disc, create Top Menu or close the session on the equipment used for recording to play on this unit.

• Discs that cannot be played
  - DVD-RAM
  - HD DVD
  - CD-ROM, Photo CD, PD, etc.
  - DVD-Audio
  - Super Video CD, Super Audio CD, Video CD

• Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.
Getting started

HDD and media information

### Notes for the SD cards

- **Compatible SD card**
  - SD Memory Card
    (from 8 MB to 2 GB, FAT12 and FAT16 formats)
  - SDHC Memory Card
    (from 4 GB to 32 GB, FAT32 format)
  - SDXC Memory Card
    (48 GB, 64 GB, exFAT format)

- **Using miniSD card or microSD card**
  Mini-type and micro-type cards can also be used, but must be used with adaptor cards (optional).

### To format an SD card

Refer to “Format SD card”. (☞ 60)

- Usable memory is slightly less than the card capacity.
- If the SD card is formatted on other equipment, the time necessary for recording may be longer or the card may not be able to be used on this unit. In these cases, format the card on this unit.
- SDHC Memory Cards and SDXC Memory Cards can be used in equipment that is compatible with the appropriate cards. (SDHC Memory Cards can also be used in equipment compatible with SDXC Memory Cards.)

### Notes for the USB memories

USB memories support FAT12, FAT16, FAT32 and NTFS file systems.

- The USB memory over 2 TB is not usable.
- This unit supports USB 2.0 High Speed.
- This unit does not guarantee connection with all USB devices.

### Media handling

- Do not touch the recorded surface of the discs or the terminal surface of the SD cards.

<table>
<thead>
<tr>
<th><strong>DO</strong></th>
<th><strong>DO NOT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>DO</td>
<td>DO NOT</td>
</tr>
<tr>
<td>![Image]</td>
<td>![Image]</td>
</tr>
</tbody>
</table>

- If there is dirt or condensation on the disc, wipe with a damp cloth and then wipe dry.

<table>
<thead>
<tr>
<th><strong>DO</strong></th>
<th><strong>DO NOT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>DO</td>
<td>DO NOT</td>
</tr>
<tr>
<td>![Image]</td>
<td>![Image]</td>
</tr>
</tbody>
</table>

- Do not attach labels or stickers to discs.
- Do not use disc cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use ballpoint pens or other hard writing implements, when writing on the label side of the disc.
- Do not drop, stack, or impact discs.
- Do not place objects on discs.
- Do not use the following discs:
  - Discs with exposed adhesive from removed stickers or labels (rental discs, etc.).
  - Discs that are badly warped or cracked.
  - Irregularly shaped discs.

<table>
<thead>
<tr>
<th><strong>DO NOT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image]</td>
</tr>
</tbody>
</table>

- Do not expose the terminals of the SD card to water, garbage or other strange things.
- Do not place in the following areas:
  - In hot places, such as under the direct sunlight.
  - In very dusty or humid areas.
  - Locations susceptible to significant difference in temperature (condensation can occur).
  - Where static electricity or electromagnetic waves occur.
Unit care

HDD/USB HDD handling care

• The HDD is a high precision device
  The HDD is a high precision recording instrument and is easily susceptible to damage. Therefore, be careful of the following points while the unit is turned on, especially during operation, otherwise the HDD and the recorded content may be damaged:
  - Do not subject the unit to any vibration and shock.
  - Do not remove the AC mains lead from the household mains socket.

This unit cannot save (backup) the HDD titles to media. You have to be very careful when handling the unit and editing the title.

• If the HDD or USB HDD is damaged, the recorded content cannot be recovered.

Setup precautions

• Place the unit on a surface that is flat and not subject to vibration or impact.
• Do not place on anything that generates heat like a Set Top Box, etc.
• Place in an area where condensation does not occur. Conditions where condensation may occur
  - When there is an extreme change in temperature (e.g., when subjected to an air conditioner or when cooled air directly impacts the unit).
  - When there is high humidity or a lot of steam in the room.
In the above situation, without turning the unit on, let the unit adjust to the room temperature and wait 2–3 hours until condensation is gone.
• Do not block the cooling fan on the rear of the unit.
• The unit may breakdown if cigarette smoke or bug spray/vapour, etc. gets inside the unit.

When moving the unit

Before moving the unit, ensure the disc tray is empty.
1 Switch the unit to standby mode. (Wait until “BYE” disappears from the display.)
2 Remove the AC mains lead from the household mains socket.
3 Move only after the unit has come to a complete stop (approx. 3 minutes) in order to avoid subjecting to vibration and shock. (Even after the unit is switched to standby mode, the HDD continues operating for a short time.)

Cleaning

• This unit
  - Wipe with a soft, dry cloth.
  - Never use alcohol, paint thinner or benzine to clean this unit.
  - Before using chemically treated cloth, carefully read the instructions that came with the cloth.

• This unit’s lens
  Use the Lens cleaner (optional) to clean the unit’s lens.
  Lens cleaner: RP-CL720AE
  • This lens cleaner may not be for sale depending on the region.

When requesting this unit for repair

The registration of the USB HDD may be cancelled in the process of repairing this unit. You can use the USB HDD again by re-registering, but all recorded content already on the USB HDD will be lost. In such cases, the recorded content (data) cannot be recovered.

To dispose or transfer this unit

This unit may contain private information. Before disposing of or transferring this unit, perform the following to delete the data, including personal or secret information:
- Format HDD (⇒ 67, 72)
- Perform “Shipping Condition” (⇒ 67, 81)
Getting started

Control reference guide

Instructions for operations are generally described using the remote control.

Remote control

1. Transmit the remote control signal
   - Point it at remote control signal sensor on this unit. (⇒ 13)
2. Switch the unit from on to standby mode or vice versa
3. Select drive (HDD, BD, SD or USB)
4. Select channels and title numbers, etc./Enter numbers or characters
5. Switch to the previously watched channel (⇒ 23)
6. Basic operations for recording and play, REWIND LIVE TV/PAUSE LIVE TV (⇒ 25)
7. Show Information (⇒ 24, 34, 38)
8. Selection/OK, Frame-by-frame (⇒ 39)
9. Show DIRECT NAVIGATOR, Top Menu, Pop-up Menu (⇒ 33, 39)
10. Show OPTION menu (⇒ 42, 48, 53)
11. Colour buttons (Use in accordance with instruction on the screen.)
12. Start recording (⇒ 27)
13. Select audio (⇒ 25, 39)
14. Show the Timer Recording screen (⇒ 30)
15. Create chapter (⇒ 39)
16. Show Setup menu (⇒ 67)
17. To delete unwanted recorded titles, timer programmes, photos or music (⇒ 41)
18. TV operation buttons (⇒ 18)
19. Channel select (⇒ 23)/Change pages in the DIRECT NAVIGATOR screen etc.
20. Show the VIERA Connect screen (⇒ 59)
21. Switching to the radio channel list (⇒ 23)
22. Start up a video communication (⇒ 59)
23. Exit the menu screen
24. Show the TV Guide screen (⇒ 24)
25. Show the FUNCTION MENU screen (⇒ 22)
26. Return to previous screen
27. Show subtitles (⇒ 25, 39)
28. Show Teletext (⇒ 25)
29. Show Playback Menu (⇒ 64)
30. Skip the specified time (⇒ 39)
31. Skip approx. 1 minute forward (⇒ 39)
32. Skip approx. 10 seconds backward (⇒ 39)

Insert batteries

Insert so the poles (+ and −) match those in the remote control.
Getting started

Main unit

1 Standby/on switch (Ø/I)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

2 Open/close disc tray

3 Disc tray
4 USB port
5 SD card slot

- When removing the SD card, press on the centre of the card and pull it straight out.

- While writing to/reading from the media, do not switch the unit to standby mode or remove the media. Such action may result in loss of the media contents.
- When inserting the media, ensure that it is facing the right way up.

Display

6 Recording indicator
- The indicator will light up while recording.
- The indicator will blink while recording is paused and before recording starts.

7 CALL LED
- The LED will light up when this unit receives incoming call etc. of the video communication. (➔ 59)

8 Remote control signal sensor
- Angle: Approx. 20° up and down, 30° left and right
- Distance: Within approx. 7 m in front of the unit

9 Channel select (➔ 23)
10 Start recording (➔ 27)
11 Stop
12 Start play

1 SD card slot indicator
2 Copying indicator
3 Disc indicator
4 Drive (HDD, BD or SD) indicator
5 Remote control signal indicator
6 Main display section indicator
- Current time
- Playback counter
- Various messages (➔ 90)
7 Playback indicator
8 USB port indicator
9 Timer recording indicator
- This indicator lights up when the timer recording standby is activated.
Getting started

Connection

Basic connections

3D programmes can be played back when this unit is connected to a 3D compatible TV.
• Before connection, turn off all equipment and read the appropriate operating instructions.

To connect and register the USB HDD (optional)
Refer to "Registering the external HDD (USB HDD)". (☞ 61)

To connect the Communication Camera (optional)
Refer to "VIERA Connect (Enjoying Internet Service)". (☞ 59)

About HDMI cable
If you use an optional HDMI cable, use the High Speed HDMI cables. Non-HDMI-compliant cables cannot be utilized.
It is recommended that you use Panasonic’s HDMI cable.
When outputting 1080p signal, please use HDMI Cables 5.0 meters or less.
When the unit is not to be used for a long time
To save power, unplug it from the household mains socket. This unit consumes a small amount of power, even when the unit is in standby mode.

[approx. 0.2 W (“Quick Start” is not activated and “RF OUT (Aerial Signal)” is set to “Off”)]

- This unit cannot connect the TV that does not have the HDMI terminal.
- The HDMI connection supports VIERA Link “HDAVI Control” (⇒ 63).
- You cannot connect this unit to DVI devices that are incompatible with HDCP. Depending on the device, images may not display properly or at all when connecting with a DVI/HDMI switching cable. (Audio cannot be output.)
- If you are connecting to a TV that is only compatible with 2 channel audio output, audio with 3 channels or more will be down mixed and output as 2 channels, even if connecting with an HDMI cable. (Some discs cannot be down mixed.)

Amplifier/receiver connections

3D programmes can be played back when this unit is connected to a 3D compatible amplifier/receiver and a 3D compatible TV.
- You will not be able to view 3D programmes with this connection if your amplifier/receiver is not 3D compatible.

- VIERA Link function is possible by connecting to a TV or amplifier/receiver compatible with VIERA Link.
- When using a TV or an amplifier/receiver that does not display “ARC compatible” on the HDMI terminal, it is necessary to connect the TV and the amplifier/receiver with a digital audio cable to enjoy the TV audio on the amplifier/receiver.
Getting started

Connection

- Amplifier/receiver not compatible with 3D

3D programmes can be played back when this unit is connected to a 3D compatible TV.
  • This connection only supports up to 5.1ch.

• When you do not want the audio to be output from the TV, set “HDMI Audio Output” to “Off” (67, 75).

• Connect to terminals of the same colour.

DIGITAL AUDIO OUT terminal

AUDIO OUT terminal

- VIERA Link function is possible by connecting to a TV or amplifier/receiver compatible with VIERA Link.
- When using a TV or an amplifier/receiver that does not display “ARC compatible” on the HDMI terminal, it is necessary to connect the TV and the amplifier/receiver with a digital audio cable to enjoy the TV audio on the amplifier/receiver.
Getting started

Network connection

When this unit is connected to the network, you can enjoy network functions (DLNA function, VIERA Connect, etc.).

For details about connection method, refer to the instructions supplied with the connected equipment.

After you make the LAN cable/Wireless LAN connection, the network setting is needed. (⇒ 20, Easy Network Setting)

Precautions of Wireless LAN connection

The following limits are in place regarding the usage of this unit. You must be aware of these limits before using this unit.

Panasonic will in no way be responsible for any incidental damage which may arise due to a failure to obey these limits, or to any condition of use or disuse of this unit.

• Data transmitted and received over radio waves may be intercepted and monitored.
• This unit contains delicate electronic components.

Please use this unit in the manner in which it was intended and follow the following points:
- Do not expose this unit to high temperatures or direct sunlight.
- Do not bend, or subject this unit to strong impacts.
- Keep this unit away from moisture.
- Do not disassemble or alter this unit in any way.

LAN cable connection

LAN (ethernet) cable

Broadband router, etc.

Internet

Wireless LAN connection

Internet

Wireless router, etc.

- Use category 5 or above straight LAN cables (STP) when connecting to peripheral devices.
- Inserting any cable other than a LAN cable in the LAN terminal can damage the unit.

For up-to-date compatibility information on your Wireless router refer to http://panasonic.jp/support/global/cs/ (This site is in English only.)

- The unit is not compatible with public wireless LAN services.
**Getting started**

**Settings**

The TV can be operated from the TV operation buttons of the remote control.

- Perform the setting if you cannot operate the TV with the TV operation buttons. **While pressing [TV ŏ], enter the code with the number buttons.**

### Manufacturer and Code No.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Code</th>
<th>Brand</th>
<th>Code</th>
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<tbody>
<tr>
<td>Panasonic</td>
<td>01/02/03/04</td>
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<td>AIWA</td>
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<td>NOBLEX</td>
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<td>NOKIA</td>
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<td>05/06/46</td>
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<td>05/50/51</td>
<td>SANSUI</td>
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<td>SANYO</td>
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<td>SHARP</td>
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<td>SINUGYNE</td>
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<td>SONY</td>
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<td>10/11/12/13/14</td>
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<td>TEIVON</td>
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<tr>
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<td>THOMSON</td>
<td>10/15/44</td>
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<tr>
<td>MAG</td>
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<td>TOSHIBA</td>
<td>16/57</td>
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<tr>
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<td>05/28/79</td>
<td>WHITE</td>
<td>05</td>
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<td>05/19/20/47</td>
<td>WESTINGHOUSE</td>
<td></td>
</tr>
<tr>
<td>MIVAR</td>
<td>24</td>
<td>YAMAHA</td>
<td>18/41</td>
</tr>
</tbody>
</table>

- If the brand of your TV is not listed or the code number is invalid for the TV, this remote control is not compatible with your TV.

- If your TV brand has more than one code listed, select the one that allows correct operation.
Getting started

1. Turn on the TV, then select the appropriate AV input to suit the connections to this unit.

2. Press \[\text{II}\] on the remote control or \[\text{I/II}\] on this unit.
   • The Easy Setting will start at the initial power on.

3. Follow the on-screen instructions and perform the settings.
   • When the Download from TV screen appears, the setting information on the TV is acquired by this unit. (\(\Rightarrow\) 63)

   Auto Setup starts.
   (This operation may take some time.)

   e.g.,

   ![](attachment:Easy_Setting_Progress.png)

   After tuning has been completed, clock will be set automatically.
   If the clock setting screen appears, set the time manually (\(\Rightarrow\) 79, Clock).

4. Set “Quick Start” to “On”, “Off” or “Timer Setting for Quick Start”, then press [OK].

   ![](attachment:Quick_Start_Settings.png)

   • On
     It is possible to start quickly from standby mode.

   • Off
     Power consumption in standby mode is minimized. (\(\Rightarrow\) 94)
     However, startup time from standby mode will be longer.

   • Timer Setting for Quick Start
     “Quick Start” is activated when the set time comes. (If the clock has not been set, this function is not activated at all hours.)
Getting started

Settings

5 If the TV aspect setting screen appears: Select the item to match the type of TV connected. For details, refer to “TV Aspect”. (74)

When “Easy Setting has been completed.” appears, Easy Setting is complete.

• Select “Yes” to proceed to “Easy Network Setting”. (right)
• Select “No” to finish the Easy Setting.

To stop partway
Press [RETURN].

To restart setup
1 Press [SETUP]. (18)
2 Select “Auto Setup” in “Digital TV Tuning”, then press [OK].
3 Select “Yes”, then press [OK].

To confirm that channels have been tuned correctly
Refer to “Using Channel List”. (23)

Easy Network Setting

After completing “Easy Setting”, you can continue with “Easy Network Setting”.

1 Select “Wired” or “Wireless”, then press [OK].

2 Follow the on-screen instructions and make the following confirmation and settings.

“Wired” connection:
- Home Network Connection Check
- Home Network function
- Internet Connection Test

“Wireless” connection:
• Before beginning wireless connection setup
Obtain your Network name (SSID). An SSID (Service Set IDentification) is a name used by wireless LAN to identify a particular network. Transmission is possible if the SSID matches for both devices.
- Wireless Settings
- Home Network Connection Check
- Home Network function
- Internet Connection Test

3 When “Easy Network Setting is finished.” appears.
Press [OK].

• If tuning is cancelled partway through, it may not be possible to receive the channels. Restart setup again.
Getting started

Connection method to wireless access point

Search for wireless network:
1. Select “Search for wireless network”, then press [OK].
2. The available wireless networks will be displayed. Select your network name and press [OK].
   - If your Network name is not displayed search again by pressing the red button on the remote control.
   - Stealth SSID will not be displayed. Enter manually by using “Wireless Settings”. (⇒ 67, 76)
3. If your wireless network is encrypted, Encryption Key Input Screen will be displayed. Input the encryption key of your network.

WPS (PUSH button):
If your Wireless router supports WPS (PUSH button), you can easily perform the settings by pressing WPS button on it.
WPS (Wi-Fi Protected Setup™) is a standard that facilitates settings relating to the connection and security of wireless LAN devices.
1. Select “WPS (PUSH button)”, then press [OK].
2. Press WPS button or corresponding button of Wireless router until the lamp starts flashing.
e.g.,
   • Wi-Fi Protected Setup™-compatible Wireless router may have the mark.
   • For details, refer to the operating instruction of Wireless router.
3. Press [OK].

When you experience problems
Refer to “When you experience problems with Easy Network Setting”. (⇒ 92)

To restart Easy Network Setting
1. Press [SETUP]. (⇒ 18)
2. Select “Easy Network Setting” in “Network”, then press [OK].

To redo settings individually
If “Easy Network Setting” did not work properly or when you change the settings individually, perform the following steps:
1. Press [SETUP]. (⇒ 18)
2. Select “Network Settings” in “Network”, then press [OK].
3. Refer to “Network Settings”. (⇒ 76)

Check security before using Home Network function
If you set “Home Network function” to “On”, all connected devices on the same network can access this unit. Ensure that the router for your home network has adequate security system to prevent unauthorized access.

- Refer to the operating instructions of the hub or router.
- If you set “Home Network function” to “On”, the setting for “Quick Start” is fixed to “On”.
- Do not use this unit to connect to any wireless network for which you do not have usage rights. During automatic searches in a wireless network environment, wireless networks (SSID) for which you do not have usage rights may be displayed; however, using these networks may be regarded as illegal access.
- After performing network settings on this unit, the settings (encryption level, etc.) of the Wireless router might change. When you have trouble getting online on your PC, perform the network settings on your PC in accordance with the settings of Wireless router.
- Please be aware that connecting to a network without encryption may result in the content of the communication being illegitimately viewed by a third party, or the leaking of data such as personal or secret information.
FUNCTION MENU screen

You can easily access the desired functions, such as playback, timer recording, the unit’s settings etc. via the FUNCTION MENU.

1. Press [FUNCTION MENU].

2. Select the item, then press [OK]
   e.g.,

FUNCTION MENU list

FUNCTION MENU
- Playback Contents
  - Video (⇒ 33)
  - Video (AVCHD) (⇒ 36)
  - Video (MP4) (⇒ 36)
  - Photo (⇒ 46)
  - Music (⇒ 50)
  - Top Menu (⇒ 36)
  - Menu (⇒ 36)
- Timer Recording (⇒ 29)
- TV Guide (⇒ 24)
- Network
  - Home Network (DLNA Client) (⇒ 57)
  - Home Network (Media Renderer) (⇒ 58)
  - Network Service (⇒ 59)
  - Remote Recording (⇒ 31)
- Others
  - Playlists (⇒ 36)
  - Copy Video (AVCHD) (⇒ 54)
  - Copy Video (MPEG2) (⇒ 55)
  - Copy New Photos (⇒ 49)
  - SD Card Management (⇒ 60)
  - BD-Video Data Management (⇒ 37)
  - Setup (⇒ 67)

• You can change the unit’s settings of Digital TV Tuning, Sound, Display, Connection, Network etc. in the Setup menu.

Drive Select
- HDD
- Blu-ray Disc / DVD
- SD Card
- USB Device
- USB HDD

• Selectable items will change depending on the type and status of the media.
Watching broadcasts

Instructions for operations are generally described using the remote control. (⇒ 12)

Press [CH ▲ ▼] to select the channel.
- You can also select the channel by the following operations
  - Using number buttons.
  - Using Channel List (⇒ right)
  - Using TV Guide system (⇒ 24)
  - Using channel information (⇒ 24)

To switch to the channel you have previously watched
Press [LAST VIEW □].
- This function will work only for the channels you have watched for more than 10 seconds.

To switch to the radio channels or to the all channels
Press [RADIO/TV].

Using Channel List

You can select from the list of channel names.

1 Press [OK].

To edit the channel list
Refer to “Channel List”. (⇒ 70)

About the PIN for parental control

If you have set a ratings level (⇒ 70, Child Lock (Parental Rating)), you may be asked to enter the PIN. In that case, enter the 4-digit PIN with the number buttons by following the on-screen instructions.
- Make a note of the PIN you have decided on in case you forget it.
- PIN can be changed via “PIN Entry”. (⇒ 80)
Watching broadcasts

Using TV Guide system

1. Press [GUIDE].
   TV Guide screen appears.

2. Select the programme, then press [OK].
3. Select “View”, then press [OK].

Page up/down
Press [CH ▲ ▼].

To view a programme list for another day
Press the green button (Previous) or the yellow button (Next).

To see programme information
Press [STATUS ④].

To retrieve the programme data for the area where data have not been acquired
Select the area, then press [STATUS ④].
• Some broadcasters may not send the programme data. You cannot retrieve the data from them.

To set a timer Recording using the TV Guide System
Refer to “Timer recording”. (√ 29)

• Selection of channel is made easy by creating a Favourite of the channels you watch often. (√ 69, Favourites Edit)

Using channel information

While watching a programme
Press [STATUS ④].

Channel information appears.

To show detailed information
Press [STATUS ④] again.

To hide the information screen
Press [EXIT ⑤].

To change Category
Press the blue button.
• To register your favourite channels
  1. Press [OPTION].
  2. Select “Digital TV Menu”, then press [OK].
  3. Select “Favourites Edit”, then press [OK].
  4. Refer to “Favourites Edit”. (√ 69)

To switch between the current programme and the next programme
Press [◄, ►].

To switch to another channel
Press [▲, ▼], then press [OK].
Operations while watching broadcast

To show subtitle

When “ ” appears in channel information (⇒ 24)
Press [STTL 🎥].
• Press again to hide subtitle.

Switching audio

Press [AUDIO].
• Audio will switch according to the contents of the programme every time it is pressed.

To show Teletext

When “ ” appears in channel information (⇒ 24)
1 Press [TEXT 🎥].
2 Use [▲, ▼, ◀, ▶], number buttons or colour buttons, etc. according to on-screen instructions.

• You can change the display mode. (⇒ 67, 74, Teletext)

Aspect

You can switch the screen mode.
Refer to “Switching the aspect ratio of the screen”. (⇒ 83)

REWIND LIVE TV/PAUSE LIVE TV

This unit temporarily saves a live TV programme you are watching with this unit’s tuner on HDD.

REWIND LIVE TV
You can rewind live TV programme to the point where temporary save has started (up to 1.5 hours).

PAUSE LIVE TV
You can pause live TV programme and restart watching from the paused position.

1 While watching TV
REWIND LIVE TV:
Press [SLOW/SEARCH ◄] to rewind.
PAUSE LIVE TV:
Press [PAUSE ■] to pause.
• The maximum amount of the temporary save is 1.5 hours.

2 When you want to resume:
Press [PLAY/ ■].
• You can perform search or Quick View, etc.
• If temporary save stops, playback will be performed by that point.
Watching broadcasts

Display information
While pausing or rewinding a broadcast:
Press [STATUS].

1. The time that you can rewind the live programme.
2. The amount of time temporarily saved on HDD.
3. The time of the current playback position.

• Press [STATUS] again.

8:50:55 AM  01.01.2013
Play  8:50.50 AM

To stop REWIND LIVE TV or PAUSE LIVE TV
1. Press [STOP].
2. Select “Yes”, then press [OK].

To hide the display information
Press [EXIT].

• The unit cannot rewind and play more than 1.5 hours prior to the current time.
• Temporary save stops in the following cases:
  - When switching to other channels or other screen
  - When recording of the watching programme is started
  - When two programmes simultaneous recording is started
  - When performing PAUSE LIVE TV or REWIND LIVE TV for more than 8 hours. (This may vary depending on the HDD free space.)
• These functions do not work in the following cases:
  - When the clock is not set
  - While recording two programmes simultaneously
  - While copying
  - While watching a programme being recorded
  - When a radio programme is selected
  - REWIND LIVE TV:
    When “REWIND LIVE TV” is set to “Off” (⇒ 72)
  - PAUSE LIVE TV:
    You can operate this unit with the TV remote control by using VIERA Link (⇒ 63).
    Refer to the TV operating instructions.
Recording TV programmes

The titles can only be recorded to built-in HDD and cannot be copied from built-in HDD to the media other than USB HDD.

To set the recording time
1 Select “Recording Time” or “Continuous recording” in step 3 (⇒ left).

Recording Time:
You can set the length of recording time from 30 minutes to 4 hours.
• You can select the recording time with [◄, ►].

Continuous recording:
The recording is continued until you press [STOP ■].

2 Press [OK].
• One recording will terminate when simultaneous recording is being done and timer recording starts.
• Teletext will not be recorded.
• Following contents or media cannot be played back while recording.
  - 3D BD-Video (playback in 3D)
  - Xvid and MKV file
  - photo
  - USB HDD (For data files) and USB memory
• Copying cannot be performed while recording.
• When “Automatic Standby after OTR” is set to “On” (⇒ 78), this unit is turned to standby mode if this unit is not operated for approximately 5 minutes after completing “Automatic Stop” or “Recording Time”.

1 Select the channel to record.

2 Press [REC ◊].
Recording starts.
• “REC1” or “REC2” will light on the unit’s display.

3 Select “Automatic Stop”, then press [OK].
• One touch recording (OTR)
Recording stops automatically when the programme ends.

  [REC1/OTR]
  0000  8:00 AM - 8:45 AM
  Automatic Stop at 8:45 AM
  Recording Time: 30 min
  Continuous recording

• You can also select “Recording Time” or “Continuous recording”. (⇒ right)
Recording TV programmes

Operation during Recording

To check the recording programme
Press [STATUS lector].
e.g., While recording two programmes simultaneously

<table>
<thead>
<tr>
<th>HDD</th>
<th>REC1</th>
<th>OTR</th>
<th>AUTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0000</td>
<td>REC2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Recording programme displayed on the TV

Recording programme not displayed on the TV

To stop recording
Press [STOP ■].

When recording one programme:
If the following screen appears

Stop Recording
Recording of this programme is in progress. Stop this recording?

Yes No

Select “Yes”, then press [OK].

When recording two programmes:
If the following screen appears

Stop Recording
2 recordings are in progress. Which recording would you like to stop?

Yes No

1 Select the programme, then press [OK].
2 Select “Yes”, then press [OK].

To pause recording
After displaying the recording programme, press [PAUSE Ⅱ].

- Press again to restart recording.
  (A title is not split into separate titles.)

- Timer recording programme cannot be paused.

To record two programmes simultaneously
While recording, perform steps 1–3 on page 27.

- Channel can only be switched between the recording programmes.

Simultaneous rec and play
You can play the recording title from the beginning or the titles previously recorded to the HDD.

1 Press [DIRECT NAVIGATOR].
   - If the DIRECT NAVIGATOR screen of music is displayed, press the red button, then select “VIDEO”.

Stop Recording
2 recordings are in progress. Which recording would you like to stop?

<table>
<thead>
<tr>
<th>HDD</th>
<th>REC1</th>
<th>OTR</th>
<th>AUTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0000</td>
<td>REC2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“●” is displayed on the recording programme.

2 Select the title, then press [OK].
Timer recording

To use TV Guide system
Refer to “Using TV Guide system”. (⇒ 24)

To edit the timer recording on the TV Guide screen
1 Select the programme to edit, then press the red button.
2 Select “Timer Rec Edit”, then press [OK].
3 Go to step 3 on page 30.

To cancel a timer recording on the TV Guide screen
1 Select the programme to cancel, then press the red button.
2 Select “Timer Rec Cancel”, then press [OK]. (“Θ” disappears)

Operation during Recording
Refer to “Operation during Recording”. (⇒ 28)

• Some broadcasters may not send programme information. When programme information is not displayed correctly, use manual timer recording. (⇒ 30)
• You can set the start and finish time to make the timer recording work successfully. (⇒ 67, 72, Timer Record Start Buffer, Timer Record Stop Buffer)

To select the programmes of a specific category
1 On the TV Guide screen:
   Press the blue button.
2 Select the item, then press [OK].

To return to the previous TV Guide list
Select “All Digital Channels” in step 2.

• Category may not be assigned correctly depending on the programme information.
Recording

Manualy programming timer recording

1. Press [PROG/CHECK].

2. Select “New Timer Programme”, then press [OK].

3. Select the items and change the items. (⇒ right, Timer recording options)

4. Press [OK].
The timer programme is stored.

Timer recording options

Select the items and change the items.

Channel
• You can select Category with the red button.

Day/Date
• You can select “Date” or “Weekly” by pressing the green button.

Start/Stop
• Press and hold [▲, ▼] to alter in 15-minute increments.

Auto Renewal Recording
(Only daily/weekly timer recording)
The unit will record the new programme over the old one.

1. Select “Renew”.
2. Select “ON”.

Title Name
1. Select “Title Name”, then press [OK].
2. Refer to “Entering text”. (⇒ 83)

Operation during Recording
Refer to “Operation during Recording”. (⇒ 28)
Timer recording from channel information
You can make timer recording of the current or next programme.

1. While watching a programme
   Press [STATUS].
   e.g.,
   ![Channel Information]

2. Display the channel information of a programme to record.
   • Switch the programme with [<, >].

3. Press the yellow button.

4. Go to step 3 on page 30.

Remote recording from outside
You can make a timer recording from a smartphone or a PC, etc. away from home. (You must register to a service to use this function.)

For details, please check the following website.
http://panasonic.jp/support/global/cs/
(This site is in English only.)

• However, as of February 2013, the service has not yet been launched.

Preparation
• Network connection (☞ 17, 20)
• Remote Recording Function Settings (☞ 67, 77)

Notes on timer recording
• You can enter up to 32 programmes within a month in advance. (Each daily or weekly programme is counted as one programme.)
• Even if you switch the unit to standby mode during the timer recording, the recording is continued.
• When you programme successive timer recordings to start, about last 1 minute of earlier programme will not be recorded.
• Timer recording will not start while:
  - copying HD Video (AVCHD) from USB device or SD card
  - copying photos/music
  - formatting
• When "Pure Sound mode" is activated, timer recording does not start during playback of BD-Video, DVD-Video or music CD. (☞ 71)
Timer recording

To confirm and edit a timer programme

1. Press [PROG/CHECK].

To deactivate a timer programme
Press the red button.
- The timer icon “Θ” will change from red to grey.
- Press the red button again to activate timer recording standby. (The timer icon “Θ” will change to red.)

To delete a timer programme
Press [DEL].

To edit a timer programme
1. Press [OK].
2. Change the timer recording options.
   • Refer to “Timer recording options”. (⇒ 30)
3. Press [OK].

To show programme information
Press [STATUS Θ].

To exit the timer recording list
Press [EXIT Θ].

Screen icons

• Red: Timer recording standby is activated.
  Grey: Timer recording standby is deactivated.

• Currently recording programme
  A part or all of the programme will not be recorded since the programme is overlapping.

• The HDD is full.

• Copy-protected programme
  It was not recorded.

• The recording of the programme was not completed because of some reason.

• Auto Renewal Recording (⇒ 30) is set.

OK Displayed if the recording can fit in the remaining space

→ Daily or weekly timer programme is set.

(Date)

! It may not be possible to record because:
  - there is not enough space left.
  - the number of possible titles has reached its maximum. (⇒ 96)
  - programmes are deactivated, etc.
Playing titles on the HDD

1 Press [DRIVE SELECT] to select “HDD”, then press [DIRECT NAVIGATOR].
   - If the DIRECT NAVIGATOR screen of photo or music is displayed, press the red button, then select “VIDEO”.
   - e.g.,

   ![Diagram]

   1 Tab (⇒ 34)
   2 Programme type
   - USB HDD When connecting registered USB HDD, “USB HDD” tab and registration number appears. Select “USB HDD” tab.
   - e.g.,

   ![Diagram]

2 Select the title, then press [OK]. Playback starts.

Resume play function
If the following screen appears, select the point to start playback.

![Playback Screen]

DIRECT NAVIGATOR (VIDEO) screen

Screen icons
- Currently recording programme
- Protected title
- Title was not recorded due to recording protection
- Title cannot be played (When data is damaged etc.)
- Grouped titles
- Title has not yet been played
- Title is recorded using a different encoding system from that of the unit.
  - Change the “TV System” (⇒ 67, 74).
- Radio programme
- 3D contents
  - This icon will not display even with 3D programmes when a broadcast programme is recorded.
- Recorded in 1080/50p contents
- Recorded in 1080/60p contents
- Title is restricted by Child Lock (Parental Rating) (⇒ 70).
- Recording did not complete as the timer recording has started.
Playing back video

Playing titles on the HDD

**Tab**

Titles will be categorised automatically. You can quickly find the recorded titles by selecting the tab.

**To select the tab**

Press [◄, ►].

**To change the displayed programme type tab**

1. Select the programme type, then press the green button.
2. Select the item, then press [OK].

**To change the programme type of title**

Refer to “Changing programme type of title”. (⇒ 43)

**Switching the appearance**

1. Press [OPTION].
2. Select “Grouped Titles” or “All Titles”, then press [OK].

**Grouped Titles:**

Two or more titles recorded in the daily/weekly timer recording mode are bundled and displayed as one item.

**All Titles:**

Displays all titles.

**Playing back grouped titles**

1. On the Grouped Titles screen:
   Select the item marked with ◇.
2. When playing all titles:
   Press [PLAY/× 1.3 ►].
   When playing the individual title:
   Press [OK] and select the title, then press [OK].

**Switching to the PHOTO or MUSIC screen**

1. Press the red button.
2. Select “PHOTO” or “MUSIC”, then press [OK].

**Showing Information**

Select the title, then press [STATUS ◀].
**Editing the grouped titles**

1. Select the title or the group, then press the yellow button.
   - A check mark is displayed. Repeat this step.
   - Press the yellow button again to cancel.
   - If you perform “Remove”, select the title in the group.

2. Press [OPTION].

3. Select the item, then press [OK].

   **Create Group:**
   Selected titles are bundled to form a group. Select “Create”, then press [OK].

   **Release Grouping:**
   All the titles in the group are released. Select “Release”, then press [OK].

   **Remove:**
   Selected titles are removed from the group. Select “Remove”, then press [OK].

**Playback from Chapter View**

**Regarding chapters**
You can divide a title into multiple chapters. Each section between the division points (Chapter Marks) becomes a chapter.

![Diagram of Chapter View]

**Chapter Creation**
This unit can create chapters automatically while recording broadcasting. (⇒ 72)

1. Select the title, then press [OPTION].
2. Select “Chapter View”, then press [OK].
   e.g., [HDD]

3. Select the chapter, then press [OK].

**Changing the group name**

1. Select the group, then press [OPTION].
2. Select “Edit”, then press [OK].
3. Select “Enter Title Name”, then press [OK].
4. Refer to “Entering text”. (⇒ 83)

**To edit the chapter in Chapter View**
Refer to “Editing chapters”. (⇒ 44)
Playing back video

Playing titles on the media

1. Insert the media.
   Depending on the type of the media, play starts from the specified position, or the screen appears.
   • AVCHD: If the menu screen is not displayed
     Press [PLAY/× 1.3 ►].

2. When the DIRECT NAVIGATOR screen or menu screen etc., appears:
   Select the item or title, then press [OK].
   • Repeat this step if necessary.
   Playback starts.

To play back the playlist created on other equipment

1. Press [FUNCTION MENU].
2. Select “Playlists” in “Others”, then press [OK].
3. Select the playlist, then press [OK].

• Some files may not be played back, depending on the video resolution and frame rate condition.

Menu screen

Selecting screen for each operation is displayed when the media is inserted, and you can access the operation screen easily.

e.g., USB

- Display items differ depending on what is recorded in each media.

If the menu screen is not displayed, display it by performing the following operation.

1. While stopped
   Press [OPTION].
2. Select “Drive Select”, then press [OK].
3. Select the media, then press [OK].

Video list screen

e.g.,

Screen icons:

- Folder
- Titles
- Move to the parent folder
DIRECT NAVIGATOR screen

e.g.,

Switching to the PHOTO screen
Press the red button.
The screen switches to “PHOTO”.

Showing Information
Select the title, then press [STATUS].

Playback from Chapter View
1 Select the title, then press [OPTION].
2 Select “Chapter View”, then press [OK].
3 Select the chapter, then press [OK].

• Regarding chapters
Refer to “Regarding chapters”. (⇒ 35)

DIRECT NAVIGATOR (AVCHD) screen

e.g.,

Showing Information
1 Select the title, then press [OPTION].
2 Select “Information”, then press [OK].

About screen icons on the DIRECT NAVIGATOR
Refer to “Screen icons”. (⇒ 33)

Notes for BD-Live discs

BD-V
BD-Live allows you to enjoy more functions such as subtitles, exclusive images and online games by connecting this unit to the Internet.

Preparation
1 Perform network connection and settings. (⇒ 17, 20)
2 Insert a disc.

For the playback method, refer to the instructions for the disc.

Delete BD-Video data
If you no longer need BD-Live data recorded on the built-in HDD, you can delete data with the following operation.
1 Press [FUNCTION MENU].
2 Select “BD-Video Data Management” in “Others”, then press [OK].
3 Select “Delete BD-Video data”, then press [OK].
4 Select “Yes”, then press [OK].
5 Select “Start”, then press [OK].
6 Press [OK].

• The usable functions and the operating method may vary with each disc, please refer to the instructions on the disc.
• You can restrict Internet access when BD-Live functions are used (⇒ 67, 71, BD-Live).
• When “Pure Sound mode” is set to “On”, this unit cannot use BD-Live functions. (⇒ 71)
Playing back video

Operation during play

- Depending on the media and the type of file, some operations may not be possible.
- Depending on the media, it may take time for the menu screen, pictures, sound, etc. to start.
- Discs continue to rotate while menus are displayed. Press [STOP ■] when you have finished playback to protect the unit's motor, your TV screen, etc.

Press [STATUS ◄] twice.

Resume play function

Press [PLAY/ × 1.3 ▶] to restart from the stopped position.

Quick View

HDD USB HDD (For recorded titles) SD
Press and hold [PLAY/ × 1.3 ▶].
• Press again to return to normal speed.

Search

Press [SLOW/SEARCH ◄ ◄] or [SLOW/SEARCH ◄ ◄ ◄].
• Press [PLAY/ × 1.3 ▶] to restart play.

Pause

Press [PAUSE ◄].
• Press [PLAY/ × 1.3 ▶] to restart play.

Resume play function

Press [STOP ■].

General operations

Status messages

Press [STATUS ◄] twice.

e.g.,

Stop

Press [STOP ■].

Slow-motion

While paused, press [SLOW/SEARCH ◄ ◄] or [SLOW/SEARCH ◄ ◄ ◄].
• Press [PLAY/ × 1.3 ▶] to restart play.

Xvid, MKV, MP4 and MPEG2 (USB HDD, USB): Audio is not heard during all levels search.

Discs: Only previous stopped position is memorized. The position may be cleared if the tray is opened or the unit is switched to standby mode.

BD, AVCHD (DVD-R, SD): Forward direction [SLOW/SEARCH ◄ ◄ ◄] only.
Playing back video

**Frame-by-frame**

While paused, press [◄] (◄ ■) or [►] (► ■).  
• Each press shows the next frame.  
• Press and hold to change in succession forward or backward.  
• Press [PLAY/x 1.3 ►] to restart play.

• Xvid, MKV, MP4 and MPEG2 (USB HDD USB): Frame-by-frame is not effective.  
• BD-V, AVCHD (DVD-R SD): Forward direction [►] (► ■) only.

**Manual Skip**

Skip forward 1 minute:
Press [MANUAL SKIP +60s].

Skip backward 10 seconds:
Press [MANUAL SKIP -10s].

• Xvid and MKV: Manual Skip is not effective.

**Skipping the specified time**

1 Press [TIME SLIP].  
2 Select the time with [▲, ▼].  
   • Press and hold [▲, ▼] to change the time by 10-minute.  
3 Press [OK].  
   • Play skips the specified time.

• BD-V DVD-V, Xvid, MKV, AVCHD, MP4 and MPEG2 (USB HDD USB): [TIME SLIP] is not effective.

**To create Chapter Marks**

HDD USB HDD (For recorded titles)
During the playback or pause
Press [CHAPTER].

**To delete the Chapter Mark**

HDD USB HDD (For recorded titles)
1 While paused
   Press [SKIP ◄] or [SKIP ►] and skip to the location you want to delete.  
2 Press [CHAPTER].  
3 Select “Yes”, then press [OK].

**Changing audio**

Press [AUDIO].  
• It will switch depending on the contents recorded every time it is pressed.

**Switching subtitles**

HDD USB HDD (For recorded titles) BD-RE BD-R:
1 Press [STTL ].  
2 Select “On” or “Off”.  
• If you want to switch the subtitle language, select it in the Disc menu ( 64).

BD-V DVD-V, Xvid and MKV:
Display with “Subtitles” in the Disc menu ( 64).

**Aspect**

You can switch the screen mode.  
Refer to “Switching the aspect ratio of the screen”. ( 83)
Operation during play

3D video playback

Preparation
Connect 3D compatible TV to this unit. (\(\Rightarrow 14\))
• Perform the necessary preparations for the TV.

Play back following the instructions displayed on the screen.

Preparatory 3D settings
Perform the following settings as necessary.

3D BD-Video Playback
It is also possible to play back 3D discs in 2D (conventional video). (\(\Rightarrow 67, 71\))

3D Type
If 3D video cannot be played back in 3D, you may be able to play it in 3D by changing the setting. (\(\Rightarrow 67, 74\))

3D AVCHD Output
If 2D AVCHD video is recognised as 3D video and cannot be played back correctly, you may be able to play it by changing the setting. (\(\Rightarrow 67, 74\))

3D Playback Message
Hide the 3D viewing warning screen. (\(\Rightarrow 67, 74\))

Adjust the 3D position for the playback menu or message screen etc. (\(\Rightarrow 65\))

3D settings during playback
Change this setting when the screen is not correctly displayed for 3D compatible programmes.

1 Press [OPTION].
2 Select “3D Settings”, then press [OK].
3 Select the item, then press [OK].

Signal Format

Original
Keep original picture format.

Side by side
3D picture format comprising of left and right screens.

2D to 3D
Converts 2D pictures to 3D effect while playing.

3D Picture Mode

Normal
Normal 3D effects.

Soft
Soft 3D effects.
• This function cannot be enabled when “Signal Format” is set to “2D to 3D”.

Manual Settings

Distance
Set the amount of depth perception.

Screen Type
Selects how the screen appears during 3D playback (flat or round).

Frame Width
Set the amount of feathering at the edge of screen.

Frame Colour
Set the colour of feathering at the edge of screen.

• Depending on the contents, displayed items are different.
• 3D BD-Video can be played back in 3D only when this unit is connected to the Full HD 3D compatible TV.
• This unit only guarantees the playback of the Frame Sequential and the Side-by-Side (Half) programme types.
• Please refrain from viewing 3D images if you do not feel well or are experiencing visual fatigue.

In the event that you experience dizziness, nausea, or other discomfort while viewing 3D images, discontinue use and rest your eyes.

• Depending on the connected TV, the video being played back might switch to 2D video due to changes in resolution etc. Check the 3D setting on the TV.
• 3D video might not output the way it is set in “HDMI Video Format” (\(\Rightarrow 75\)) and “24p Output” (\(\Rightarrow 75\)).
• It may display as Side-by-Side when playback of the 3D video is started.
• 3D BD-Video cannot be played back in 3D while recording. Also, 3D playback stops when the timer recording starts.
Deleting recorded titles

Once deleted, recorded content cannot be restored to its original state. Make certain before proceeding.

Deleting during play

1. Press [DEL] while playing.
2. Select “Delete”, then press [OK].

1. On the DIRECT NAVIGATOR screen:
   
   Select the title.

2. Press [DEL].

3. Select “Delete”, then press [OK].

Multiple deleting

Select the title, then press the yellow button in step 1.

A check mark is displayed. Repeat this step.
• Press the yellow button again to cancel.
Editing recorded titles

Once deleted, divided or partially deleted, recorded content cannot be restored to its original state. Make certain before proceeding.

= “For recorded titles” only

• PIN is required to edit the titles with in some functions. (⇒ 33)

1 On the DIRECT NAVIGATOR screen:
   Select the title.

2 Press [OPTION].

3 Select the item, then press [OK].
   e.g.,

   • “Edit” has several functions.

Multiple editing

Select the title, then press the yellow button in step 1.
A check mark is displayed. Repeat this step.
• Press the yellow button again to cancel.

Deleting

1 Select “Delete Title”, then press [OK].
2 Select “Delete”, then press [OK].

Entering title name

1 Select “Enter Title Name” in “Edit”, then press [OK].
2 Refer to “Entering text”. (⇒ 83)

Setting protection

Protection setting prevents the title from accidental deletion.

1 Select “Set up Protection” or “Cancel Protection” in “Edit”, then press [OK].
2 Select “Yes”, then press [OK].
   appears when setting the protection.
Partial deleting
1 Select “Partial Delete” in “Edit”, then press [OK].
2 Press [OK] at the start point and end point to delete.
   • You can find the desired point by using play, search, etc. (⇒ 38)
3 Select “Continue”, then press [OK].
   • Select “Next”, then press [OK] to delete other sections. Up to 20 sections can be set.
   (⇒ go to step 2)
4 Select “Delete”, then press [OK].
   • Chapter Mark is generated in the scene that was partially deleted.
5 Press [RETURN _primitive].

Dividing title
1 Select “Divide Title” in “Edit”, then press [OK].
2 Press [OK] at the point to divide the title.
   • You can find the desired point by using play, search, etc. (⇒ 38)
3 Select “Continue”, then press [OK].
4 Select “Divide”, then press [OK].

To confirm the division point
After performing step 2.
Select “Preview”, then press [OK].
• The unit plays 10 seconds before and after the division point.

To change the division point
After performing step 2.
Restart play and select “Divide”, then press [OK] at the division point.

Changing thumbnail
1 Select “Change Thumbnail” in “Edit”, then press [OK].
2 Press [OK] at the point to use as a thumbnail.
   • You can find the desired point by using play, search, etc. (⇒ 38)
3 Select “Finish”, then press [OK].

To change the point
After performing step 2.
Restart play and select “Change”, then press [OK] at the point to change.

• It is possible to change the image displayed on the Top Menu after finalising or creating Top Menu.

Changing programme type of title

Programme type information in the title can be edited.

<table>
<thead>
<tr>
<th>Change Prog. Type</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prog. Type 1</td>
<td>Sport</td>
<td></td>
</tr>
<tr>
<td>Prog. Type 2</td>
<td>( No Prog. Type )</td>
<td></td>
</tr>
<tr>
<td>Prog. Type 3</td>
<td>( No Prog. Type )</td>
<td></td>
</tr>
</tbody>
</table>

1 Select “Change Prog. Type” in “Edit”, then press [OK].
2 Select the item to change a programme type, then press [OK].
3 Select the programme type, then press [OK].
4 Select “Set”, then press [OK].

• Divided titles will become a group of titles.
Editing video

Editing recorded titles

Editing chapters

1 Select “Chapter View”, then press [OK].
2 Perform the editing operations.

Edit Chapter Mark:
Select the point where you want to start a new chapter while viewing the title.
1 Press the green button.
2 Press [OK] at the point you want to divide.
   • Repeat this step.
3 Press [RETURN] to go to Chapter View screen.

To delete the chapter:
1 Select the chapter, then press [DEL].
   Multiple editing
Select the chapter, then press the yellow button.
   A check mark is displayed. Repeat this step.
   • Press the yellow button again to cancel.
2 Select “Delete”, then press [OK].

To combine chapters (Delete chapter mark):
1 Select the chapter, then press [OPTION].
2 Select “Combine Chapters”, then press [OK].
3 Select “Combine”, then press [OK].
The selected chapter is combined to the next chapter.

Playback from Chapter View
Refer to “Playback from Chapter View”. (→ 35)

• The maximum number of chapters:
   (Depends on the state of recording.)
   Approx. 1000 per title
• When the title has the maximum number of chapters, you cannot perform the Resume play function (→ 33) or the “Change Thumbnail” (→ 43) with the title.
Copying titles

1. Connect the USB HDD.

2. Press [DRIVE SELECT] to select “HDD”, then press [DIRECT NAVIGATOR].
   - If the DIRECT NAVIGATOR screen of photo or music is displayed, press the red button, then select “VIDEO”.

3. Select the title, then press the yellow button.
   A check mark is displayed. Repeat this step.

4. Press the blue button.

5. Select “Yes”, then press [OK].
   • If you select “No”, you can change the selection. (⇒ right)

6. Set other settings, then press [OK].

   ![Automatic Standby after Copy](image)

   e.g.,

   - You cannot copy the following titles to the USB HDD.
     - Protected titles
     - HD Video (AVCHD)
     - SD Video (MPEG2)

7. Select “Yes”, then press [OK].

To register the external HDD (USB HDD)
Refer to “Registering the USB HDD”. (⇒ 62)

To change the selection
2. Select the title, then press the yellow button. Repeat this step to select titles.
3. Go to step 4 (⇒ left).

About screen icons on the DIRECT NAVIGATOR
Refer to “Screen icons”. (⇒ 33)

Setting the copying options
1. Select the item in step 6 (⇒ above).
2. Press [◄, ►] to change the settings.

   • Automatic Standby after Copy

   On:
   This unit is turned to standby mode when it is not operated for approximately 5 minutes after completing copy.
Playing photos

To exit the Calendar screen
Press [PAUSE II].

- When there are many files and/or folders, some files may not be displayed or not be playable. (⇒ 96)

DIRECT NAVIGATOR (PHOTO) screen

Event
It is displayed for each recording date.
- It is displayed for each folder for media other than HDD.

Screen icons

Album
Placing photos in albums of your choice makes it easier to find them. (⇒ 48)

3D
3D photos (MPO) are automatically sorted. Select from this tab to play back in 3D. (It will play back in 2D when selected from other tabs.)

Photo protected

New photo which is stored and not viewed

1 In order to play back 3D photo (MPO), this unit should be connected to a Full HD 3D compatible TV.

1 Press [FUNCTION MENU].
2 Select “Photo” in “Playback Contents”, then press [OK].
3 Insert or connect the media.
The menu screen appears. (⇒ 36)
2 Select “View Photos”, then press [OK].
3 Select the event, then press [OK].

- To select the tab
Press [◄, ►].

- Start Slideshow
Refer to “Slideshow settings”. (⇒ 47)

- Switching to the Calendar screen (HDD)
Press [PAUSE II].

3 Select the photo, then press [OK].
- Press [◄, ►] to display the previous or next photo.
Switching to the VIDEO or MUSIC screens

**HDD:**
1. On the DIRECT NAVIGATOR screen:
   Press the red button.
2. Select “VIDEO” or “MUSIC”, then press [OK].

**BD-RE:**
On the DIRECT NAVIGATOR screen:
Press the red button.

Photo play option

1. While displaying a photo:
   Press [OPTION].
2. Select the item, then press [OK].

   **Aspect**
   You can switch the screen mode. (⇒ 83)

   **Graphic Display Level**
   You can change the 3D position of the screen display, etc., during the 3D photo playback.

   **Photo Menu**
   • **Start Slideshow**
     You can start a slideshow.
   • **Rotate RIGHT/Rotate LEFT**
     e.g.,
   • The information of the rotated photos will not be stored depending on the media.
   • This function is not available during the 3D photo playback.
   • **Information**
     Information (shooting date etc.) is shown.

Slideshow settings

1. On the DIRECT NAVIGATOR screen:
   Press the green button.
   
<table>
<thead>
<tr>
<th>Slideshow Options</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Slideshow</td>
<td>Normal</td>
</tr>
<tr>
<td>Interval</td>
<td>0s</td>
</tr>
<tr>
<td>Transition Effect</td>
<td>Fade</td>
</tr>
<tr>
<td>Repeat Play</td>
<td>Off</td>
</tr>
<tr>
<td>Music Selection</td>
<td>No background music</td>
</tr>
<tr>
<td>Background Music</td>
<td>No List</td>
</tr>
<tr>
<td>Random BGM</td>
<td>Off</td>
</tr>
</tbody>
</table>

2. Select the item, then press [OK].

   **Start Slideshow**
   You can start a slideshow.

   **Interval**
   You can set up the time until the next photo is to display.

   **Transition Effect**
   Effect for the next photo to display can be set.

   **Repeat Play**
   You can set up to play back repeatedly.

   **Music Selection**
   You can select background music on (either from HDD or USB) or off.

   **Background Music**
   You can select background music from HDD (My Favourites or Playlists) or USB (Folder).

   **Random BGM**
   You can play back the BGM (Background Music) in random order.
   • This function is not available during the 3D photo playback.

To pause the Slideshow
Press [PAUSE].

To stop the Slideshow
Press [RETURN].


**Editing photos**

1. On the DIRECT NAVIGATOR screen:
   - **e.g., HDD**

   ![DIRECT NAVIGATOR screen]

   To edit the event:
   Select the event.

   To edit the photo:
   1. Select the event, then press [OK].
   2. Select the photo to edit.
   - **To select multiple events or photos**
     Press the yellow button when selecting the event or photo.
     A check mark is displayed. Repeat this step.
     - Press the yellow button again to cancel.

   2. Press [OPTION].
   - Selectable items will change depending on the media and the type of file.

   3. Select the item, then press [OK].

   **Edit**
   - **Add to Album**
     1. Select the destination album, then press [OK].
     2. Press [OK].
   - **Combine Events**
     Select “Yes”, then press [OK].
   - **Remove from Album**
     Select “Yes”, then press [OK].
   - **Enter Album Name**
     Refer to “Entering text”. (☞ 83)
   - **Enter Event Name**
     Refer to “Entering text”. (☞ 83)

   **Delete Photos**
   Select “Yes”, then press [OK].

   **Set up Protection**
   - **SD**
     Select “Yes”, then press [OK].
     ✈️ appears when the protection is set.
     - Even if the protection is set, the photo may be deleted by another unit.

   **Cancel Protection**
   - **SD**
     Select “Yes”, then press [OK].
Copying photos

* "For data files" only (JPEG, MPO)

Selecting and copying the photos

<table>
<thead>
<tr>
<th>HDD</th>
<th>SD</th>
<th>USB_HDD</th>
<th>SD</th>
<th>USB</th>
</tr>
</thead>
</table>

1. On the DIRECT NAVIGATOR screen:
   - To copy the event:
     Select the event, then press the blue button.
   - To copy the photo:
     1. Select the event, then press [OK].
     2. Select the photos to copy, then press the blue button.
     - To select multiple events or photos
       Press the yellow button when selecting the event or photo.
       A check mark is displayed. Repeat this step.
       - Press the yellow button again to cancel.

2. When copying to HDD:
   Select “Yes” or “No”, then press [OK].
   - If you select “Yes”:
     Select the album, then press [OK].
     e.g., SD

3. Select “Yes”, then press [OK].
   Copying starts.

To stop copying
Press and hold [RETURN] for 3 seconds.

- The name of the copied photos will be changed.
- If the number of files/folders to be copied exceeds the maximum (96), copying will stop partway through.

Copying automatically

USB HDD SD USB → HDD
Newly added photos will automatically be copied to the HDD.

1. Insert the media.
   The menu screen appears. (36)

2. Select “Copy New Photos”, then press [OK].
   e.g., SD

3. Select “Yes”, then press [OK].
   Copying starts.

4. Once the copy is completed, select “Yes” or “No”, then press [OK].

To stop copying
Press and hold [RETURN] for 3 seconds.

- Photos without shooting date will be categorised using the creation date.
- If the space on the destination drive runs out or the number of files/folders to be copied exceeds the maximum (96), copying will stop partway through.
- The name of the copied photos will be changed.
Playing music

To play other music (track)
Select the item, then press [OK].

e.g., CD (MP3)

<table>
<thead>
<tr>
<th>DIRECT NAVIGATOR</th>
<th>Track List</th>
</tr>
</thead>
<tbody>
<tr>
<td>@CD (MP3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>0001</td>
</tr>
<tr>
<td></td>
<td>0002</td>
</tr>
<tr>
<td></td>
<td>0003</td>
</tr>
<tr>
<td></td>
<td>0004</td>
</tr>
<tr>
<td></td>
<td>0005</td>
</tr>
</tbody>
</table>

• The track/artist name will be displayed if the information is contained in ID3 tag of the MP3 file.
• If there is a large amount of photo data etc. within a MP3 file, play may not be possible.

Copying music (MP3) to HDD

After performing steps 1–2 (⇒ left)

1 Press the blue button.
2 Select “Copy”, then press [OK].

To stop copying
Press and hold [RETURN ➔] for 3 seconds.

• While copying, no other operations can be performed. Timer recordings will not proceed.
• All tracks in the folder will be copied.
• Tracks recorded to HDD in one operation will be regarded as one album.
Playing music recorded on HDD

1 Press [FUNCTION MENU].
2 Select “Music” in “Playback Contents”, then press [OK].
3 Select the item, then press [OK].

Artists
1 Press [◄, ►] to select the initial of the artist.
2 Select the name of the artist, then press [OK].
3 Select the album, then press [OK].
4 Select the track, then press [OK].

Albums
1 Press [◄, ►] to select the initial of the album.
2 Select the album, then press [OK].
3 Select the track, then press [OK].

My Favourites
Tracks registered in “My Favourites”.
Select the track, then press [OK].
• Registering a track to the “My Favourites”. (Up to 99 tracks)
  While the track list screen is displayed:
  Select the track, then press the green button.

Playlists
1 Select the playlist, then press [OK].
2 Select the track, then press [OK].

Frequently Played
Tracks most often played recently (up to 30 tracks).
Select the track, then press [OK].

Random Play
Random playback of all tracks.
Playback starts.

Switching to the VIDEO or PHOTO screens
1 On the DIRECT NAVIGATOR (Music Menu) screen:
  Press the red button.
2 Select “VIDEO” or “PHOTO”, then press [OK].

Showing Track Information
On the track list screen:
1 Select the track, then press [OPTION].
2 Select “Information”, then press [OK].
Music

Playing music

Operations during music play

- HDD
- USB
- HDD
- DVD-R
- CD
- USB

Stop

Press [STOP ■].

Pause

Press [PAUSE ▶].
• Press [PLAY/×1.3 ▶] to restart play.

Search

Press [SLOW/SEARCH ◀] or [SLOW/SEARCH ▶].
• Press [PLAY/×1.3 ▶] to restart play.

Skip

Press [SKIP ◀] or [SKIP ▶].

Repeat Play/Random

Refer to “Repeat Play” or “Random” in Play menu (☞ 65).

Sound Effects

Refer to “Sound Effects” in Sound menu (☞ 66).

Displaying photos (Slideshow)

Photos stored on the “Album” of the HDD can be played back as slideshow during playback of the music.

While playing the music

Press the red button.

• To change the photos to display
  1. While slideshow playing
     Press [OPTION].
  2. Select “Select Photo Album”, then press [OK].
  3. Select the album, then press [OK].
     e.g.,

   ![Select Photo Album]

   Please select the album to start slideshow.

<table>
<thead>
<tr>
<th>Select Photo Album</th>
</tr>
</thead>
<tbody>
<tr>
<td>Album 1</td>
</tr>
<tr>
<td>Album 2</td>
</tr>
<tr>
<td>Album 3</td>
</tr>
<tr>
<td>Album 4</td>
</tr>
</tbody>
</table>

   While playing music a photo slideshow can be displayed.

To end the slideshow

Press [RETURN Undo].

How to create the photo album

Refer to “Add to Album”. (☞ 48)

To play music continuously even if the Power off link works

Refer to “Playing music continuously even after turning off power to the TV”. (☞ 63)
Editing music/playlist

1 On the DIRECT NAVIGATOR screen:
   Press [OPTION].
   e.g.,

2 Select the item, then press [OK].
   e.g., while selecting an Album

Delete All Tracks
1 If the confirmation screen appears:
   Select “Yes”, then press [OK].
2 Select “Delete”, then press [OK].

Delete Album
Select “Delete”, then press [OK].

Delete
Select “Delete”, then press [OK].

Edit Album Name/Edit Track Name/Edit Artist Name/Edit Playlist Name
Refer to “Entering text” on page 83.

Remove All Tracks
Select “Remove”, then press [OK].
• Tracks themselves are not deleted from the HDD.

Clear My Favourites/Clear Frequently Played
Select “Clear”, then press [OK].
• Tracks themselves are not deleted from the HDD.

Remove
Select “Remove”, then press [OK].
• Tracks themselves are not deleted from the HDD.

Add to Playlist
You can register your favourite albums and tracks into 10 preset playlists.
Select the playlist, then press [OK].
• New playlist cannot be added.
• Up to 999 tracks can be registered to each playlist.
With Other Equipment

Copying the HD Video or the SD Video

This unit cannot copy the titles in the HDD to the media. Be careful when deleting the original title after copying to the HDD.

- For data files only

For example, connecting to the Panasonic video camera

![USB connection cable](optional)

If you connect a Panasonic product with a USB connection cable, setup screen may be displayed on the connected equipment. For details, refer to the instructions for the connected equipment.

### Copying HD Video (AVCHD)

- The original file must be in the AVCHD standard.

1. Connect the video camera or insert the media.
   - Make the video camera ready for data transfer.

   The menu screen appears. (→ 36)

2. Select "Copy Video ( AVCHD )", then press [OK].

3. Select the title, then press the yellow button. A check mark is displayed. Repeat this step.

4. Press [OK].

5. Select "Start", then press [OK].
   - It may take time for the copying to start.

To stop copying

Press and hold [RETURN] for 3 seconds.

- An AVCHD title with 100 or more scenes will be divided into titles every 99th scene and copied.

### Screen icons

- (NTSC) Title recorded using a different encoding system from that of the unit.
  - Titles displaying these marks cannot be selected.
Copy SD Video (MPEG2)

USB HDD | SD | USB | HDD
--- | --- | --- | ---
• The original file must be in the SD-Video standard.

1 Connect the video camera or insert the media.
   • Make the video camera ready for data transfer.

   The menu screen appears. (⇒ 36)

2 Select “Copy Video (MPEG2)”, then press [OK].

   e.g.,

   All titles of SD video on the media that can be copied are registered in the copying list.

3 Select “Start”, then press [OK].

4 Select “Yes”, then press [OK] to start copying.

To stop copying
Press and hold [RETURN] for 3 seconds.

To edit the copying list
Select “List”, then press [►] (right) after step 2. (⇒ left)

1 Select the title, then press the yellow button.
   Repeat this step to select titles.

2 Press [OPTION].

3 Select the item, then press [OK].

Delete All:
All titles that you registered to copy are deleted.
Select “Yes”, then press [OK].

Add:
Add new items to the copying list.
1 Select the title, then press the yellow button.
   Repeat this step to select titles.

2 Press [OK].

Delete:
Select “Yes”, then press [OK].

Move:
Move selected items or change the order of items on the copying list.
Select the destination, then press [OK].

Press [◄].

Screen icons

Data size of each registered item

Size:
Data size recorded to the HDD

Title recorded using a different encoding system from that of the unit.
• Titles displaying these marks cannot be selected.
**Smart Home Networking (DLNA)**

Smart Home Networking (DLNA) allows you to watch the contents and broadcasts on Server equipment connected on the same network from Client equipment.

This unit can be used both as Server and Client. Additionally, if used as Client, this unit can also be used as Media Renderer, which can be controlled by a Smartphone, etc.

**Preparation**

- Network connection (⇒ 17, 20)
- Perform Home Network settings of the DLNA compatible equipment.

For more details, refer to the following website and the operating instructions for each item of equipment.

http://panasonic.jp/support/global/cs/

(This site is in English only.)

- Some video or broadcasts cannot be enjoyed depending on the DLNA (Client) compatible equipment, the condition of this unit, or the file type.
- Ensure that the router for your home network has adequate security system to prevent unauthorized access.

**Using this unit as Server**

You can enjoy the video and photos saved on the HDD of this unit on DLNA (Client) compatible equipment connected via a network.

You can also watch broadcasts received by this unit on DLNA (Client) compatible equipment.

- The titles with access restriction (e.g., copy restriction) signals sent from broadcasters are not available for this function.
- You cannot play back music from the playback equipment (Client).

For details regarding the connection and operation of equipment connected via a network, refer to their respective operating instructions.

- DLNA function compatible software should be installed. For more details, refer to the Panasonic website. (⇒ left)

**Preparation**

- When DLNA (Server) Function is deactivated, make the settings. (⇒ 67, 77, Home Network Settings)

1. Operate the playback equipment (Client) to display the list of contents on this unit.
- Refer to their respective operating instructions.

2. Select the item, then press [OK].

- The DLNA compatible device that is to be connected to the unit should be connected to the same hub or broadband router as the unit.
- Files not on the HDD cannot be played back.
- Playing back 3D video recorded on this unit may not work properly.
- 3D photos copied to this unit cannot be played back in 3D.
- Editing is not possible.
- The name of this unit is not displayed on the server list of DLNA compatible equipment (Client) while playing back a BD-Video.
With Other Equipment

Using this unit as Client
You can share videos, photos and music stored in the DLNA Certified media server (such as a PC with Windows 7 installed etc.) connected via a network with this unit.

1 Press [FUNCTION MENU].
2 Select “Home Network (DLNA Client)” in “Network”, then press [OK].
   A list of equipment connected via the network is displayed.
   • This list can be updated by pressing the red button.
3 Select the equipment, then press [OK].
4 Select the item, then press [OK].
   • Menu structure will be different depending on the equipment. Select the contents by repeating the operation.
   • Convenient functions can be used by pressing [OPTION] depending on the contents.
   • Control Panel
   Control Panel is displayed once the playback starts.
   Operation can be performed with [▲, ▼, ◄, ►], [OK] and [EXIT ▏].
   • Press [OK] if the Control Panel is not displayed.
   • (While playing video or photo) Press [RETURN □] to hide the Control Panel.

Support format of DLNA client

<table>
<thead>
<tr>
<th>Container</th>
<th>Video codec</th>
<th>Audio codec</th>
<th>Example of file extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVCHD</td>
<td>H.264</td>
<td>Dolby® Digital</td>
<td>.mts</td>
</tr>
<tr>
<td>MP4</td>
<td>H.264</td>
<td>AAC</td>
<td>.mp4</td>
</tr>
<tr>
<td>Recorded programmes (XP/SP/LP/EP/FR)</td>
<td>MPEG2</td>
<td>Dolby® Digital Linear PCM</td>
<td>.mpg, .mpeg</td>
</tr>
<tr>
<td>Recorded programmes (DR/HG/HX/HE/HL/HM)</td>
<td>MPEG2</td>
<td>MPEG</td>
<td>.m2ts, .ts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Format</th>
<th>Example of file extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG</td>
<td>.jpg</td>
</tr>
</tbody>
</table>

Audio

<table>
<thead>
<tr>
<th>Audio codec</th>
<th>Example of file extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP3</td>
<td>.mp3</td>
</tr>
<tr>
<td>FLAC</td>
<td>.flac</td>
</tr>
<tr>
<td>Linear PCM</td>
<td></td>
</tr>
</tbody>
</table>
Smart Home Networking (DLNA)

Using this unit as Media Renderer

This unit will work as Media Renderer, which allows you to play back the contents on DLNA Server by operating a Digital Media Controller (a smartphone, etc.).

Possible applications:

1. Digital Media Controller compatible software should be installed.

Following steps are necessary to use this unit as Media Renderer.

1. Press [FUNCTION MENU].
2. Select “Home Network (Media Renderer)” in “Network”, then press [OK].
3. Operate the Digital Media Controller compatible equipment.

To exit from Home Network (Media Renderer) screen

Press [RETURN].

- Depending on the contents and the connected equipment, playback may not be possible.
- Items displayed in grey on the display cannot be played back by this unit.
- This unit can be played back via connected equipment only when controlled using Digital Media Controller.
- Depending on the performance of the connected PC, video frames may be dropped during playback, or video may not be played back at all.
Convenient functions

VIERA Connect (Enjoying Internet Service)

VIERA Connect allows you to access some specific websites supported by Panasonic, and enjoy Internet contents such as photos, videos, etc. from VIERA Connect home screen. This unit has no full browser function and all features of websites may not be available.

e.g.,

VIERA Connect Home screen
- Images are for illustration purpose, contents may change without notice.

Preparation
- Network connection (⇒ 17, 20)

To enjoy video communication (e.g., Skype™)
- Connect this unit with optional Communication Camera (TY-CC20W or TY-CC10W). Depending on the area, this optional camera may not be available. Please consult your local Panasonic dealer for advice.

To exit from VIERA Connect
Press [EXIT ◄].

1. Press [INTERNET].
   The message is displayed. Please read it carefully and then press [OK].
   - The video communication service can be accessed directly by pressing [S] button.

2. Select the item, then press [OK].
   - Operable buttons: [▲, ▼, ◀, ▶], [OK], [RETURN ◄], colour buttons and number buttons.

• When playing content from a disc, SD card or USB device VIERA Connect cannot be accessed.
• In the following cases, settings are possible using “Network Service Settings” (⇒ 67, 76)
  - When restricting the use of VIERA Connect.
  - When the audio is distorted.
• If using slow Internet connection, the video may not be displayed correctly. A high-speed Internet service with a speed of at least 6 Mbps is recommended.
• Be sure to update the software (firmware) when a software (firmware) update notice is displayed on the screen. If the software (firmware) is not updated, you will not be able to use the VIERA Connect function.
• The services through VIERA Connect are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
• All features of websites or content of the service may not be available.
• Some contents may be inappropriate for some viewers.
• Some contents of VIERA Connect may only be available for specific countries and may be presented in specific languages.
• If timer recording starts, VIERA Connect will stop.

• For operating method refer to the following website.
  http://panasonic.jp/support/global/cs/
  (This site is in English only.)
• Cannot be used while recording, copying, or playing BD-Video.
Convenient functions

Format SD card

Formatting deletes all contents (including computer data), and they cannot be restored. Check carefully before proceeding.

1 Press [FUNCTION MENU].
2 Select “SD Card” in “Drive Select”, then press [OK].
3 Select “SD Card Management” in “Others”, then press [OK].
4 Select “Format Card”, then press [OK].
5 Select “Yes”, then press [OK].
6 Select “Start”, then press [OK].
7 Press [OK].

- The contents are deleted when you format a card even if you have set protection.
- Do not disconnect the AC mains lead while formatting. This can render the card unusable.
- When a card has been formatted using this unit, it may not be possible to use it on any other equipment.
Registering the external HDD (USB HDD)

* "For recorded titles" only

If you intend to move recorded titles to a USB HDD, the USB HDD must be registered to this unit first.

Limitation information
- A USB HDD with a capacity of less than 160 GB cannot be used.
- Registering of a USB HDD will format the USB HDD and all the content already recorded will be deleted.
- Up to eight USB HDDs can be registered on this unit.
- Registered USB HDDs cannot be used with devices other than this unit.

Regarding the external HDD (USB HDD)

Please use a recommended USB HDD.
For the latest information on recommended USB HDDs, please check the following website.
http://panasonic.jp/support/global/cs/

- Certain non-recommended USB HDDs cannot be used with this unit.
- If a problem occurs with the USB HDD, please contact the manufacturer of the device.

Connecting the USB HDD

Connect this unit with optional USB HDD.

Disconnecting the USB HDD

Please use the following procedure to disconnect. Disconnecting without following this procedure may result in the loss of recorded content from the USB HDD or the internal HDD.

1. Press [SETUP].
2. Select “Settings for USB HDD” in “HDD / Disc / USB HDD”, then press [OK].
3. Select “USB HDD Disconnection”, then press [OK].
4. Select “Yes”, then press [OK].
5. Disconnect the USB HDD from this unit.
Registering the external HDD (USB HDD)

**Registering the USB HDD**

- If the registering screen appears when connecting the USB HDD, go to step 4.

1. Press [SETUP].

2. Select “Settings for USB HDD” in “HDD / Disc / USB HDD”, then press [OK].

3. Select “USB HDD Registration”, then press [OK].

4. Select “Yes”, then press [OK].
   - If you have already registered eight USB HDDs, it will be necessary to delete one or more of them before registering a new USB HDD.
   - The message screen appears:
     1. Select “Yes”, then press [OK].
     2. Select the USB HDD to cancel, then press [OK].
     - The confirmation screen appears.
     3. Select “Yes”, then press [OK].

5. When the registering is complete, message screen appears.
   - Press [OK].

6. The confirmation screen appears.
   - Press [OK].

---

**To cancel all USB HDD registrations**

Refer to “Cancellation of all USB HDD Registrations”. (⇒ 72)

- If you register a USB HDD, all the content already recorded on the USB HDD will be deleted.
- It is not possible to play back the content on the USB HDD whose registration has been cancelled.
- You can check the registration number of the USB HDD on the DIRECT NAVIGATOR. (⇒ 33)
VIERA Link functions

What is VIERA Link “HDAVI Control”?  
VIERA Link “HDAVI Control” is a convenient function which will link the operations of this unit and a Panasonic TV (VIERA) or an amplifier/receiver. You can use this function by connecting the equipment with the HDMI cable. See the operating instructions for connected equipment.

Download from TV
When you connect the unit to a TV for the first time, the setting information on the TV is acquired by this unit. (☞ 19).
• This function is available with the TV that supports “HDAVI Control 3” or later.

Automatic input switching/
Power on link
When the following operations are performed, the input channel of the TV will be automatically switched and the screen of this unit will be displayed. Additionally when the TV is off, the TV will automatically turn on.
- When play starts on this unit
- When an action that uses DIRECT NAVIGATOR etc, is performed

Power off link
When you set the TV to standby mode, this unit is also automatically set to standby mode.
• Power off link function does not work when recording, copying etc.

Playing music continuously even after
turning off power to the TV
The following operations make it possible to keep the power of the unit on and to play music continuously.
When the unit is directly connected to an amplifier/receiver.
1 While playing music
Press [OPTION].
2 Select “TV Power Off”, then press [OK].
• Sound may be discontinued for several seconds when the power to the TV is turned off.
• This function is available with the TV that supports “HDAVI Control 2” or later.

PAUSE LIVE TV
You can operate this unit with the TV remote control.
Refer to “PAUSE LIVE TV”. (☞ 25)
• This function is available with the TV that supports “HDAVI Control 3” or later.

Direct TV Recording
This function allows you to immediately start recording the programme that you are viewing on the TV.
Refer to the TV operating instructions for operation.
• This function is available with the TV that supports “HDAVI Control 3” or later.

Easy control only with VIERA remote control
You can operate this unit using the TV remote control.
Refer to the operating instructions of the TV about the buttons that you can use.
• This function is available with the TV that supports “HDAVI Control 2” or later.

• This unit supports “HDAVI Control 5” function.
“HDAVI Control 5” is the standard for Panasonic’s HDAVI Control compatible equipment. This standard is compatible with Panasonic’s conventional HDMI equipment. Please refer to individual manuals for other manufacturers’ equipment supporting VIERA Link function.
• VIERA Link “HDAVI Control”, based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers’ equipment that supports HDMI CEC cannot be guaranteed.
• These functions may not work normally depending on the equipment condition.
• Use the remote control supplied with this unit if you cannot operate this unit using buttons on the TV remote control.
• The operation of this unit may be interrupted when you press certain buttons on the TV remote control.
Convenient functions

Playback menu

A variety of operations and settings such as changing the subtitles and audio languages can be performed during playback of video or music. Also, picture and sound quality can be set to your personal taste.

1. Press [DISPLAY].

   ![Menu Items](image)

   e.g.,

<table>
<thead>
<tr>
<th>Disc</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play</td>
<td>Soundtrack</td>
</tr>
<tr>
<td>Picture</td>
<td>Subtitles</td>
</tr>
<tr>
<td>Sound</td>
<td>Angle</td>
</tr>
</tbody>
</table>

   Menu | Item | Setting

2. Select the menu, then press [►] (right).
3. Select the item, then press [►] (right).
4. Select the setting.
   - Some items can be changed by pressing [OK].

Depending on the condition of the unit (playing, stopped, etc.) and media contents, there may be some items which cannot be selected or for which the effects do not work properly.

To clear the Playback menu

Press [DISPLAY].

Disc

- Video
  - The original video recording method (MPEG-4 AVC etc.) appears.

- Signal Type
  - Primary Video
    - Video
      - The original video recording method appears.
    - Soundtrack
      - Select the type of audio or language.
  - Secondary Video
    - Video
      - Select on/off of images.
      - The original video recording method appears.
    - Soundtrack
      - Select on/off of audio and the language.

- Soundtrack*
  - Show or change the soundtrack.

- Subtitles*
  - Turn the subtitle on/off, and change the language depending on the media.

- Audio Selection
  - Switch in the case of multiple audio.

- Subtitle Style
  - Select the subtitle style recorded on the disc.

- Angle*
  - Change the number to select an angle.

- Audio Channel
  - Change audio (LR/L/R) during playback.

* With some discs, you may only be able to make changes using the menus on the disc.
### Play

- **Repeat Play**
  Select the item which you want to repeat.

- **Random**
  Select whether to play random or not.

### Graphic Display Level

You can change the 3D position of the playback settings display, etc., during the 3D playback.

### Picture

- **Mode**
  Select the picture quality mode during play.
  - **Normal**
    Default setting.
  - **Soft**
    Soft picture with fewer video artifacts.
  - **Fine**
    Details are sharper.
  - **Cinema**
    Mellows movies, enhances detail in dark scenes.
  - **Cartoon**
    A mode suitable for viewing animations.

### Advanced Settings

- **HD optimizer**
  This will compensate the mosaic noise in the video and haze around the characters precisely.

- **Chroma Process**
  The high-resolution processing of HDMI chroma signals produces a high-resolution picture with rich picture quality.

- **Detail Clarity**
  The picture becomes sharp and detailed.

- **Super Resolution**
  Standard picture quality video is corrected to sharp and crisp picture quality when it is output as 1080i/1080p.

### Progressive

Select the method of conversion for progressive output to suit the type of title being played.

- **Auto**
  Automatically detects the film and video content, and appropriately converts it.

- **Video**
  Select this setting when the content is distorted if “Auto” is selected.

- **Film**
  Select this if the edges of the film content appear jagged or rough when “Auto” is selected. However, if the video content is distorted as shown in the illustration to the right, then select “Auto”.

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## Convenient functions

### Playback menu

#### Sound

- **Sound Effects**
  - This function is effective when “Digital Audio Output” is set to “PCM”. (☞ 73)

- **Re-master 1/Re-master 2**
  - Sound becomes more natural by adding higher frequency signals not recorded on the track.

- **Dialogue Enhancer**
  - The volume of the centre channel is raised to make dialogue easier to hear.

#### Other

- **Position**
  - Change the position where this menu screen appears on your TV.

### Audio attribute

<table>
<thead>
<tr>
<th>Signal type</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPCM/Digital/</td>
</tr>
<tr>
<td>Digital+/TrueHD/</td>
</tr>
<tr>
<td>DTS/DTS-HD/MPEG/HE-AAC:</td>
</tr>
</tbody>
</table>

### Language

| ENG   | Japanese       | ARA  | Arabic       | FRA   | French      | CHI  | Chinese | FI  | Finnish  | ITA  | Italian | DEU  | German      | KOR  | Korean | PER | Persian | ITA  | Italian | NL   | Dutch    | THA  | Thai | BUL | Bulgarian | SVE  | Swedish | POL | Polish | RUM  | Romanian | NOR  | Norwegian | CES  | Czech | GRE | Greek | DAN  | Danish | SLK  | Slovak | TUR | Turkish | POR  | Portuguese | HUN | Hungarian | RUS  | Russian | FIN | Finnish |
|-------|----------------|------|--------------|-------|------------|------|---------|-----|---------|------|---------|------|------------|------|---------|-----|---------|------|---------|------|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|

### Others

- ☐ The menu is not displayed when playing photos.
Changing the unit’s settings

You can change the unit’s settings of Digital TV Tuning, Sound, Display, Connection, Network etc. in the menu.

Common procedures

1 Press [SETUP].

2 Select the menu, then press [OK].

3 Select the item, then make the setting. (⇒ right)

- Follow the instructions on the screen if further operations are necessary.
- Depending on the connection or the status of this unit some items cannot be selected or changed.

To return to the previous screen
Press [RETURN].

Menu list

The locations of the setting items are as follows. For details on each setting item, please refer to the following pages.

Digital TV Tuning
- Favourites Edit (⇒ 69)
- Channel List (⇒ 70)
- Auto Setup (⇒ 70)
- Download from TV (⇒ 70)
- Manual Tuning (⇒ 70)
- Update Channel List (⇒ 70)
- Child Lock (Parental Rating) (⇒ 70)
- Signal Condition (⇒ 70)
- New Channel Message (⇒ 70)

HDD / Disc / USB HDD
- Settings for Playback (⇒ 71)
  - 3D BD-Video Playback (⇒ 71)
  - Soundtrack (⇒ 71)
  - Subtitles (⇒ 71)
  - Menu (⇒ 71)
  - Play Video (AVCHD) on BD-RE / BD-R (⇒ 71)
  - BD-Live (⇒ 71)
  - BD-Video Parental Control (⇒ 71)
  - DVD-Video Parental Control (⇒ 71)
  - Pure Sound mode (⇒ 71)
- Timer Record Start Buffer (⇒ 72)
- Timer Record Stop Buffer (⇒ 72)
- REWIND LIVE TV (⇒ 72)
- Chapter Creation (⇒ 72)
- HDD Management (⇒ 72)
  - Delete all titles (⇒ 72)
  - Delete all photos (⇒ 72)
  - Format HDD (⇒ 72)
- Settings for USB HDD (⇒ 72)
  - USB HDD Registration (⇒ 72)
  - USB HDD Disconnection (⇒ 72)
  - USB HDD Management (⇒ 72)
  - Delete all titles (⇒ 72)
  - Format USB HDD (⇒ 72)
  - Cancellation of all USB HDD Registrations (⇒ 72)
Changing the unit's settings

**Picture**
- Still Mode (73)
- Seamless Play (73)

**Sound**
- Dynamic Range Compression (73)
- Downmix (73)
- Digital Audio Output (73)
  - PCM Down Conversion (73)
  - Dolby D / Dolby D+ / Dolby TrueHD (74)
  - DTS / DTS-HD (74)
  - MPEG (74)
  - BD-Video Secondary Audio (74)
- Audio Delay (74)
- Audio Type for Digital Broadcast (74)

**Display**
- On-Screen Information (74)
- Unit's Display (74)
- Screen Saver (74)
- Teletext (74)

**Connection**
- 3D Settings (74)
  - 3D Type (74)
  - 3D AVCHD Output (74)
  - 3D Playback Message (74)
- TV Aspect (74)
- Aspect for 4:3 Video (74)
- TV System (74)
- HDMI Connection (75)
  - HDMI Video Format (75)
  - 24p Output (75)
  - Deep Colour Output (75)
  - HDMI Audio Output (75)
  - 7.1ch Audio Reformatting (75)
  - Contents Type Flag (75)
  - VIERA Link (75)

**Network**
- Easy Network Setting (76)
- Network Settings (76)
  - LAN Connection Mode (76)
  - Wireless Settings (76)
  - Connection Setting (76)
  - Double Speed Mode Setting (2.4GHz) (76)
  - IP Address / DNS Settings (76)
  - Proxy Server Settings (76)
  - Network Service Settings (76)
  - Lock (76)
  - Automatic Volume Control (76)
  - Remote Recording Function Settings (77)
  - Remote Recording function (77)
  - Device ID (77)
  - Initialize Device Password (77)
- Home Network Settings (77)
  - Home Network function (77)
  - Setting device name (77)
  - Registration type for remote devices (77)
  - Remote device list (77)

**Others**
- Standby Settings (78)
  - Quick Start (78)
  - Automatic Standby (78)
  - Automatic Standby after OTR (78)
  - Automatic Standby after Copy (78)
  - RF OUT (Aerial Signal) (78)
  - Power Save for Network Standby (78)
- Remote Control (79)
- Clock (79)
- PIN Entry (80)
- System Update (80)
  - Software Update in Standby (80)
  - Software Update Now (Broadcast) (80)
  - Software Update Now (Internet) (80)
  - Software Licence (80)
- System Information (80)
  - Initialize (81)
    - Shipping Condition (81)
    - Default Settings (81)
**Convenient functions**

**Digital TV Tuning**

**Favourites Edit**
You can create four favourites of channels for making viewing and recording easier.

- To select the other Favourites list:
  Press the green button.

- To add channels to the Favourites list:
  Select the channel in the “All Digital Channels” column, then press [OK]. Repeat this step.
  - Yellow: Add all the available channels to the Favourites. (This function is available only when there are no channels in the “Favourites”.)

- To change the order of the channels list:
  1. Select the channel in the “Favourites” column to move, then press the green button.
  2. Select the new position, then press the green button.

- To delete channels:
  Select the channel in the “Favourites” column, then press [OK].
  - Yellow: Delete all channels.

- To change the name of the Favourites list:
  1. Press the red button in the “Favourites” column.
  2. Press [▲, ▼, ◀, ▶] to select a character, then press [OK]. Repeat this step to enter other characters.
  - Red: Delete a character.
  - Blue: Delete all characters.
  3. Press [RETURN].
Changing the unit's settings

**Channel List**
You can edit the channel list.

- To hide unwanted channels
  1. Select the channel.
  2. Press [OK].
     - Yellow: Reveal all channels.
- To change the channel number assignment
  1. Select the channel to change, then press the green button.
  2. Enter the channel number to reassign with the number buttons.
  3. Press [OK].
- To set the channel manually
  1. Press the red button.
  2. Refer to "Manual Tuning". (⇒ below)

**Update Channel List**
You can update the channel list to the latest one.

**Child Lock (Parental Rating)**
You can restrict the viewing of channels unsuitable to children.
Set a ratings level to limit broadcast viewing and playback.
- PIN is required to change. (⇒ 23)

**Signal Condition**
You can check the quality and strength of signals.
Press [CH ▲▼] to select the channel.

- Signal Quality:
  - Green bar: Good
  - Yellow bar: Poor
  - Red bar: Bad

**Auto Setup**
You can restart the Auto Setup. (⇒ 19)
Select "Yes", then press [OK].
- The timer recording programmes are cancelled.

**Download from TV**
Select "Download from TV" when you connect the unit to a VIERA Link (HDAVI Control 3 or later) compatible TV.
Select "Yes", then press [OK].

**Signal Condition**
You can check the quality and strength of signals.
Press [CH ▲▼] to select the channel.

- Signal Quality:
  - Green bar: Good
  - Yellow bar: Poor
  - Red bar: Bad

**New Channel Message**
Set whether to obtain the information automatically when a new DVB channel is added.

**Manual Tuning**
You can add new channels manually.
1. Press [▲▼] to select the physical channel.
   - Adjust the frequency by checking the signal strength and signal quality displays.
2. Press [OK] to start scan.
   - The set channel is displayed in the table.
**Convenient functions**

**HDD / Disc / USB HDD**

**Settings for Playback**

**3D BD-Video Playback**
Select the playback method of 3D compatible video software.

**Soundtrack**
Select the audio language.
- If “Original” is selected, the original language of each disc will be selected.
- Enter a code with the number buttons when you select “Other ******”.
  (⇒ 81, Language code list)

**Subtitles**
Select the language for subtitle.
- If “Automatic” is selected and the language selected for “Soundtrack” is not available, subtitles of that language will automatically appear if available on that disc.
- Enter a code with the number buttons when you select “Other ******”.
  (⇒ 81, Language code list)

**Menu**
Select the language for disc menus.
- Enter a code with the number buttons when you select “Other ******”.
  (⇒ 81, Language code list)

**Play Video ( AVCHD ) on BD-RE / BD-R**
When playing a disc which contains the following two video formats;
- High Definition video (AVCHD) recorded by the Panasonic video camera, etc.,
- High Definition quality video recorded on this unit,
select which video to play back.
- On:
  Play the High Definition video (AVCHD)
- Off:
  Play the High Definition quality title

**BD-Live**
You can restrict Internet access when BD-Live functions are used.
- If “On ( Limit )” is selected, Internet access is permitted only for BD-Live contents which have content owner certificates.

**BD-Video Parental Control**
Set an age limit of BD-Video play.
- PIN is required to change. (⇒ 23)

**DVD-Video Parental Control**
Set a rating level to limit DVD-Video play.
- PIN is required to change. (⇒ 23)

**Pure Sound mode**
You can enjoy movies or music in an environment more suitable for viewing by stopping the rotation of the HDD when playing back commercial BD-Videos, DVD-Videos or music CDs.
- If “On” is selected, timer recording does not start during playback BD-Video, DVD-Video or music CD.
Convenient functions

Changing the unit's settings

Timer Record Start Buffer
This function sets the timer recording to start earlier than the TV Guide time.

Timer Record Stop Buffer
This function sets the timer recording to stop later than the TV Guide time.

REWIND LIVE TV
Turn on/off the REWIND LIVE TV function.
• When "Automatic Standby" is set to "Off" (⇒ 78), "On" cannot be selected.

Chapter Creation
Set the Chapter Creation method.
• Even if "Automatic" is selected, depending on the programme to be recorded, the chapter may not be created correctly.

HDD Management
Press and hold [OK] for 3 seconds to show the following settings.

Delete all titles
Delete all titles (video) on the built-in HDD.
• Delete does not work if one or more titles are protected.

Delete all photos
Delete all photos on the built-in HDD.

Format HDD
Formatting deletes all contents on the built-in HDD, and they cannot be restored.
Check carefully before proceeding.

Settings for USB HDD

USB HDD Registration
Register the USB HDD. (⇒ 61)

USB HDD Disconnection
This function puts the USB HDD in a state in which it can be safely disconnected. (⇒ 61)

USB HDD Management
Press and hold [OK] for 3 seconds to show the following settings.

Delete all titles
Delete all titles on the USB HDD.
• Delete does not work if one or more titles are protected.

Format USB HDD
Formatting deletes all contents, and they cannot be restored. Check carefully before proceeding.

Cancellation of all USB HDD Registrations
This function cancels the registrations of all the USB HDDs registered on this unit.
Only do this if you are going to dispose of this unit.

• Before operation, perform "USB HDD Disconnection" (⇒ above) and remove the USB HDD.
• It is not possible to play back the content from a USB HDD whose registration has been cancelled.
### Convenient functions

#### Picture

**Still Mode**
Select the type of picture shown when you pause play.
- **Field:**
  Select if jittering occurs when “Automatic” is selected. (The picture is coarser.)
- **Frame:**
  Select if small text or fine patterns cannot be seen clearly when “Automatic” is selected. (The picture is clearer and finer.)

**Seamless Play**
The segments can be played back seamlessly.
- When “Off” is selected, frame-dropping between the segments can be avoided, but the video may freeze for a moment between the segments.
- Seamless Play function does not work depending on the condition or the kind of programme.

#### Sound

**Dynamic Range Compression**
To lower the dynamic range for playback (e.g., at night).
- This does not work depending on broadcasts and recorded titles.

**Downmix**
Select the downmix system of multi-channel to 2-channels sound.
- Select “Surround encoded”, when the connected equipment supports the virtual surround function.
- There is no effect on “Bitstream” via HDMI AV OUT and DIGITAL AUDIO OUT terminal.
- The audio will be output in “Stereo” in the following cases.
  - AVCHD playback
  - [BD-V]: Playback of clicking sound on the menu and audio with secondary video in picture-in-picture mode.

**Digital Audio Output**

**PCM Down Conversion**
Select how to output audio with a sampling frequency of 96 kHz.
- **On:**
  Signals are converted to 48 kHz.
  (Choose when the connected equipment cannot process signals with a sampling frequency of 96 kHz.)
- **Off:**
  Signals are output as 96 kHz.
  - The signals will be converted to 48 kHz regardless of the setting in the following cases.
    - The signals have a sampling frequency of over 96 kHz.
    - The disc has copy protection.
    - “BD-Video Secondary Audio” is set to “On”. ([BD-V]) (⇒ 74)
Changing the unit’s settings

**Dolby D / Dolby D + / Dolby TrueHD**

**DTS / DTS-HD**

**MPEG**
Select the audio signal to output.
- Select “PCM” when the connected equipment cannot decode the respective audio format.
- Not making the proper settings may result in noise.

**BD-Video Secondary Audio**
Turn on/off the clicking sound on the menu and audio with secondary video.

**Audio Delay**
Mis-sync between the video and audio is corrected by delaying the audio output.

**Audio Type for Digital Broadcast**
If the programme has more than one track (Dolby Digital, MPEG, etc.), you can set priorities.
- This setting will give effect in the following conditions.
  - The default setting when watching broadcasts.
  - The default setting when playing back the title.

**Display**

**On-Screen Information**
Select the time until the channel information screen (⇒ 24) disappears automatically.

**Unit’s Display**
Changes the brightness of the unit’s display.

**Screen Saver**
This is to prevent burn-in on the screen.

**Teletext**
Select the Teletext (⇒ 25) display mode.

**Connection**

**3D Settings**

**3D Type**
If 3D video cannot be played back in 3D, you may be able to play it in 3D by changing the setting.
- Change the settings for 3D on the TV also when “Side by side” is selected.
- This setting is not effective for 3D BD-Video.

**3D AVCHD Output**
If 2D AVCHD video is recognised as 3D video and cannot be played back correctly, you may be able to play it by changing the setting.

**3D Playback Message**
Set to display or hide the 3D viewing warning screen.

**TV Aspect**
Set to match the type of TV connected.
- Pan & Scan:
  Side picture is trimmed for 16:9 picture.
  The pictures may be shown in the letterbox style depending on the content.
- Letterbox:
  Black bands appear for 16:9 picture.

**Aspect for 4:3 Video**
To play a 4:3 title, set how to show pictures on a 16:9 TV.

**TV System**
Set in accordance with the TV System for the connected TV.
Convenient functions

**HDMI Connection**

**HDMI Video Format**
You can only select items compatible with the connected equipment.
- If “Automatic” is selected, the output resolution best suited to the connected TV (1080p, 1080i, 720p or 576p/480p) is automatically selected.
- To enjoy High Quality Video up-converted to 1080p, you need to connect the unit to 1080p compatible HDTV. If this unit is connected to an HDTV through other equipment, it must also be 1080p compatible.

**24p Output**
When playing BD-Video recorded in 24 frames, this unit displays each frame at 1/24 second intervals—the same interval originally shot with the film movie.
- This item is effective only when this unit is connected to a TV supporting 1080/24p output and “HDMI Video Format” is set to “Automatic” or “1080p”. (⇒ above)
- When BD-Video images other than 24p are played, images are output at 60p.

**Deep Colour Output**
This setting is for selecting whether to use Deep Colour output when a TV that supports Deep Colour is connected.

**HDMI Audio Output**
Select “Off” when connected to an amplifier/receiver with a DIGITAL AUDIO OUT terminal.

**7.1ch Audio Reformatting**
When BD-Video recorded in 24 frames, this unit displays each frame at 1/24 second intervals—the same interval originally shot with the film movie.
- This item is effective only when this unit is connected to a TV supporting 1080/24p output and “HDMI Video Format” is set to “Automatic” or “1080p”. (⇒ above)
- When BD-Video images other than 24p are played, images are output at 60p.

**Contents Type Flag**
If “Automatic” is selected, the optimal method of playback depending on the TV (e.g. cinema) will automatically be selected (only when the TV supports Contents Type Flag).

**VIERA Link**
Select “Off” when you do not want to use “HDAVI Control”.

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Changing the unit's settings

**Network**

**Easy Network Setting**
Press [OK] to start Easy Network Setting. (⇒ 20)

**Network Settings**

**LAN Connection Mode**
Select the LAN connection method.

**Wireless Settings**
This allows to set and check the connection settings of the Wireless router.

**Connection Setting**
The Wireless router connection wizard will be displayed.

**Double Speed Mode Setting (2.4GHz)**
When a 2.4 GHz wireless format is used, this setting sets the connection speed.
- If you connect using the “Double Speed Mode (40MHz)”, 2 channels use the same frequency band, and there is consequently a greater risk of reception interference. This can cause the connection speed to drop or the connection to become unstable.

**IP Address / DNS Settings**
Check the connection of the network or set the IP address and DNS.
- To set the IP address and DNS
  1. Set “IP Address Auto-assignment” and “DNS-IP Auto-assignment” to “Off”.
  2. Select the item, then press [OK] to show the respective setting.
- When the router’s DHCP server function is not activated, check the numbers of other connected devices such as personal computers, then assign a number different from those of other devices for the “IP Address” and assign the same number for “Subnet Mask” and “Gateway Address”.

**Proxy Server Settings**
Check and set the connection to the Proxy server.
- Press [OK] to show the respective setting.

**Network Service Settings**

**Lock**
You can restrict using VIERA Connect.
- PIN is required to change. (⇒ 23)

**Automatic Volume Control**
Volume is adjusted automatically to the standard volume while using VIERA Connect.
- Depending on contents, this function will not work.
- Select “Off” when the audio is warped.
Remote Recording Function Settings
You must register to a service to use this function.
For details please check the following website.
http://panasonic.jp/support/global/cs/  
(This site is in English only.)
• However, as of February 2013, the service has not yet been launched.

Remote Recording function
When you set a recording from a mobile phone or a PC, etc. away from home, set this function to "On".

Device ID
This is the device ID and device password required for registering to and using a service.

Initialize Device Password
The device password for this unit is initialized.
• When you initialize the device password, you will not be able to use Remote Recording function. To use the Remote Recording function again, you must re-register to the service.

Home Network Settings
You can set the DLNA (Server) function.  
(⇒ 56)

Home Network function
You can switch between enable/disable of the DLNA (Server) and DMR (Media Renderer) function.
• If “On” is selected, the setting for “Quick Start” is fixed to “On”. (⇒ 78)
• If “Off” is selected, the setting for “Remote Recording function” is fixed to “Off”. (⇒ 77)
• This cannot be set to “On” if the connection with the wireless broadband router is not encrypted in the wireless connection.

Setting device name
It is also possible to change the name of this unit on the network.
• Select from a preset list
  Select the preset name, then press [OK].
• Create name
  Enter the name. Refer to “Entering text”. (⇒ 83)

Registration type for remote devices
• Automatic:
  All connected devices on the same network can access this unit.
• Manual:
  Only registered devices can access this unit.

Remote device list
• To register equipment manually
  1 Select the device name or the MAC Address for the device you want to register, then press [OK].
  2 Select “Yes”, then press [OK].
• To deregister equipment
  1 Select the registered equipment, then press [OK].
  2 Select “Yes”, then press [OK].
• This function cannot be enabled when “Automatic” is selected in “Registration type for remote devices”. (⇒ above)
• The maximum number of equipment that can be registered is 16.
Convenient functions

Changing the unit's settings

**Others**

**Standby Settings**

**Quick Start**
- **On:**
  It is possible to start quickly from standby mode.
- **Off:**
  Power consumption in standby mode is minimized. (⇒ 94)
  However, startup time from standby mode will be longer.

• **Timer Setting for Quick Start:**
  "Quick Start" is activated when the set time comes. (If the clock has not been set, this function is not activated at all hours.)

• When "Home Network function" (⇒ 77) or "Remote Recording function" (⇒ 77) is set to "On", the setting for this function is fixed to "On".

• The setting may be changed to "On" automatically when the setting for video communication is changed. (⇒ 59)

**Automatic Standby**
Set the time to turn the unit to standby mode automatically.
When the unit is not operating, the unit will be turned to standby mode once the set time has passed.
- **On "REWIND LIVE TV" is set to "On" (⇒ 72), "Off" cannot be selected.**

**Automatic Standby after OTR**
- **On:**
  This unit is turned to standby mode when it is not operated for approximately 5 minutes after completing "Automatic Stop" or "Recording Time" (⇒ 27).

**Automatic Standby after Copy**
- **On:**
  This unit is turned to standby mode when it is not operated for approximately 5 minutes after completing copy (⇒ 55).

**RF OUT (Aerial Signal)**
Set whether to output the broadcasting signal from RF OUT or not while in standby mode (When "Quick Start" is not activated).
- If "On" is selected, the aerial signal is output from this unit.

**Power Save for Network Standby**
You can minimize power consumption in standby mode even when the "Quick Start" function is activated. (⇒ 94)

• When this is set to "On", startup time when operating [GUIDE] and [DIRECT NAVIGATOR] from standby mode will be longer.
Remote Control
Change the remote control code on the main unit
and the remote control if you place other
Panasonic products close together.
• Use “Set Code1”, the factory set code, under
normal circumstances.

1 Select the code, then press [OK].
2 While pressing [OK], press and hold the
number button ([1] to [6]) for more than
5 seconds.
3 Press and hold [OK] for more than 5 seconds.
4 Press [OK].

Clock
If the time is not set correctly, use the settings
listed in the method below.
• Automatic
This unit usually obtains time and date
information from digital broadcasts.

• Region Selection
Select the region where you live to adjust the
standard time.
• The time contained in the broadcast signal is
UTC (Universal time, coordinated).

• Daylight Saving Time
Select time offset from the standard time for
Summer Time.
• If there is a gap between displayed time and
actual time, set this function.

• Manual Setting
1 Select “Off” of “Automatic”, then press [OK].
2 Select the item you want to change.
3 Change the setting.
4 Press [OK] when you have finished the
settings.
Convenient functions

Changing the unit’s settings

**PIN Entry**
You can set/change the PIN for parental control.

1. Enter your 4-digit PIN with the number buttons.
2. Enter the new 4-digit PIN with the number buttons.
   - Make a note of PIN in case you forget it.
   - e.g.,

<table>
<thead>
<tr>
<th>PIN Entry</th>
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<tbody>
<tr>
<td>Remember the PIN.</td>
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<tr>
<td>[1][2][3][4]</td>
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<tr>
<td>[5][6][7][8]</td>
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</table>

3. Press [OK].

**System Update**

**Software Update in Standby**
When you set this unit to standby mode, software (firmware) updates (⇒ 82) are downloaded automatically at the time you have specified.

**Software Update Now (Broadcast)**
Refer to “Software (Firmware) Update”. (⇒ 82)

**Software Update Now (Internet)**
Refer to “Software (Firmware) Update”. (⇒ 82)

**Software Licence**
Information about the software licence is displayed.

**System Information**
Display software (firmware), HDAVI Control version and Wireless Module version (When using wireless connection only) of this unit.
Convenient functions

Initialize

Shipping Condition
All the settings except for basic settings return to the factory preset.
- The timer recording programmes are also cancelled.
- The device password is also initialized.
(⇒ 77)

Default Settings
All the settings other than the tuning settings, clock settings, disc language settings, rating PIN, remote control code, device password, etc. return to the factory presets.

Language code list

<table>
<thead>
<tr>
<th>Language</th>
<th>Code</th>
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<tbody>
<tr>
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<td>Zulu</td>
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</tbody>
</table>
Software (Firmware) Update

You cannot operate the unit until the update is complete. Don’t remove the AC mains lead during the update. Removing the AC mains lead while the update is in progress may damage the unit.

Software of this unit can be updated automatically by the following methods at the specified time. (Default setting is 3 a.m. ⇒ 80, Software Update in Standby)

- From broadcasts
- From Internet

• To update the software (Firmware) immediately, use the following function:
  - Software Update Now (Broadcast):
    Software of this unit will be updated from broadcasts if update information is detected.
  - Software Update Now (Internet)*:
    Software of this unit will be updated from Internet if update information is detected.

* Network connection and setting are required. (⇒ 17, 20)

If a software (firmware) update is available, a notification is displayed.

New software version has been found. The software will be updated automatically after this unit is switched to standby. Do not disconnect the AC mains lead.

• It is displayed on the channel information (⇒ 24) when the Software (Firmware) can be updated immediately.

  e.g.,

To execute, press the red button while the channel information is displayed, and follow the instructions on the screen.

Update of the software (firmware) will start when the unit is turned to standby mode.

The unit’s display during the update

  e.g.,

  • When “FINISH” is displayed, update of the software (firmware) has completed.

  • It may take up to a few hours until the update is completed depending on the network or broadcast environment.

  • The timer recording always takes preference over the software (Firmware) download; if the timer recording is scheduled to start, the downloading will be performed at the next opportunity.

  • You can also download the latest software (firmware) from the following website.

  http://panasonic.jp/support/global/cs/
Other operations

Entering text

Preparation
- Show the “Enter Title Name” screen, etc.

1. Select a character, then press [OK]. Repeat this step to enter other characters.

   Name field: shows the text you have entered

   • To delete a character: Select the character in the name field, then press [PAUSE].
   • To enter characters with number buttons: e.g., entering the letter “R”
     3. Press [OK].

2. Press [STOP] (Set). “Writing...” appears then the screen returns to the previous screen and so on.

To end partway
Press [RETURN]. (Text is not added.)

Switching the aspect ratio of the screen

When the image does not match the screen size of the TV, you can enlarge the image to fill the screen.

1. Press [OPTION].

2. Select “Aspect”, then press [OK].

3. Select the item, then press [OK].

   Normal:
   Normal output

   Side cut:
   The black bars on the right and left sides of the 16:9 image disappear and the image is enlarged.

   Zoom:
   The black bars on the top and bottom sides of the 4:3 image disappear and the image is enlarged.

HOLD function

The HOLD function deactivates all buttons on the unit and remote control.

Press and hold [OK] and [RETURN] simultaneously until “X HOLD” appears on the unit’s display.

To cancel the HOLD function
Press and hold [OK] and [RETURN] simultaneously until “X HOLD” disappears.
Troubleshooting

Troubleshooting guide

Before requesting service, make the following checks. If the problem still persists, consult your dealer for instructions.

Updating to the latest software (firmware) may solve the problem. (⇒ 82)

The followings do not indicate a problem with this unit:

• Regular disc rotating sounds or HDD rotating sounds.
• Poor reception due to atmospheric conditions.
• Image disturbance during search.
• Image disturbance when replacing 3D discs.
• Interruptions in reception due to periodic broadcasting breaks.
• When you switch the unit on or to standby mode, there may be an unexpected sound.

The unit does not work.

• Check the connections. (⇒ 14)
• One of the unit's safety devices may have been activated.

Reset the unit as follows:

1 Press [I/O] on the main unit to switch the unit to standby.
   • If the unit does not switch to standby, press [I/O] on the main unit for about 3 seconds. The unit is forcibly switched to standby. Alternatively, disconnect the AC mains lead, wait one minute, then reconnect it.
2 Press [I/O] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer.

Cannot eject a disc.

1 While the unit is in standby mode, press and hold [OK], the yellow button and the blue button at the same time for more than 5 seconds.
   • "00 RET" is displayed on the unit's display.
2 Repeatedly press [►] (right) until "06 FTO" is displayed on the unit's display.
3 Press [OK].

The unit is switched to standby mode automatically.

• VIERA Link has worked. (⇒ 63, Power off link)
**The remote control does not work.**
- The remote control and main unit are using different codes. Change the code on the remote control.

**Startup is slow.**
- Startup takes time in the following situations:
  - A disc is inserted.
  - The clock is not set.
  - Immediately after a power failure or the AC mains lead is connected.
  - When a BD-J application is executing.
  - When the “Quick Start” is not activated. (⇒ 78)
- Startup of this unit may be slower depending on the TV settings.

**Displays**
“0:00” is flashing on the unit’s display.
- Set the clock. (⇒ 67, 79)

**The clock does not display on the unit when switched to standby.**
- The clock does not display when “Quick Start” is not activated. (⇒ 78)

**Screen size is wrong.**
- Check the “TV Aspect” or “Aspect for 4:3 Video”. (⇒ 74)
- Adjust the aspect ratio setting on TV.
- If you connect to 4:3 TV, set “HDMI Video Format” to “576p/480p”. (⇒ 67, 75)

**The black screen appears on the TV.**
- This phenomenon may occur, depending on the TV setting, when “Quick Start” is activated. Depending on the TV, this phenomenon may be prevented by reconnecting to a different HDMI input terminal.

**TV reception is not displayed.**
- Broadcast signals are not output from this unit’s RF OUT terminal. Select “On” in “RF OUT (Aerial Signal)”. (⇒ 67, 78)

**Picture does not appear with the HD quality although HD setting was made.**
- The pictures are output with 576p/480p depending on the title.
Troubleshooting guide

The screen changes automatically.
• If “Screen Saver” set to “On”, the screen saver function will be activated when there is no operation for 5 minutes or more. (⇒ 74)

There is a lot of image lag when playing video.
• Set “HD optimizer” in the Picture menu to “Off”. (⇒ 65)
• Set “Audio Delay”. (⇒ 67, 74)

The images do not appear on the TV.
The picture is distorted during play, or video will not play correctly.
• Check the connections. (⇒ 14)
• Check the settings of the connected TV, etc.
• An incorrect resolution is selected in “HDMI Video Format”. Reset the setting as follows:
  1. While the unit is on, press and hold [OK], the yellow button and the blue button at the same time for more than 5 seconds.
     • “00 RET” is displayed on the unit’s display.
  2. Repeatedly press [►] (right) until “04 PRG” is displayed on the unit’s display.
  3. Press and hold [OK] for at least 3 seconds. Set the item again. (⇒ 67, 75)
     • When Dolby Digital Plus, Dolby TrueHD, and DTS-HD audio are not output properly, select “Yes” in “Default Settings” and make proper settings. (⇒ 67, 81)
• The unit’s TV System is different from that of the disc. While stopped, keep pressing [■] (STOP) and [▲ OPEN/CLOSE] on the main unit for 5 or more seconds. The system switches from PAL to NTSC or vice versa.
• Picture may not be seen when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.
• The picture may be distorted or a black screen may appear between scenes recorded with different aspect ratios.
• Set “Deep Colour Output” (⇒ 67, 75) or “Contents Type Flag” (⇒ 67, 75) to “Off”.

3D video is not output correctly.
• 3D video may be output correctly by changing the following settings:
  - “3D Type” of “3D Settings” (⇒ 67, 74)
  - “Signal Format” (⇒ 40, 3D settings during playback)
• Check the settings of the connected TV.
• When a non-3D compatible amplifier/receiver is connected between this unit and a TV, 3D video is not output. (⇒ 15)
• When the amplifier/receiver which is connected between this unit and a TV is off, 3D video is not output. (⇒ 15)
• 3D discs may not be played back correctly due to the settings of the TV.
• When “HDMI Audio Output” is set to “Off”, 3D video may not be output correctly. (⇒ 75)

The same video is displayed in each left and right half of the screen.
• This is a 3D programme of the Side-by-Side type.
  Change the setting as follows if connecting with a 3D compatible TV:
  1. Press [OPTION].
  2. Select “3D Settings”, then press [OK].
  3. Select “Side by side” in “Signal Format”, then press [OK].

Sound

No sound.
Distorted sound.
• Check the connections. (⇒ 14)
• Check the settings of the connected TV, etc.
• Press [AUDIO] to select the audio. (⇒ 25, 39)
• To output audio from a device connected with an HDMI cable, set “HDMI Audio Output” to “On”. (⇒ 67, 75)

Cannot change audio channel.
• You cannot change the audio channel if “Digital Audio Output” is set to “Bitstream” (⇒ 73)
Troubleshooting

Recording, timer recording and copying

**Cannot record.**

**Cannot copy.**

- Some broadcasts are copyright protected.
- You cannot record/copy to the disc.

**Timer recording does not work properly.**

- Failed timer recordings are displayed in grey with [ ] on the Timer Recording screen. (☞ 32) When you programme a timer recording, check the screen icons. If "!" is displayed, this timer programme may not be recorded because:
  - there is not enough space left.
  - the number of possible titles has reached its maximum.
  - programmes are deactivated, etc.

**Auto Renewal Recording does not work properly.**

- The programme will not be overwritten in the following cases:
  - the programme is protected
  - any programme is being played back or copied
  - a screen such as DIRECT NAVIGATOR is displayed
  Instead, the programme will be saved as a separate programme and that will be overwritten.

**A part or whole of a recorded title has been lost.**

- If there is a power failure or the AC mains lead is disconnected from the household mains socket while recording or editing, the title may be lost or the HDD may become unusable. We cannot offer any guarantee regarding lost programmes.

Play

**Cannot play back.**

- The disc is dirty. (☞ 10)
- The disc is scratched or marked.
- **BD-R | BD-RE**
  - Set "Play Video ( AVCHD ) on BD-RE / BD-R" to "On" and the playback may be possible (☞ 67, 71).
  - The disc may not be able to play back if it was not finalized or a Top Menu was not created on the equipment used for recording.

**Audio and video momentarily pause.**

- DVD-R DL and +R DL discs have two writable layers on one side. Video and audio may momentarily cut out when the unit is switching layers.

**BD-Video or DVD-Video is not played.**

- Ensure the disc is for the correct BD-Video region code or DVD-Video region number, and is not defective.

**You have forgotten your rating PIN.**

- The rating level returns to the factory preset.
  1. While the unit is on, press and hold [OK], the yellow button and the blue button at the same time for more than 5 seconds.
  - "00 RET" is displayed on the unit’s display.
  2. Repeatedly press [►] (right) until "03 VL" is displayed on the unit’s display.
  3. Press [OK].
  - "INIT" is displayed on the unit’s display.

**Image for the Quick View is not smooth.**

- Image may not be played back smoothly in case of High definition titles.
Troubleshooting guide

**Edit**

**Cannot edit.**
- You may not be able to edit on the HDD if there is no available space. Delete any unwanted titles to create empty space. (⇒ 41)

**Photo**

**The contents of the SD card cannot be read.**
- Remove the card from the slot and then insert again. If this does not solve the problem, switch the unit to standby mode and turn it on again.

**Copying, deleting and setting protection takes a long time.**
- When there are a lot of folders and files, it may sometimes take a long time.

**Photos do not play back normally.**
- The images that were edited on the PC, such as Progressive JPEG, etc., may not play back. (⇒ 96)

**USB**

**This unit does not recognize the USB device correctly.**
- If USB device is connected to this unit while using a video communication the USB device will not be recognized. Press [EXIT] and reconnect USB device.
- If inserted during playback the USB device may not be recognized by this unit. Disconnect and reconnect the USB device. If it still does not recognize the connection, switch the unit to standby mode and turn it on again.
- USB devices connected using a USB extension cable other than a dedicated one or a USB hub may not be recognized by this unit.
- This unit does not recognize USB HDDs other than those in which the size of one sector is 512-bytes. (For details, consult the dealer of your USB HDD.)
**Troubleshooting**

### TV Guide

The TV Guide information is not displayed properly.
- Set the clock correctly. (⇒ 67, 79, Clock)
- Some broadcast may not send programme information.
- There was a programme change, or TV Guide information from a broadcast station was possibly not correctly transmitted.
- If signal quality is bad, the TV Guide system may not be able to receive any data.

### Broadcast

Picture regularly breaks up on some channels.
- Adjust the reception with “Manual Tuning”. (⇒ 67, 70)

Picture very infrequently breaks up on some or all channels.
- Electrical atmospheric interference caused by bad weather may cause pictures to break up and audio to mute or distort momentarily.

### VIERA Link

VIERA Link does not work.
- Some functions may not work depending on the version of “HDAVI Control” of the connected TV, etc. This unit supports “HDAVI Control 5” functions.
- Check the settings of the connected TV, etc.
- If the connection for the equipment connected with HDMI was changed, or if there was a power failure or the plug was removed from the household mains socket, “HDAVI Control” may not work.
  In this case, change TV (VIERA) setting for “HDAVI Control” again.
- This unit does not support “ONE TOUCH PLAY” function of the Panasonic AV Control Receiver.

### Network

You cannot access this unit from DLNA compatible equipment on the network.
- Check the network connection and the network settings. (⇒ 17, 20)
- It may not be possible to connect depending on the types of the equipment or the status of the equipment.
Troubleshooting

Troubleshooting guide

You cannot play contents properly from DLNA compatible equipment on the network.

- There may be some video that cannot be played back on DLNA compatible equipment depending on the equipment.
- Following titles cannot be played back:
  - A title with access restriction
  - A title with audio only format
  - A title with incompatible format
- Playback via DLNA compatible equipment may not be performed when this unit is in the following conditions:
  - While playing back a BD-Video
  - While simultaneously copying and recording
  - While displaying the Setup menu
  - While executing functions using a network, such as "VIERA Connect"
- You cannot play back simultaneously from two or more items of DLNA compatible equipment.

Messages on the unit's display

The following messages or service numbers appear on the unit's display when something unusual is detected.

**SET □**

("□" stands for a number.)

The remote control and main unit are using different codes. Change the code on the remote control. (⇒ 85)

**GUIDE**

TV Guide data is being downloaded.

**HARD ERR**

If there is no change after switching the unit to standby mode and turning it on, consult the dealer.

**NoREAD**

- The disc is dirty. (⇒ 10) The unit cannot play.
- The lens cleaner has finished cleaning.
  Press [OPEN/CLOSE] on the main unit to eject the disc.

When using Wireless LAN connection, video from the DLNA Certified media server is not played back or video frames are dropped during playback.

- Use 802.11n (2.4 GHz) Wireless router.
  Simultaneous use with a microwave, cordless telephone etc. at 2.4 GHz may result in connection interruptions or other problems.
- On the “Wireless Settings” screen (⇒ 76), the continuous lighting of at least four "Reception" indicators is the target for a stable connection. If three or fewer indicators are lit or the connection is being interrupted, change the position or angle of your Wireless router. If there is no improvement, connect to a wired network and perform the "Easy Network Setting" (⇒ 20) again.

Reset

To return all the settings to the factory preset

Perform “Shipping Condition” or “Default Settings”. (⇒ 67, 81)
PEOPLE WAIT
• Display when the unit is started and is
  switched to standby mode.
• There was a power failure or the AC plug was
disconnected while the unit was on. The unit is
carrying out its recovery process. Wait until the
message disappears.

PROG FULL
There are already 32 timer programmes. Delete
unnecessary timer programmes. (⇒ 32)

REMOVE
The USB device is drawing too much power.
Remove the USB device.

START
Update of the software (firmware) is started.
You cannot operate the unit until the update is
complete. (⇒ 82)

SW-DL
Software (firmware) is downloading.
Download will stop when the unit is turned on, or
the timer recording starts. (⇒ 82)

UNSUPPORT
The media is not supported.

UPD  
("  stands for a number.)
The software (firmware) is being updated.
You cannot operate the unit until the update is
complete. (⇒ 82)

U59
The unit is hot.
The unit switches to standby for safety reasons.
Wait for about 30 minutes until the message
disappears.
Do not block the cooling fan on the rear of the
unit.

U61
(When a disc is not inserted) A malfunction has
occurred. The unit is trying to restore to the
normal operation. Once the message disappears
you can use the unit again.
If it remains displayed, consult the dealer.

U76
HDMI cannot be output because it is connected to
a model that does not support copyright
protection.

U77
Due to the current disc not having authorised
copyright information, video output is not
performed.
**Troubleshooting**

**Troubleshooting guide**

**U88**

(When a disc is inserted) There was something unusual detected with the disc or the unit. The unit is trying to restore to the normal operation. Once the message disappears you can use the unit again.

If it remains displayed, consult the dealer.

**U99**

The unit fails to operate properly. Press [Ô/i] on the main unit to switch the unit to standby mode. Now press [Ô/i] on the main unit again to turn the unit on.

**X HOLD**

The HOLD function is activated. (⇒ 83)

**H□□ or F□□**

("□" stands for a number.)

There is something unusual. (The service number displayed after H and F depends on the unit's condition.)

Reset the unit as follows:

1. Disconnect the plug from the household mains socket, wait a few seconds, then reconnect it.
2. Press [Ô/i] to turn the power on. (The unit may be fixed.)

Request service from the dealer. Inform the dealer of the service number when requesting service.

---

**When you experience problems with Easy Network Setting**

If there is any problem, the following message is displayed on the screen.

**Wireless Settings**

<table>
<thead>
<tr>
<th>Display</th>
<th>Check the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>A conflict with other devices occurred.</td>
<td>• Please wait a few moments, and then try again.</td>
</tr>
<tr>
<td>A time out error occurred.</td>
<td>• Setting of the Wireless router for MAC Address etc.</td>
</tr>
<tr>
<td>An authentication error or a time out error occurred.</td>
<td>• The signal may be weak.</td>
</tr>
<tr>
<td>A device error occurred.</td>
<td>• The SSID and the encryption key of the Wireless router.</td>
</tr>
<tr>
<td></td>
<td>• Please wait a few moments, and then try again.</td>
</tr>
<tr>
<td></td>
<td>• If the problem is not solved, consult your dealer.</td>
</tr>
</tbody>
</table>
# Troubleshooting

## Easy Network Setting (Home Network Connection Check)

<table>
<thead>
<tr>
<th>Display</th>
<th>Check the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LAN cable connection or Wireless setting:</td>
<td>&quot;Fail&quot;</td>
</tr>
<tr>
<td>2. IP address setting:</td>
<td>&quot;Fail&quot;</td>
</tr>
<tr>
<td>3. Connection to gateway:</td>
<td>&quot;Fail&quot;</td>
</tr>
</tbody>
</table>

- Connection of the LAN cables (⇒ 17)
- Settings of the hub and router

## Easy Network Setting (Internet Connection Test)

<table>
<thead>
<tr>
<th>Display</th>
<th>Check the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot find the server. (B019)</td>
<td>• &quot;Primary DNS&quot; and &quot;Secondary DNS&quot; settings of &quot;IP Address / DNS Settings&quot; (⇒ 67, 76)</td>
</tr>
<tr>
<td>No connection could be made to the server. (B020)</td>
<td>• The server may be busy or the service may have been suspended. Please wait a few moments, and then try again. • Settings of &quot;Proxy Server Settings&quot; (⇒ 67, 76) and the router.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Display</th>
<th>Check the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LAN cable connection or Wireless setting:</td>
<td>&quot;Pass&quot;</td>
</tr>
<tr>
<td>2. IP address setting:</td>
<td>&quot;Pass&quot;</td>
</tr>
<tr>
<td>3. Connection to gateway:</td>
<td>&quot;Pass&quot;</td>
</tr>
</tbody>
</table>

- Connection and settings of the hub and router
- Settings of "IP Address / DNS Settings" (⇒ 67, 76)

<table>
<thead>
<tr>
<th>Display</th>
<th>Check the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LAN cable connection or Wireless setting:</td>
<td>&quot;Pass&quot;</td>
</tr>
<tr>
<td>2. IP address setting:</td>
<td>&quot;Pass&quot;</td>
</tr>
<tr>
<td>3. Connection to gateway:</td>
<td>&quot;Fail&quot;</td>
</tr>
</tbody>
</table>

- "Home network available"
Specifications

Specifications are subject to change without notice.

■ General

Dimensions:
- 430 mm (W)
- 59 mm (H)

(excluding the projecting parts)
- 238 mm (D)

(including the projecting parts)
- 249 mm (D)

Mass:
- PWT635: Approx. 3.0 kg
- PWT530: Approx. 2.9 kg

Power supply: AC 220 V to 240 V, 50 Hz

Power consumption:
- PWT635: Approx. 29 W
- PWT530: Approx. 27 W

Power consumption in standby mode:
- "Quick Start" is activated and "Power Save for Network Standby" is set to "Off". Approx. 5 W
- "Quick Start" is activated and "Power Save for Network Standby" is set to "On". Approx. 4 W
- "Quick Start" is not activated and "RF OUT (Aerial Signal)" is set to "Off". Approx. 0.2 W

Operating temperature: 5 °C to 40 °C
Operating humidity range: 10 % to 80 % RH (no condensation)

■ TV system

Tuner System: DVB-T
Country: Australia
Channel Coverage: VHF 6~12

UHF 27~69

■ Recording system

Video: MPEG-2,
MPEG-4 AVC/H.264

Audio:
- Dolby Digital
  (DR mode: Max 5.1ch (DVB-T))
- HE-AAC
  (DR mode: 2ch (DVB-T))
- MPEG
  (DR mode: 2ch)

■ Audio

Analog audio L/R out (pin jack): 1 pc.
Output level:
- Full scale 2.0 Vrms at 1 kHz (< 1 kΩ)
- Digital audio out (optical): 1 pc.
  PCM, Dolby Digital, DTS, MPEG

■ HDMI terminal

HDMI output (19 pin type A): 1 pc.
- PCM, Dolby Digital, DTS, MPEG
- Dolby Digital Plus, Dolby TrueHD,
  DTS-HD Master Audio,
  DTS-HD High Resolution Audio

- This unit supports "HDAVI Control 5" function.

■ Internal HDD capacity

- PWT635: 1 TB
- PWT530: 500 GB

■ Other terminals

USB Port (Type A): 2 pcs.
SD Card Slot: 1 pc.
LAN (Ethernet) Port: 1 pc.
- 10BASE-T/100BASE-TX

■ Wireless LAN

Standard compliance: IEEE802.11b/g/n
Frequency range: 2.4 GHz band

Security*: WPA™/WPA2™

(Encryption type: TKIP/AES,
Authentication type: PSK)

WEP

(64 bit/128 bit)

* This unit supports WPA and WPA2 encryption.
● LASER specification
Class 1 LASER Product
Wave length:

405 nm (BDs)
660 nm (DVDs)
790 nm (CDs)

Laser power:
No hazardous radiation is emitted with the safety protection

● Region code
DVD: #4
BD: Region B

● Playable discs
BD-Video (Blu-ray 3D, BD-Live)
BD-ROM Version 2.4
DVD-Video: DVD-Video format
CD-DA (Audio CD)
BD-RE: Ver. 2.1, JPEG®¹, MPO®¹
BD-RE DL: Ver. 2.1, JPEG®¹, MPO®¹
BD-R: Ver. 1.3, LTH type Ver. 1.3, Xvid®¹, MKV®¹
BD-R DL: Ver. 1.3, Xvid®¹, MKV®¹
DVD-R: DVD-Video format®, AVCHD format®, JPEG®², MPO®²,
MP3®², Xvid®², MKV®²
DVD-R DL: DVD-Video format®, AVCHD format®, JPEG®², MPO®²,
MP3®², Xvid®², MKV®²
DVD-RW: DVD-Video format®, DVD Video Recording format,
AVCHD format®³
+R: Video®³, AVCHD format®³
+R DL: Video®³, AVCHD format®³
+RW: Video®³, AVCHD format®³
CD-R/CD-RW: CD-DA, JPEG®², MPO®²,
MP3®², Xvid®², MKV®²

SD Card
Compatible media: SD Memory Card®
Format: SD Card: only FAT12, FAT16
SDHC Card: only FAT32
SDXC Card: only exFAT
Data that can be played: JPEG, MPO,
AVCHD format, MPEG-2, MP4

§ Includes SDHC/SDXC cards.
Includes mini type cards (need a miniSD™
adaptor).
Includes micro type cards (need a microSD™
adaptor).

● USB device
USB standard: USB2.0 High Speed
Format: FAT12, FAT16, FAT32, NTFS
Data that can be played: MP3, JPEG, MPO,
Xvid, MKV, MP4, MPEG-2

Audio information
The audio output differs depending on which terminals are connected to the amplifier/receiver,
and the setting on this unit. (⇒ 73, Digital Audio Output)

• The number of channels listed is the maximum possible number of output channels when
connected to amplifier/receiver compatible with the respective audio format.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Digital Audio Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDMI AV OUT</td>
<td>Bitstream</td>
</tr>
<tr>
<td>Output using original audio</td>
<td>BD-Video: 7.1ch PCM</td>
</tr>
<tr>
<td>DIGITAL AUDIO OUT</td>
<td>Dolby Digital/ DTS Digital Surround</td>
</tr>
<tr>
<td>BD-Video: 5.1ch PCM</td>
<td>5.1ch PCM</td>
</tr>
</tbody>
</table>

*¹ When “BD-Video Secondary Audio” is set to “On”, the audio will be output as Dolby Digital,
DTS Digital Surround or 5.1ch PCM.

*² The audio output is amplified from 5.1ch or 6.1ch to 7.1ch depending on the DTS, Inc.
specifications.

Reference

No hazardous radiation is emitted with the safety protection

§ BD disc needs to be based on UDF format.
§² DVD/CD discs need to be based on UDF or ISO9660 format.
§³ Finalising is necessary.
Specifications

About recorded titles

- Recording quality and approximate recording times
  Depending on the content being recorded, the recording time may become shorter than indicated.
  
<table>
<thead>
<tr>
<th></th>
<th>HD quality</th>
<th>SD quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>140 hours</td>
<td>264 hours</td>
</tr>
</tbody>
</table>

- Recording time may vary depending on the bit rate of broadcasting:
  - High Definition (HD) quality: estimated bit rate is 15 Mbps
  - Standard Definition (SD) quality: estimated bit rate is 8 Mbps

- Regarding recording time remaining:
  Remaining time is calculated with a bit rate of 15 Mbps. But the bit rate differs depending on the broadcast, so the displayed remaining time might be different from the actual remaining time.

<table>
<thead>
<tr>
<th></th>
<th>HD quality</th>
<th>SD quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>69 hours</td>
<td>131 hours</td>
</tr>
</tbody>
</table>

Maximum number of titles that can be recorded

999 titles
(When continuously recording for long durations, titles are automatically divided every 8 hours.)

Information for the files other than recorded programmes

- JPEG/MPO
  
  Compatible pixels:
  Between 34×34 and 8192×8192 pixels
  (Sub sampling is 4:2:2 or 4:2:0)
  
  Files:
  JPEG conforming DCF
  (Design rule for Camera File system)
  MPO conforming MPF
  (Multi Picture Format)

Maximum numbers of folders and files:

<table>
<thead>
<tr>
<th>Media</th>
<th>Maximum folders</th>
<th>Maximum files</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD</td>
<td>20000</td>
<td></td>
</tr>
<tr>
<td>BD-RE</td>
<td>500</td>
<td>10000</td>
</tr>
<tr>
<td>DVD-R</td>
<td>500</td>
<td>10000</td>
</tr>
<tr>
<td>CD-R, CD-RW</td>
<td>500</td>
<td>10000</td>
</tr>
<tr>
<td>SD Card</td>
<td>500</td>
<td>10000</td>
</tr>
<tr>
<td>USB device</td>
<td>500</td>
<td>10000</td>
</tr>
</tbody>
</table>

* This unit is not compatible with MOTION JPEG or Progressive JPEG.
■ MP3
  Compression rate: 32 kbps to 320 kbps
  Sampling rate: 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz
  Maximum numbers of folders and files:

<table>
<thead>
<tr>
<th>Media</th>
<th>Maximum folders</th>
<th>Maximum files</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD</td>
<td>–</td>
<td>40000</td>
</tr>
<tr>
<td>DVD-R</td>
<td>300</td>
<td>3000</td>
</tr>
<tr>
<td>CD-R, CD-RW</td>
<td>300</td>
<td>3000</td>
</tr>
<tr>
<td>USB device</td>
<td>300</td>
<td>3000</td>
</tr>
</tbody>
</table>

■ MP4
  Playable media: SD Card, USB device
  MPEG-4 AVC/H.264:
  Up to High Profile, Level 4.2
  Video resolution: Up to 1920×1080
  MPEG-4 AAC-LC
  Sampling rate: 8 kHz to 48 kHz
  Number of audio channel: 1 or 2

■ MKV
  MPEG-4 AVC (H.264) profile is up to High Profile, Level 4.
  AAC-LC, MP3, Dolby Digital audio, DTS, PCM, Vorbis and FLAC can be decoded.
  Maximum number of folders: 300 folders (including the root folder)
  Maximum number of files: 200 files

■ SD-Video (Standard Definition)
 Playable media: SD Card, USB device
  Codec: MPEG-2
  File Format: SD-Video format* used on Standard Definition Camera (Panasonic and some other’s)
  = SD-Video Entertainment Video Profile

■ HD-Video (High Definition)
  Playable media: SD Card, USB device
  Codec: MPEG-4 AVC/H.264
  File Format: AVCHD format conforming
Reference

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Java is a registered trademark of Oracle and/or its affiliates.

Windows is a trademark or a registered trademark of Microsoft Corporation in the United States and other countries.
This product incorporates the following software or technology:
(1) the software developed independently by or for Panasonic Corporation,
(2) the software owned by third party and licensed to Panasonic Corporation,
(3) the software developed by the Independent JPEG Group,
(4) the software developed by the Freetype Project,
(5) the software licensed under the GNU LESSER General Public License (LGPL) and/or,
(6) open sourced software other than the software licensed under the LGPL,
(7) Windows Media digital right management technology (WM-DRM) licensed by Microsoft Corporation or its affiliates.

For the software categorized as (5), please refer to the terms and conditions of LGPL, as the case may be at http://www.gnu.org/licenses/old-licenses/lgpl-2.1.html
In addition, the software categorized as (5) are copyrighted by several individuals. Please refer to the copyright notice of those individuals at http://panasonic.net/avc/oss/diga/FCRCP13A.html

The LGPL software is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

At least three (3) years from delivery of products, Panasonic will give to any third party who contacts us at the contact information provided below, for a charge no more than our cost of physically performing source code distribution, a complete machine-readable copy of the corresponding source code covered under LGPL.

Contact Information
oss-cd-request@gg.jp.panasonic.com

Source code covered under LGPL is also freely available to you and any other member of the public via our website below. http://panasonic.net/avc/oss/diga/FCRCP13A.html

For the software categorized as (5) and (6), please refer to the applicable license terms included in the “Software Licence” menu on product.

Further, for WM-DRM categorized as (7), please be aware of the following.
(a) This product is protected by certain intellectual property rights of Microsoft Corporation and third parties. Use or distribution of such technology outside of this product is prohibited without a license from Microsoft or an authorized Microsoft subsidiary and third parties.
(b) Content providers are using the digital rights management technology for Windows Media contained in this device ("WM-DRM") to protect the integrity of their content ("Secure Content") so that their intellectual property, including copyright, in such content is not misappropriated. This device uses WM-DRM software to play Secure Content ("WM-DRM Software"). If the security of the WM-DRM Software in this device has been compromised, owners of Secure Content ("Secure Content Owners") may request that Microsoft revoke the WM-DRM Software’s right to acquire new licenses to copy, display and/or play Secure Content.
Revocation does not alter the WM-DRM Software’s ability to play unprotected content. A list of revoked WM-DRM Software is sent to your device whenever you download a license for Secure Content from the Internet or from a PC. Microsoft may, in conjunction with such license, also download revocation lists onto your device on behalf of Secure Content Owners.

Vorbis, FLAC, WPA Supplicant
The software licenses are displayed when “Software Licence” in the Setup menu is selected. (⇒ 80)
Limited Warranty

Panasonic Warranty

1. The product is warranted for 12 months from the date of purchase. Subject to the conditions of this warranty Panasonic or its Authorised Service Centre will perform necessary service on the product without charge for parts or labour, if in the opinion of Panasonic, the product is found to be faulty within the warranty period.

2. This warranty only applies to Panasonic products purchased in Australia and sold by Panasonic Australia or its Authorised Distributors or Dealers and only where the products are used and serviced within Australia or it's territories. Warranty cover only applies to service carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when warranty service is requested.

3. This warranty only applies if the product has been installed and used in accordance with the manufacturer’s recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, maladjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations); introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.

4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:
   (a) Cabinet Part(s)
   (b) Video or Audio Tapes
   (c) SD cards or USB devices
   (d) User replaceable Batteries
   (e) DVD, Blu-ray or Recordable Discs
   (f) Video / Audio Heads from wear and tear in normal use
   (g) Information stored on Hard Disk Drive, USB stick or SD card
   (h) DTV reception issues caused by TV Aerial / Cabling / Wall socket(s)
   etc

5. Some products may be supplied with Ethernet connection hardware. The warranty is limited on such products and will not cover
   (a) Internet and or DNLA connection / setup related problems
   (b) Access fees and or charges incurred for internet connection
   (c) The use of incompatible software or software not specifically stipulated in the product operations manual;
   and
   (d) Any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its connection to the internet or any other device.

6. To claim warranty service, when required, you should:
   • Telephone Panasonic's Customer Care Centre on 132600 or visit our website referred to below and use the Service Centre Locator for the name/address of the nearest Authorised Service Centre.
   • Send or take the product to a Panasonic Authorised Service Centre together with your proof of purchase receipt as a proof of purchase date. Please note that freight and insurance to and / or from your nearest Authorised Service Centre must be arranged by you.
   • Note that home or pick-up/delivery service is available for the following products in the major metropolitan areas of Australia or the normal operating areas of the nearest Authorised Service Centres:
     - Plasma/LCD televisions / displays (screen size greater than 103 cm)
   • Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600 or visit our website and use the Service Centre Locator.

7. If you require assistance regarding warranty conditions or any other enquiries, please visit the Panasonic Australia website www.panasonic.com.au or contact by phone on 132 600
   If phoning in, please ensure you have your operating instructions available.

THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE) SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES

If you require assistance regarding warranty conditions or any other enquiries, please visit the Panasonic Australia website www.panasonic.com.au or contact by phone on 132 600
If phoning in, please ensure you have your operating instructions available.

Panasonic Australia Pty. Limited
ACN 001 592 187   ABN 83 001 592 187
1 Innovation Road, Macquarie Park NSW 2113
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**Information on Disposal in other Countries outside the European Union**

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

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**Personal information handling**

To provide functions and services of this unit, a device ID, device password and usage history information are stored and managed securely in an appropriate security environment of Panasonic. Please note that usage history and other information may be collected for purposes such as improving products and services in such a way that individuals cannot be identified.

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