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

- This DVD Recorder is for viewing and recording free to view channels only. It does not receive pay TV or encrypted channels.

**Software (Firmware) Update**

Broadcast services continue to add new features. As they evolve, firmware updates may be required to support the latest features. Panasonic strives to continually update firmware as new technology is released. It’s very important you install the latest updates to maintain proper operation of your unit.

For details, refer to “Software (Firmware) Update” (☞ 81) or http://panasonic.jp/support/global/cs/ (This site is in English only.)
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.

**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.

**Small object**
- Keep the Memory Card out of reach of children to prevent swallowing.
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 of 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 2014. These may be subject to change.)

Remote control (N2QAYB000980): 1 pc.
Batteries for remote control: 2 pcs.
AC mains lead: 1 pc.
RF coaxial cable: 1 pc.
Audio/Video 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).
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About descriptions in these operating instructions

- Pages to be referred to are indicated as “⇒”.

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## HDD and media information

For more details, refer also to the specifications. (⇒ 94)

### Recordable/playable contents

<table>
<thead>
<tr>
<th>Media type</th>
<th>Standard symbol</th>
<th>Recordable contents</th>
<th>Playable contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-in hard disk drive (HDD)*1</td>
<td>HDD</td>
<td>• Video</td>
<td>• AVCHD/AVCHD 3D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• JPEG</td>
<td>• MPEG2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MPO (3D photo)</td>
<td>• Xvid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MP3</td>
<td>• MKV</td>
</tr>
<tr>
<td>External hard disk drive (USB HDD)*1 (⇒ 9)</td>
<td>USB HDD</td>
<td>• Video*2</td>
<td>• AVCHD/AVCHD 3D*3, 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• MP4</td>
</tr>
<tr>
<td>DVD-Video*5</td>
<td>DVD-V</td>
<td>• Video</td>
<td>• Xvid</td>
</tr>
<tr>
<td>DVD-RAM*1</td>
<td>RAM</td>
<td>• Video</td>
<td>• JPEG</td>
</tr>
<tr>
<td>DVD-R DVD-R DL</td>
<td>DVD-R</td>
<td>• Video</td>
<td>• AVCHD*3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Xvid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• MKV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• JPEG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• MPO (3D photo)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• MP3</td>
</tr>
</tbody>
</table>
- Impossible

§1 Rewritable media

- It cannot be recorded directly. (Only compatible with copying from the built-in HDD)
- Recorded with AVCHD format compatible devices (Panasonic video camera, etc.). It may not be able to play back, add, or edit depending on the device.
- It cannot be played back directly from the USB HDD or USB memory. Playback is possible by copying to the built-in HDD. (→ 64)

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

### Media type

<table>
<thead>
<tr>
<th>Media type</th>
<th>Standard symbol</th>
<th>Recordable contents</th>
<th>Playable contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD-RW</td>
<td>DVD-RW</td>
<td>Video</td>
<td>AVCHD&lt;sup&gt;2,3&lt;/sup&gt;</td>
</tr>
<tr>
<td>+R/+R DL</td>
<td>+R</td>
<td>Video</td>
<td>AVCHD&lt;sup&gt;2,3&lt;/sup&gt;</td>
</tr>
<tr>
<td>+RW</td>
<td>+RW</td>
<td>Video</td>
<td>AVCHD&lt;sup&gt;2,3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Audio CD (CD-DA)</td>
<td>CD</td>
<td>Music</td>
<td></td>
</tr>
<tr>
<td>SD Cards</td>
<td>SD</td>
<td>JPEG, MPO (3D photo)</td>
<td>AVCHD/AVCHD 3D&lt;sup&gt;3,4&lt;/sup&gt;, MP4, JPEG, MPO (3D photo)</td>
</tr>
<tr>
<td>USB memory</td>
<td>USB</td>
<td></td>
<td>MP4, JPEG, MP3, MPO (3D photo)</td>
</tr>
</tbody>
</table>

† Rewritable media

†<sup>2</sup> It cannot be recorded directly. (Only compatible with copying from the built-in HDD)

†<sup>3</sup> Recorded with AVCHD format compatible devices (Panasonic video camera, etc.). It may not be able to play back, add, or edit depending on the device.

†<sup>4</sup> It cannot be played back directly from the USB HDD or USB memory. Playback is possible by copying to the built-in HDD. (→ 64)

†<sup>5</sup> Includes finalised DVD-R, DVD-R DL, DVD-RW, +R and +R DL.

†<sup>1</sup> This unit cannot record to 8X Speed +RW disc.

• 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.

---

Playable contents as DLNA client

Refer to “Playable contents”. (→ 60)
**Getting started**

**HDD and media information**

### About extension of files

<table>
<thead>
<tr>
<th>Format</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP4</td>
<td>&quot;.MP4&quot; &quot;,mp4&quot;</td>
</tr>
<tr>
<td>MPEG2</td>
<td>&quot;.MPEG&quot; &quot;,mpeg&quot;</td>
</tr>
<tr>
<td>Xvid</td>
<td>&quot;.AVI&quot; &quot;,avi&quot;</td>
</tr>
<tr>
<td>MKV</td>
<td>&quot;.MKV&quot; &quot;,mkv&quot;</td>
</tr>
<tr>
<td>JPEG</td>
<td>&quot;.JPG&quot; &quot;,jpg&quot;</td>
</tr>
<tr>
<td>MPO</td>
<td>&quot;.MPO&quot; &quot;,mpo&quot;</td>
</tr>
<tr>
<td>MP3</td>
<td>&quot;.MP3&quot; &quot;,mp3&quot;</td>
</tr>
<tr>
<td>Subtitle text files:</td>
<td>&quot;.SRT&quot; &quot;,srt&quot; &quot;,SUB&quot; &quot;,sub&quot; &quot;,TXT&quot; &quot;,txt&quot;</td>
</tr>
<tr>
<td>MKV</td>
<td>&quot;.MTS&quot; &quot;,mts&quot;</td>
</tr>
<tr>
<td>MPEG2</td>
<td>&quot;.TS&quot; &quot;,ts&quot;</td>
</tr>
<tr>
<td>Xvid</td>
<td>&quot;.AVI&quot; &quot;,avi&quot;</td>
</tr>
<tr>
<td>Subtitle text files:</td>
<td>&quot;.SRT&quot; &quot;,srt&quot; &quot;,SSA&quot; &quot;,ssa&quot; &quot;,ASS&quot; &quot;,ass&quot;</td>
</tr>
<tr>
<td>MKV</td>
<td>&quot;.MTS&quot; &quot;,mts&quot;</td>
</tr>
<tr>
<td>MPEG2</td>
<td>&quot;.TS&quot; &quot;,ts&quot;</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.

### Recording mode

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Feature</strong></td>
<td>Programmes can be recorded in a nearly perfect broadcasted state.</td>
<td>Recording can be done with reduced recording volume in HD quality.</td>
<td>Recording can be done with reduced recording volume in SD quality.</td>
</tr>
<tr>
<td><strong>Quality</strong></td>
<td>Quality as the broadcast</td>
<td>High definition(^\text{a1})</td>
<td>Standard definition</td>
</tr>
<tr>
<td><strong>Recordable media</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multiple audio</strong></td>
<td>Record all multiple audio</td>
<td>Record only one audio</td>
<td></td>
</tr>
<tr>
<td><strong>Subtitles</strong></td>
<td>Can be recorded</td>
<td>Can be recorded (only one subtitle)(^\text{a2})</td>
<td></td>
</tr>
<tr>
<td><strong>Surround audio</strong></td>
<td>Surround audio as the broadcast</td>
<td>Surround audio produced by conversion of broadcast audio format</td>
<td>Stereo audio</td>
</tr>
</tbody>
</table>

\(^\text{a1}\) The SD quality programme cannot be converted to HD quality.
\(^\text{a2}\) You cannot select during play whether it appears or disappears.

### Approximate recording times

Refer to "Recording modes and approximate recording times". (⇒ 97)

- **FR (Flexible Recording Mode)**
  The unit automatically selects the best possible recording rate between XP mode and EP mode.
Getting started

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. (☞ 65)

• **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 or 4096-bytes. (For details, consult the dealer of your USB HDD.)
• This unit does not guarantee connection with all USB devices.

Notes for the disc

• **Region management information**
  The unit can play back DVD-Video discs of the following regions codes, including "ALL":
  e.g., DVD-Video

• **Disc recorded on another device**
  • 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.
  • **DVD-RW** Recorded in DVD Video Recording (DVD-VR) format
    - This unit can play back and copy to HDD.
    - This unit does not support editing or recording.
    - It is possible to record and edit with DVD-Video (DVD-V) format by formatting discs with this unit.
    • Recording may not be possible to discs which were used for recording on other equipment.

• **Play on other players**
  • **[DVD-R] [DVD-RW] [+R]** Finalisation is needed. (☞ 83)
  • **[+RW]** If the disc failed to play on other equipment, we recommend you create a Top Menu (☞ 84).
  • **DVD-R** The disc created in AVCHD format can only be played back on AVCHD compatible equipment.

• **Regarding 8 cm Disc**
  This unit cannot record or edit the 8 cm disc. Only playback or copy to the HDD is possible.

• **Discs that cannot be played**
  - Blu-ray Disc (BD-Video, BD-RE, BD-R)
  - DVD-RAM that cannot be removed from their cartridges
  - 2.6 and 5.2 GB DVD-RAM, 12 cm
  - DVD-Audio
  - HD DVD
  - Super Video CD, Super Audio CD, Video CD
  - CD-ROM, Photo CD, PD, etc.

• 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 Disc/Format Card”. (⇒ 83)

  - 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.

  DO DO NOT

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

  DO DO NOT

• 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.

  DO NOT

• 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.

- The HDD is a temporary storage device
  - The HDD is not an everlasting storage device. It is recommended to save the recorded content on a disc or to keep the original data or CDs that they were copied from.
  - If you notice a problem with the HDD such as repetitive strange sounds, immediately save (backup) all content and request service. If you continue using the HDD with a problem, the unit or the recorded content will be damaged.

- 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.
- 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 (∈ 70, 74)
- Perform “Shipping Condition” (∈ 70, 80)
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, DVD, SD or USB)
4. Select channels and title numbers, etc./Enter numbers or characters
5. Switch to the previously watched channel (→ 21)
6. Basic operations for recording and play, REWIND LIVE TV/PAUSE LIVE TV (→ 23)
7. Show Information (→ 22, 32, 35)
8. Selection/OK, Frame-by-frame (→ 35)
9. Show DIRECT NAVIGATOR, Top Menu (→ 31, 36)
10. Show OPTION menu (→ 38, 52, 57)
11. Colour buttons (Use in accordance with instruction on the screen.)
12. Start recording (→ 25, 63)
13. Select a conversion mode/recording mode (→ 25, 63)
14. Show the Timer Recording screen (→ 28)
15. Create chapter (→ 36)
16. Input select (→ 21, 63)
17. To delete unwanted recorded titles, timer programmes, photos or music (→ 38)
18. TV operation buttons (→ 18)
19. Channel select (→ 21)/Change pages in the DIRECT NAVIGATOR screen etc.
20. Show the Network Service screen (→ 62)
21. Switching to the radio channel list (→ 21)
22. Exit the menu screen
23. Show the TV Guide screen (→ 22)
24. Show the FUNCTION MENU screen (→ 20)
25. Return to previous screen
26. Show subtitles (→ 23, 36)
27. Show Teletext (→ 23)
28. Select audio (→ 23, 36)
29. Skip the specified time (→ 36)
30. Skip approx. 1 minute forward (→ 36)
31. Skip approx. 10 seconds backward (→ 36)

Insert batteries

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

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.

Main unit

Standby/on switch (\(/

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.

Open/close disc tray

Disc tray

USB port

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

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

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

Channel select (\rightarrow 21)
Start recording (\rightarrow 25)
Stop
Start play

Recording indicator

SD card slot indicator
Copying indicator
Disc indicator
Drive (HDD, DVD or SD) indicator
Remote control signal indicator
Main display section indicator
- Current time
- Playback counter
- Various messages (\rightarrow 93)
Playback indicator
USB port indicator
Timer recording indicator
- This indicator lights up when the timer recording standby is activated.
Getting started

Connection

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)”. (65)

When the TV does not have HDMI input terminal
Refer to “AUDIO/VIDEO OUT terminals”. (15)

About 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.

• Keep the RF coaxial cables as far away as possible from other cables.
• The HDMI connection supports VIERA Link “HDAVI Control” (67).
• 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.)
**Getting started**

**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”))

**AUDIO/VIDEO OUT terminals**
- Connect to terminals of the same colour.

**Amplifier/receiver connections**

**HDMI terminal**

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.

**Connect the Set Top Box or video equipment**
- Connect to terminals of the same colour.

**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.

  - 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.

  - When you do not want the audio to be output from the TV, set "HDMI Audio Output" to "Off" (70, 76).

  - Connect to terminals of the same colour.

- **DIGITAL AUDIO OUT terminal**

  - Amplifier/receiver
  - Optical digital audio cable

- **AUDIO OUT terminal**

  - Amplifier/receiver
  - Audio cable

  - 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.
Network connection

When this unit is connected to the network, you can enjoy network functions (DLNA function, Network Service, Remote Recording, etc.).

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

After you make the LAN cable connection, the network setting is needed. (⇒ 19, Easy Network Setting)

- 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.
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 Í], 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>
</tr>
</thead>
<tbody>
<tr>
<td>Panasonic</td>
<td>01/02/03/04</td>
<td>NEC</td>
<td>36</td>
</tr>
<tr>
<td>AIWA</td>
<td>35</td>
<td>NOBLEX</td>
<td>33</td>
</tr>
<tr>
<td>AKAI</td>
<td>27/30</td>
<td>NOKIA</td>
<td>25/26/27/60/61</td>
</tr>
<tr>
<td>BEKO</td>
<td>05/71/72/73/74</td>
<td>NORDMENDE</td>
<td>10</td>
</tr>
<tr>
<td>BENQ</td>
<td>56/59</td>
<td>OLEVIA</td>
<td>45</td>
</tr>
<tr>
<td>BRANDT</td>
<td>10/15</td>
<td>ONWA</td>
<td>90/39/70</td>
</tr>
<tr>
<td>BUSH</td>
<td>05</td>
<td>ORION</td>
<td>05</td>
</tr>
<tr>
<td>CENTREX</td>
<td>66</td>
<td>PEONY</td>
<td>49/69</td>
</tr>
<tr>
<td>CURTIS</td>
<td>05</td>
<td>PHILCO</td>
<td>41/48/64</td>
</tr>
<tr>
<td>DAEWOO</td>
<td>64/65</td>
<td>PHILIPS</td>
<td>05/06/46</td>
</tr>
<tr>
<td>DESMET</td>
<td>05</td>
<td>PHONOLA</td>
<td>05</td>
</tr>
<tr>
<td>DUAL</td>
<td>05</td>
<td>PIONEER</td>
<td>37/38</td>
</tr>
<tr>
<td>ELEMIS</td>
<td>05</td>
<td>PROVIEW</td>
<td>52</td>
</tr>
<tr>
<td>FERGUSON</td>
<td>10/34</td>
<td>PYE</td>
<td>05</td>
</tr>
<tr>
<td>FINLUX</td>
<td>61</td>
<td>RADIOLA</td>
<td>05</td>
</tr>
<tr>
<td>FISHER</td>
<td>21</td>
<td>SABA</td>
<td>10</td>
</tr>
<tr>
<td>FUJITSU</td>
<td>53</td>
<td>SALORA</td>
<td>28</td>
</tr>
<tr>
<td>FUNAI</td>
<td>63/67</td>
<td>SAMSUNG</td>
<td>102/42/24/3/65/68</td>
</tr>
<tr>
<td>GOLDSTAR</td>
<td>05/50/51</td>
<td>SANSUI</td>
<td>05</td>
</tr>
<tr>
<td>GOODMAN</td>
<td>05</td>
<td>SANYO</td>
<td>21/54/55/56</td>
</tr>
<tr>
<td>GRADIENTE</td>
<td>36</td>
<td>SCHNEIDER</td>
<td>05/29/30</td>
</tr>
<tr>
<td>GRUNDIG</td>
<td>09</td>
<td>SEG</td>
<td>05/68/7576/77/78</td>
</tr>
<tr>
<td>HITACHI</td>
<td>05/22/23/43/41</td>
<td>SELECO</td>
<td>05/25</td>
</tr>
<tr>
<td>IRRADIO</td>
<td>30</td>
<td>SHARP</td>
<td>18</td>
</tr>
<tr>
<td>ITT</td>
<td>25</td>
<td>SIEMENS</td>
<td>09</td>
</tr>
<tr>
<td>JVC</td>
<td>17/30/39/70</td>
<td>SINUDYNE</td>
<td>05</td>
</tr>
<tr>
<td>KDS</td>
<td>52</td>
<td>SONY</td>
<td>08</td>
</tr>
<tr>
<td>KOLIN</td>
<td>45</td>
<td>TCL</td>
<td>31/33/66/67/69</td>
</tr>
<tr>
<td>KONKA</td>
<td>62</td>
<td>TELEFUNKEN</td>
<td>10/11/12/13/14</td>
</tr>
<tr>
<td>LG</td>
<td>05/50/51</td>
<td>TEVION</td>
<td>52</td>
</tr>
<tr>
<td>MAG</td>
<td>52</td>
<td>THOMSON</td>
<td>10/15/44</td>
</tr>
<tr>
<td>METZ</td>
<td>05/28/79</td>
<td>TOSHIBA</td>
<td>16/57</td>
</tr>
<tr>
<td>MITSUBISHI</td>
<td>05/19/20/47</td>
<td>WHITE</td>
<td>05</td>
</tr>
<tr>
<td>MIVAR</td>
<td>24</td>
<td>WESTINGHOUSE</td>
<td></td>
</tr>
</tbody>
</table>

- If your TV brand has more than one code listed, select the one that allows correct operation.
- If the brand of your TV is not listed or the code number is invalid for your TV, this remote control is not compatible with your TV.
Getting started

1. Turn on the TV, then select the appropriate AV input to suit the connections to this unit.
2. Press [●] on the remote control or [●/I] 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. (☞ 67)
   Auto Setup starts.
   (This operation may take some time.) e.g.,

   ![Easy Setting Progress](image)
   This will take about 3 minutes.

<table>
<thead>
<tr>
<th>RF Ch</th>
<th>Station Name</th>
<th>TYPE</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>1035</td>
<td>Digital TV</td>
<td>10</td>
</tr>
</tbody>
</table>

   4. Clock will be set automatically.
   If the clock setting screen appears, set the time manually (☞ 80, Clock).
5. Set “Quick Start” to “On”, “Off” or “Timer Setting for Quick Start”, then press [OK].
   For details, refer to “Quick Start”. (☞ 79)
6. If the TV aspect setting screen appears:
   Select the item to match the type of TV connected.
   For details, refer to “TV Aspect”. (☞ 76)

When “Easy Setting has been completed.” appears, Easy Setting is complete.
   • Select “Yes” to set network settings.
   • Select “No” to finish the Easy Setting.

To stop partway
Press [RETURN].

To restart setup
1. Press [FUNCTION MENU]. (☞ 18)
2. Select “Basic Settings” in “Setup”, then press [OK].
4. Select “Yes”, then press [OK].

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

Easy Network Setting

1. Follow the on-screen instructions and make the following confirmation and settings.
   - Home Network Connection Check
   - Home Network function
   - Remote Recording function
   - Internet Connection Test
2. When “Easy Network Setting is finished.” appears
   Press [OK].

To restart Easy Network Setting
1. Press [FUNCTION MENU]. (☞ 18)
2. Select “Basic Settings” in “Setup”, 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 [FUNCTION MENU]. (☞ 18)
2. Select “Basic Settings” in “Setup”, then press [OK].
3. Select “Network Settings” in “Network”, then press [OK].
4. Refer to “Network Settings”. (☞ 77)

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” or “Remote Recording function” to “On”, the setting for “Quick Start” is fixed to “On”.
   • 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].

FUNCTION MENU list

- Media
  - Disc
  - SD Card
  - USB device
  - USB HDD
- TV Guide (⇒ 22)
- Timer Recording (⇒ 28)
- Network Service (⇒ 62)
- Contents on HDD
  - Video (⇒ 31)
  - Photo (⇒ 50)
  - Music (⇒ 54)
- Home Network
  - DLNA Client (⇒ 59)
  - Media Renderer (⇒ 61)
- Setup
  - Basic Settings (⇒ 70)
    - You can change the unit’s settings of Digital TV Tuning, Sound, Display, Connection, Network etc.
  - Remote Recording (⇒ 29)
  - Wallpaper
    Personalize a background of the FUNCTION MENU.
  - To select from among “Photo”, register photo in advance. (⇒ 51)
- Watch TV (⇒ 21)
- Copy Video
  - Copy Menu (⇒ 44)
  - Copy Video (AVCHD) to DVD-R (⇒ 49)
Watching broadcasts

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

1. Press [INPUT SELECT] and select “TV”, then press [OK].

2. 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 (⇒ 22)
     - Using channel information (⇒ 22)

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].

• When you are watching the 3D programme, subtitles and TV Guide, etc., may not display correctly depending on the settings. (⇒ 37, 3D Type, Signal Format)

If this unit request a PIN

If you have set a ratings level (⇒ 73, 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)

Using Channel List

You can select from the list of channel names.

1. Press [OK].

<table>
<thead>
<tr>
<th>Channel numbers</th>
<th>Channel names</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Channel 1</td>
</tr>
<tr>
<td>0000</td>
<td>Channel 2</td>
</tr>
<tr>
<td>0000</td>
<td>Channel 3</td>
</tr>
<tr>
<td>0000</td>
<td>Channel 4</td>
</tr>
<tr>
<td>0000</td>
<td>Channel 5</td>
</tr>
</tbody>
</table>

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

To edit the channel list
Refer to “Channel List”. (⇒ 72)
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 ①].

To retrieve the programme data for the area where data have not been acquired
Select the area, then press [STATUS ①].
• 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”. (⇒ 27)

Using channel information

While watching a programme
Press [STATUS ①].

Channel information appears.

1 Current Category
2 Set timer (⇒ 29)
3 Subtitle
4 Teletext
5 Multiple audio

To show detailed information
Press [STATUS ①] again.

To hide the information screen
Press [EXIT □].

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”. (⇒ 72)

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

To switch to another channel
Press [▲, ▼], then press [OK].

• Selection of channel is made easy by creating a Favourite of the channels you watch often. (⇒ 72, Favourites Edit)
Operations while watching broadcast

To show subtitle
When “ ” appears in channel information ( 22)
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 ( 22)
1 Press [TEXT ].
2 Use [▲, ▼, ◀, ▶], number buttons or colour buttons, etc. according to on-screen instructions.

• You can change the display mode. ( 70, 76, Teletext)

Aspect
You can switch the screen mode.
Refer to “Switching the aspect ratio of the screen”. ( 85)

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).
• REWIND LIVE TV does not work when watching a programme via external input.

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/× 1.3 ▶].
• 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].

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.

While pausing a programme via external input:

1. 8:50:55 AM  01.01.2013
2. Play  8:50.50 AM

• Press [STATUS ①] again.

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 ⑩].

• 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” (⇒ 73)
  - PAUSE LIVE TV:
    When a timer recording via external input is started while watching a programme via external input
• PAUSE LIVE TV:
You can operate this unit with the TV remote control by using VIERA Link (⇒ 67).
Refer to the TV operating instructions.
Recording TV programmes

To set the recording time
1 Select “Recording Time” or “Continuous recording” in step 4 (☞ 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].

To convert the recording mode after recording in DR mode
Refer to “File Conversion”. (☞ 40)

To confirm whether the conversion is completed
Refer to “To confirm whether the conversion is completed”. (☞ 41)

To cancel a conversion
Refer to “To cancel a “During standby” conversion”. (☞ 41)

• 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.
  - Xvid and MKV file
  - photo
  - USB HDD (For data files, (☞ 9) and USB memory
• Copying cannot be performed while recording.
• When “Automatic Standby after OTR” is set to “On” (☞ 79), this unit is turned to standby mode if this unit is not operated for approximately 5 minutes after completing “Automatic Stop” or “Recording Time”.
• The title before conversion (the title recorded in DR mode) will be deleted once the conversion is completed.
• Conversion will take about the same time as the recorded duration.
• When the HDD does not have enough remaining space, conversion will not start.
• Conversion is stopped when this unit is turned on. Conversion will start from the beginning again once the unit is switched to standby mode.
• The conversion will not start if the timer recording is scheduled within the time required for the conversion.
• When converted, audio content and subtitle will be converted with the same settings as at the start of recording.

• This operation will only record to built-in HDD.
• This unit can record two programmes being broadcasted at the same time.

1 Select the channel to record.

2 Press [REC MODE] and select the conversion mode, then press [OK].
• This unit will record the programmes in DR mode once, and then automatically convert to the selected recording mode while this unit is in standby.
• Recording mode (☞ 8)

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

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

[Conversion Mode Setting]

<table>
<thead>
<tr>
<th>Conversion Mode Setting</th>
<th>HDD Remain: (DR)mh</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Definition</td>
<td>Large</td>
</tr>
<tr>
<td>Standard Definition</td>
<td>Large</td>
</tr>
</tbody>
</table>

[Conversion Mode]

- Off (DR)
- Automatic Stop at 8:45 AM
- Recording Time
  - Continuous recording
  - 30 min
  - 8:00 AM - 8:45 AM

[Recording Setting]

- Automatic Stop at 8:45 AM
- Recording Time
  - Continuous recording
  - 30 min
  - 8:00 AM - 8:45 AM

[Conversion Setting]

- Automatic Stop at 8:45 AM
- Recording Time
  - Continuous recording
  - 30 min
  - 8:00 AM - 8:45 AM

• The conversion mode set here is used as an initial value for the next recording.

• 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.
  - Xvid and MKV file
  - photo
  - USB HDD (For data files, (☞ 9) and USB memory
• Copying cannot be performed while recording.
• When “Automatic Standby after OTR” is set to “On” (☞ 79), this unit is turned to standby mode if this unit is not operated for approximately 5 minutes after completing “Automatic Stop” or “Recording Time”.
• The title before conversion (the title recorded in DR mode) will be deleted once the conversion is completed.
• Conversion will take about the same time as the recorded duration.
• When the HDD does not have enough remaining space, conversion will not start.
• Conversion is stopped when this unit is turned on. Conversion will start from the beginning again once the unit is switched to standby mode.
• The conversion will not start if the timer recording is scheduled within the time required for the conversion.
• When converted, audio content and subtitle will be converted with the same settings as at the start of recording.
Recording TV programmes

Operation during Recording

To check the recording programme
Press [STATUS ▶].

To pause recording
After displaying the recording programme, press [PAUSE ▶].
- 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 1–4 on page 25.
- Channel or input can only be switched between the recording programmes.

To stop recording
Press [STOP ■].

When recording one programme:
If the following screen appears

To record two programmes:
If the following screen appears

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].

"●" is displayed on the recording programme.

2 Select the title, then press [OK].

- Channel or input can only be switched between the recording programmes.

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

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

Select “Yes”, then press [OK].

Select "Yes", then press [OK].

1 Select the programme, then press [OK].

2 Select “Yes”, then press [OK].
Timer recording

- This operation will only record to built-in HDD.
- This unit can record two programmes being broadcasted at the same time.

Preparation
If you want to change the recording mode:
Press [REC MODE] and select the recording mode, then press [OK].

1 Press [GUIDE].
TV Guide screen appears.

2 Select the programme, then press the red button.
The timer icon “Θ” (red) is displayed.
- If on-screen instructions are displayed, follow them.

To use TV Guide system
Refer to “Using TV Guide system”. (☞ 22)

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 28, “Manually programming timer recording”.

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”. (☞ 26)

- Some broadcasters may not send programme information.
  When programme information is not displayed correctly, use manual timer recording. (☞ 28)
- The receipt of the TV Guide data via Set Top Box is not possible.
- When timer recording from the external equipment, use manual timer recording. (☞ 28)
- You can set the start and finish time to make the timer recording work successfully. (☞ 70, 73, 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.

• Some broadcasters may not send programme information.
  When programme information is not displayed correctly, use manual timer recording. (☞ 28)
• The receipt of the TV Guide data via Set Top Box is not possible.
• When timer recording from the external equipment, use manual timer recording. (☞ 28)
• You can set the start and finish time to make the timer recording work successfully. (☞ 70, 73, 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**

**Timer recording**

**Manually 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.

**To confirm and edit the timer programme**

Refer to "To confirm and edit a timer programme". (⇒ 30)

**Operation during Recording**

Refer to "Operation during Recording". (⇒ 26)

- When recording from the external equipment, "Mode" (recording mode) is XP, SP, LP, EP or FR.

**Timer recording options**

Select the items (Channel, Day/Date, etc.) and change the settings.

**e.g.**

- **Channel**
  - You can select Category/AV with the red button.

- **Day/Date**
  - You can select "Date" or "Weekly" by pressing the green button.

- **Auto Renewal Recording**
  (Only daily/weekly timer recording)
  - The unit will record the new programme over the old one.
  - Press the yellow button.
  - "Renew : ON" is displayed.

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

- **Mode/Conv.**
  - Refer to step 2 on page 25.

- **Subtitles**
  - You can choose whether or not to record the subtitle at conversion.
  (Only when item other than "OFF" is selected in "Conv.")

- **Title Name**
  1. Select "Title Name", then press [OK].
  2. Refer to "Entering text". (⇒ 84)
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 28, “Manually programming timer recording”.

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.)
• When recording except in DR mode, the audio content will be selected according to the following settings:
  - Audio Type for Digital Broadcast (⇒ 70, 75)
  - Audio for HG / HX / HE / HL / HM Recording (⇒ 70, 75)
• 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 a title in high speed mode [with finalising or creating Top Menu (RW)]
  - copying a title in normal speed mode
  - converting a title in “File Conversion” (Only when “Now” is selected)
  - copying HD Video (AVCHD) from USB device or SD card
  - copying photos/music
  - formatting
  - finalising/creating Top Menu

Remote recording from outside
You can set a 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.)

Preparation
• Network connection (⇒ 17, 19)
• Remote Recording Function Settings (⇒ 70, 77)

- This unit will always be connected to the Internet when this function is activated.
- Please note that a regular maintenance or unexpected trouble may interrupt the service, and that the service content may be changed or revoked and operation menu screens may be changed with or without a prior notice.
Timer recording

To confirm and edit a timer programme

1. Press [PROG/CHECK].

   e.g.,

<table>
<thead>
<tr>
<th>Channel Name</th>
<th>Schedule</th>
<th>Mode</th>
<th>Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR</td>
<td>10:00 AM - 11:45 AM</td>
<td>DR</td>
<td>DR</td>
</tr>
<tr>
<td>HG</td>
<td>11:00 AM - 12:00 AM</td>
<td>DR</td>
<td>DR</td>
</tr>
<tr>
<td>DR</td>
<td>11:30 AM - 1:00 AM</td>
<td>DR</td>
<td>DR</td>
</tr>
<tr>
<td>DVR</td>
<td>8:00 AM - 10:45 AM</td>
<td>DR</td>
<td>DR</td>
</tr>
</tbody>
</table>

2. Select the programme, then perform the operations.

   To deactivate a timer programme
   Press the red button.
   • The timer icon “ الاحتياط” will change from red to grey.
   • Press the red button again to activate timer recording standby. (The timer icon “ الاحتياط” 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”. (⇒ 28)
   3. Press [OK].

   To show programme information
   Press [STATUS ں].

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

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 is set. (⇒ 28)
- 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 [FUNCTION MENU].
2 Select “Video” in “Contents on HDD”, then press [OK].
   e.g.,
3 Select the title, then press [OK].
   Playback starts.

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

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” (⇒ 70, 76).
- 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) (⇒ 73).
  - Recording did not complete as the timer recording has started.

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].
Playing back video

Playing titles on the HDD

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

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].

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].

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”. (⇒ 84)

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.

Chapter Marks

• Chapter Creation
This unit can create chapters automatically while recording broadcasting. (⇒ 74)

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

3 Select the chapter, then press [OK].

To edit the chapter in Chapter View
Refer to "Editing chapters". (⇒ 41)
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 “Disc” in “Media”, then press [OK].
3 Select “Playlists”, then press [OK].
4 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.

![Menu screen diagram]

• 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 [FUNCTION MENU].
2 Select “Media”, then press [OK].
3 Select the media, then press [OK].

Video list screen

![Video list screen diagram]

e.g.,

Screen icons:

- Folder
- Titles
- Move to the parent folder
**Playing back video**

**Playing titles on the media**

**DIRECT NAVIGATOR screen**

**Showing Information**

Select the title, then press [STATUS ①].

**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”. (⇒ 32)

**Video Menu (AVCHD) screen**

**Showing Information**

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

**About screen icons**

Refer to “Screen icons”. (⇒ 31)
Operation during play

Quick View
Press and hold [PLAY/×1.3 ►].
- Press again to return to normal speed.
- Xvid, MKV, MP4 and MPEG2: Quick View is not effective.
- Quick View is not effective when playing back the DVD-RW disc.
- Quick View may not work when recording in XP or FR mode.

Search
Press [SLOW/SEARCH ◄] or [SLOW/SEARCH ►].
- Press [PLAY/×1.3 ►] to restart play.
- The speed increases up to 5 steps.
  (DRW: Up to 3 steps)
- Xvid, MKV, MP4 and MPEG2: Audio is not heard during all levels search.

Pause
Press [PAUSE II].
- Press [PLAY/×1.3 ►] to restart play.

Stop
Press [STOP ■].

Resume play function
Press [PLAY/×1.3 ►] to restart from the stopped position.

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.

General operations

Status messages
Press [STATUS ◄] twice.
e.g.,

Stop
Press [STOP ■].

Resume play function
Press [PLAY/×1.3 ►] to restart from the stopped position.

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.
Playing back video

Operation during play

**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.

- DVD-V, Xvid, MKV, AVCHD, MP4 and MPEG2: [TIME SLIP] is not effective.

**To display menu**

**DVD-V**

1. Press [OPTION].
2. Select “Playback Menu”, then press [OK].
3. Select “Top Menu” or “Menu”, then press [OK].

**Skipping the title or chapter**

Press [SKIP [◄] or [SKIP [►]].

- HDD USB HDD: (For recorded titles, ⇒ 9): It will not skip the title. But the title in the grouped titles will be skipped. (⇒ 32)

**To delete the Chapter Mark**

**HDD** USB HDD (For recorded titles, ⇒ 9) RAM

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, ⇒ 9):

1. Press [STTL ®].
2. Press [OK].
3. Select “On” or “Off”, then press [OK].
- If you want to switch the subtitle language, select it in the Basic Operation menu (⇒ 68).

**DVD-V, Xvid and MKV:**

Display with “Subtitle Settings” in the Basic Operation menu (⇒ 68).

**Aspect**

You can switch the screen mode.
Refer to “Switching the aspect ratio of the screen”. (⇒ 85)

**To create Chapter Marks**

**HDD** USB HDD (For recorded titles, ⇒ 9) RAM

During the playback or pause
Press [CHAPTER].
**3D video playback**

**Preparation**
Connect 3D compatible TV to this unit. (⇒ 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 Type**
If 3D video cannot be played back in 3D, you may be able to play it in 3D by changing the setting. (⇒ 70, 76)

**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. (⇒ 70, 76)

**3D Playback Message**
Hide the 3D viewing warning screen. (⇒ 70, 76)

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

1. Press [OPTION].
2. Select “Playback Settings” in “Playback Menu”, then press [OK].
3. Select “3D Settings”, then press [OK].
4. 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.
- Manual:
  3D effects set manually (⇒ below)

**Manual Settings**
(To change the setting, set “3D Picture Mode” to “Manual”.)

**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.

**Graphic Display Level**
Adjust the 3D position for the playback menu or message screen etc. (⇒ 69)

- Depending on the contents, displayed items are different.
- 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” (⇒ 76).
- It may display as Side-by-Side when playback of the 3D video is started.
Deleting/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 (⇒ 9) only
- If the disc is protected, release the protection. (⇒ 82, Disc Protection)
- Depending on the media and the type of file, some operations may not be possible.
- PIN is required to edit the titles with  in some functions. (⇒ 31)

Deleting

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.

Deleting during play

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

Available disc space after deleting

- HDD / USB HDD / RAM
  The space deleted becomes available for recording.

- DVD-R +R
  Available space does not increase even after the contents are deleted.

- DVD-RW +RW
  Available recording space increases only when the last recorded title is deleted.

- Even after deletion is completed, it may take time until the updated available space is displayed.

Editing

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”. (⇒ 84)

Setting protection

<table>
<thead>
<tr>
<th>HDD</th>
<th>USB HDD</th>
<th>RAM</th>
<th>+R</th>
<th>+RW</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>HDD</th>
<th>USB HDD</th>
<th>RAM</th>
</tr>
</thead>
</table>

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. (⇒ 35)
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].

Dividing title

<table>
<thead>
<tr>
<th>HDD</th>
<th>USB HDD</th>
<th>RAM</th>
</tr>
</thead>
</table>

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. (⇒ 35)
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.

Divided titles will become a group of titles.
Deleting/Editing recorded titles

**File Conversion**

File Conversion is a function to convert the recording mode of the title in DR mode and AVCHD contents. The size of the converted title will be small regularly. It will take about the same time as the recorded duration.

1. Select “File Conversion” in “Edit”, then press [OK].
   e.g.,

2. Set the conversion options, then press [OK].
   **Recording Mode (⇒ 8):**
   - **USB HDD:** You cannot select XP, SP, LP and EP mode.
   **Subtitles:**
   - **Automatic**
     Subtitles will be recorded if they are included in the title, and will not be recorded if they are not included.
   - **Off**
     Subtitle will not be recorded.

3. Select the item, then press [OK].
   **Convert & Delete:**
   The original title will be deleted to save HDD capacity after conversion.
   **Convert Only:**
   The original title remains after conversion.

4. “Now” conversion:
   Select “Start”, then press [OK].
   “During standby” conversion:
   Press [OK].
   • Conversion will be performed after the unit is switched to standby mode.
   “COPY” or “CONV” on the unit’s display remains lighted during conversion.
To cancel a “Now” conversion
Press and hold [RETURN] for more than 3 seconds.

To confirm whether the conversion is completed
Press [DIRECT NAVIGATOR].

When “○○ → ○○ (Recording mode for conversion)” is displayed, the conversion has not finished.

To cancel a “During standby” conversion
After performing steps 1–3 (⇒ 38, Editing)
1 Select “File Conversion” in “Edit”, then press [OK].
2 Select “Yes”, then press [OK].

To use “File Conversion”, the HDD needs enough storage capacity.
The size of converted title might increase depending on the title.
File Conversion is stopped when this unit is turned on during performing “During standby” conversion. Conversion will start from the beginning again once the unit is switched to standby mode.
When converted, the audio content will be selected according to the following settings:
- Audio Type for Digital Broadcast (⇒ 70, 75)
- Audio for HG / HX / HE / HL / HM Recording (⇒ 70, 75)
When converted, 3D information may not be retained.
In titles with the Auto Renewal Recording function (⇒ 28) set, a programme may be unintentionally converted while in “During standby”.

To delete the chapter:
1 Select the chapter, then press [DEL].
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”. (⇒ 32)

- The maximum number of chapters:
  (Depends on the state of recording.)
  HDD / USB HDD: Approx. 1000 per title
  RAM: Approx. 1000 per disc
- HDD / USB HDD When the title has the maximum number of chapters, you cannot perform the Resume play function (⇒ 31).
Copying titles

1. Insert or connect the media.
2. Press [FUNCTION MENU].
3. Select “Video” in “Contents on HDD”, then press [OK].
4. Select the title, then press the yellow button.
   A check mark is displayed. Repeat this step.

   - Press the yellow button again to cancel.
5. Press the blue button.
6. Set the copy direction, then press [OK].
7. Select “Yes”, then press [OK].
   - If you select “No”, you can change the selection. (⇒ 43, To change the selection)
8. Set other settings, then press [OK].

   ![Automatic Standby after Copy](image)

   - Standby status can be changed if required
   - Please press OK to start copying
   (⇒ 43, Setting the copying options)
9. Select “Yes”, then press [OK].

To register the external HDD (USB HDD)
Refer to “Registering the USB HDD”. (⇒ 66)

To copy HD Video (AVCHD) to the DVD-R in High Definition
Refer to “Copying HD Video (AVCHD) to the DVD-R in High Definition”. (⇒ 49)

Release the disc protection
Refer to “Disc Protection”. (⇒ 82)

- Simultaneous operation is not possible while copying with finalising or creating Top Menu. However, the titles on the HDD can be played back while high speed copying without finalising or creating Top Menu.
To change the selection

1. Select “No”, then press [OK] in step 7 (⇒ 42).
   e.g., HDD → RAM

2. To change the selected titles:
   Select the title, then press the yellow button.
   Repeat this step to select titles.

3. Press the blue button.

4. Go to step 7 (⇒ 42).

Screen icons

- Titles that will be copied to the disc in normal speed
- Titles that cannot be copied

Setting the copying options

1. Select the item in step 8 (⇒ 42).
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.
   
   • Subtitles
     Automatic: Subtitles will be recorded if they are included in the title.
   
   • Finalise
     On:
     DVD-R DVD-RW +R +RW The discs become play-only and you can also play them on other DVD equipment.
   
   • Create Top Menu
     On:
     +RW You can play the disc on other DVD equipment.

   • You can perform “Finalise” (⇒ 83) or “Create Top Menu” (⇒ 84) later.

About screen icons on the DIRECT NAVIGATOR

Refer to “Screen icons”. (⇒ 31)
Copying video

Copying titles

Copying from media other than HDD with DIRECT NAVIGATOR

RAM  +RW  →  HDD

1 Insert a disc.
   The menu screen appears. (⇒ 33)

2 Select “Play Video”, then press [OK].

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

4 Press the blue button.

5 Select “Start Copying”, then press [OK].

6 Select “Yes”, then press [OK].

• To change the detailed settings for copy, refer to “Copying titles with copying list”. (⇒ right)

Copying titles with copying list

HDD  ↔  USB HDD

HDD  →  RAM  +RW  DVD-R  DVD-RW  +R

RAM  +RW  →  HDD

1 *For recorded titles (⇒ 9) only

2 The title in the source media will be deleted.

3 The recording mode cannot be changed.

1 HDD  ↔  USB HDD:
   1 Press [FUNCTION MENU].
   2 Select “Copy Menu” in “Copy Video”, then press [OK].

Except “HDD  ↔  USB HDD”:
   1 Insert a disc.
      The menu screen appears. (⇒ 33)
   2 Select “Copy”, then press [OK].

2 Set the copy direction.
   1 Select “Copy Direction”, then press [►] (right).
   2 Set “Source” and “Destination”.
   3 Press [◄].

3 Set the recording mode (⇒ 8).
   1 Select “Copy Mode”, then press [►] (right).
   2 Set “Recording Mode”.
   3 Press [◄].

Insert a disc.
The menu screen appears. (⇒ 33)
Select “Play Video”, then press [OK].
Select the title, then press the yellow button.
A check mark is displayed. Repeat this step.
Press the blue button.
Select “Start Copying”, then press [OK].
Select “Yes”, then press [OK].

Information of the copy destination
- Copy restricted titles can be copied to a disc.
4 Register titles for copy.
   1 Select “Create List”, then press [►] (right).
   2 Select “New item”, then press [OK].
   3 Select the title, then press the yellow button.
      Repeat this step to select titles.
      e.g., [HDD]

5 Make other settings.
   1 Select “Other Settings”, then press [►] (right).
      e.g.,

   2 Select the copying option, then press [OK].
      (⇒ 43, Setting the copying options)
   3 Select the item, then press [OK].
   4 Press [◄].

6 Select “Start Copying”, then press [OK].

7 Select “Yes”, then press [OK].

To cancel all registered copying settings and lists
After performing step 1
   1 Select “Cancel All”, then press [OK].
   2 Select “Yes”, then press [OK].

• Titles in the grouped titles and other titles cannot be registered simultaneously.
Copying video

Copying titles

Editing the copying list

1 Select the title after step 4-4 (⇒ 45).
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 titles with the yellow button.
2 Press [OK].

Delete:
Selected titles are deleted.
• Select the title, then press the yellow button before step 2.
  Repeat this step to select titles.
  Select “Yes”, then press [OK].

Move:
Change the order of items on the copying list.
• Select the title to move before step 2.
  Select the destination, then press [OK].

• When copying at normal speed, the total data size will change according to the recording mode.
• The total data size shown may be larger than the sum of the data sizes for each registered item.

Screen icons

- Titles that cannot be copied in high speed mode
- Titles that cannot be copied
- Title contains photos
  • Photos cannot be copied.
- Title recorded using a different encoding system from that of the unit.
  • Titles displaying these marks cannot be selected.

About other screen icons
Refer to “Screen icons”. (⇒ 31)
Copying video

Notes for copying

**Notes for high speed copy**

High Speed Copying is the process of copying a title to disc in high speed while maintaining the original record mode and recording length. If any conversion is required during the copy process, the copying will be done at normal speed.

- The following recording mode and media combinations support high speed copying.
- Converting the recording mode will result in a normal speed copy.
- High speed copy is possible only when there is enough recording capacity on the destination media.

<table>
<thead>
<tr>
<th>Original title’s recording mode</th>
<th>Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR</td>
<td>HDD</td>
</tr>
<tr>
<td>HG</td>
<td>HDD</td>
</tr>
<tr>
<td>HX</td>
<td>HDD</td>
</tr>
<tr>
<td>HE</td>
<td>HDD</td>
</tr>
<tr>
<td>HL</td>
<td>HDD</td>
</tr>
<tr>
<td>HM</td>
<td>HDD</td>
</tr>
<tr>
<td>XP</td>
<td>DVD-RAM only</td>
</tr>
<tr>
<td>SP</td>
<td>DVD-RAM only</td>
</tr>
<tr>
<td>LP</td>
<td>DVD-RAM only</td>
</tr>
<tr>
<td>EP</td>
<td>DVD-RAM only</td>
</tr>
<tr>
<td>FR</td>
<td>DVD-RAM only</td>
</tr>
</tbody>
</table>

- It is impossible to copy at high speed in the following cases:
  - HDD → DVD-R, DVD-RW, +R, +RW
  - Titles that contain many deleted segments
  - Titles recorded in “EP” mode and “FR (recordings 5 hours or longer)” mode
  - Titles recorded in 16:9 aspect
  - HDD → DVD-R, DVD-RW
  - Titles recorded via AV input in 16:9 aspect using “EP” mode or “FR (recordings 5 hours or longer)” mode

**Notes for normal speed copy**

- You cannot copy to the disc in the following cases:
  - When there is not enough free space on the HDD.
  - When the number of titles recorded to the HDD and the number of titles to be copied to the disc is greater than 999 in total.
  - Copying will continue up to the point cancelled.

- DVD-R, DVD-RW, +R, +RW: If copy is cancelled during the step while temporarily copying to the HDD, then nothing will be copied.
- DVD-R, DVD-RW, +R, +RW: Even if the title was not copied to the disc, the amount of remaining writable disc space becomes less.

- When copying title recorded in 1080/50p or 1080/60p, it cannot copy in progressive.

**Notes for copying 3D programmes**

- It may not display correctly in 3D when a copied 3D programme is played back. In such a case, change the “Signal Format” during the playback of the title. (⇒ 37)
- 3D information may not be copied.
- This unit cannot copy 3D programme and 3D AVCHD in 3D to the disc.

**About maintaining the chapter mark**

- The position of the chapter might shift slightly.
- Maximum number of chapters on the disc is limited.
  - RAM, DVD-R, DVD-RW: Approx. 1000
  - +R, +RW: Approx. 254
  (Depends on the state of recording.)
Copying video

Copying titles

Copying a finalised disc

While playing a disc, the content being played is copied to the HDD according to the set time.

1 Press [FUNCTION MENU].
2 Select “Copy Menu” in “Copy Video”, then press [OK].
3 Set “Copy Mode”.
   1 Select “Copy Mode”, then press [►] (right).
   2 Press [OK], then select the recording mode (XP/SP/LP/EP).
   3 Press [◄].
4 Set “Copy Time”.
   1 Select “Copy Time”, then press [►] (right).
   2 Select “Time Setting”, then press [OK].
   3 Select “On” or “Off”.
      On: Set the copying time.
      • Set a few minutes longer than the source title, in order to include the operation time before play begins.
      Off: Copying all the content on the disc.
4 Press [◄].
5 Select “Start Copying”, then press [OK].
6 Select “Yes”, then press [OK].
   • When the Top Menu is displayed:
      Select the title you want to start copying, then press [OK].

To stop copying
Press [STOP ■].
   • You can also press and hold [RETURN ↺] for 3 seconds.
   • If stopped partway, copying will be up to that point.

   • Operations and on-screen displays during copy are also recorded.
   • Almost all DVD-Video on sale have been treated to prevent illegal copying, and cannot be copied.
   • If play does not begin automatically press [PLAY/× 1.3 ►] to start.
Copying video

Copying Title Playing

1. Play back the title to copy.
   - Multiple audio and subtitle displayed during playback will be copied.
     - Select the multiple audio with “Audio Selection” in the Basic Operation menu (p. 68)
     - Select the subtitles with “Subtitles” in the Basic Operation menu (p. 68)

2. Press [OPTION].

3. Select “Copy Title Playing”, then press [OK].

4. Select “Start”, then press [OK].
   - Copying will start from the beginning of the title regardless of the playing position.

To stop copying

Press and hold [RETURN] for 3 seconds.

- You can record to or play HDD while high speed copying.
  - Press [STATUS] to confirm the current progress.

- Speed and recording mode when copying
  - The high speed copy is performed if available.
  - Refer to “Notes for copying” (p. 47)

  - [RAM] [DVD-R] [DVD-RW] [+R] [+RW]: When copying the titles in DR, HG, HX, HE, HL or HM modes, copy will be performed at normal speed in FR mode.
  - When copying the titles in XP, SP, LP, EP or FR modes and the copy destination does not have enough space, copy will be performed at normal speed in FR mode.

Copying HD Video (AVCHD) to the DVD-R in High Definition

You can copy HD Video (AVCHD) recorded on HDD to a DVD-R in High Definition quality.

HDD → [DVD-R]

1. Insert an unformatted DVD-R or DVD-R DL.
   - The menu screen appears (p. 33)

2. Select “Copy Video (AVCHD) to Disc”, then press [OK].

3. Go to step 4 on page 45, “Copying titles with copying list”.

To copy HD Video (AVCHD) from other equipment

Refer to “Copying the HD Video (AVCHD)” (p. 64)

- This function can only be used for unformatted disc.
- When a disc is named, formatting will be automatically performed. Therefore, do not name a disc before this operation (p. 82, Disc Name)
- Discs will be automatically finalised after copy.
- The following HD Videos (AVCHD) cannot be copied to the disc in high definition.
  - Exceeding 18 Mbps
  - 1080/50p or 1080/60p
  - Without the AVCHD information (video recorded with certain non-Panasonic equipment, etc.)
- 3D video may not be copied correctly.
Playing photos

To exit the Calendar screen
Press [PAUSE ].

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

Folder
• Photos imported to the HDD (⇒ 53) are managed using folders. Folders and photos can be edited by pressing [OPTION]. (⇒ 52)

Screen icons

3D (Tab)
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

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 “Contents on HDD”, then press [OK].

Except HDD:
1 Insert or connect the media.
The menu screen appears. (⇒ 33)
2 Select “View Photos”, then press [OK].

Select the folder, then press [OK].

e.g., HDD

• To select the tab
Press [◄, ►].

• Start Slideshow
Refer to “Slideshow settings”. (⇒ 51)

• HDD: Switching to the Calendar screen
Press [PAUSE ].

Select the photo, then press [OK].
• Press [◄, ►] to display the previous or next photo.

* For data files (⇒ 9) only (JPEG, MPO)
*2 RAM, DVD-R only

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 “Contents on HDD”, then press [OK].

Except HDD:
1 Insert or connect the media.
The menu screen appears. (⇒ 33)
2 Select “View Photos”, then press [OK].

Select the folder, then press [OK].

e.g., HDD

• To select the tab
Press [◄, ►].

• Start Slideshow
Refer to “Slideshow settings”. (⇒ 51)

• HDD: Switching to the Calendar screen
Press [PAUSE ].

Select the photo, then press [OK].
• Press [◄, ►] to display the previous or next photo.
Photo and Music

**Photo play option**

1. While displaying a photo:
   Press [OPTION].

2. Select the item, then press [OK].
   - **Aspect**
     You can switch the screen mode. (⇒ 85)

   **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.
   - **Wallpaper**
     A photo being played back is registered as wallpaper on the FUNCTION MENU screen. (⇒ 20)

**Slideshow settings**

1. On the Photo Menu screen:
   Press the green button.

   ![Slideshow settings](slideshow_settings.png)

   **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.

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 ▶].
- Press [PAUSE ▶] again to restart.

To stop the Slideshow
Press [RETURN ◄].
**Editing photos**

1. On the Photo Menu screen:
   - To edit the folder:
     Select the folder.
   - To edit the photo:
     1. Select the folder, then press [OK].
     2. Select the photo to edit.
     • To select multiple folders or photos
       Press the yellow button when selecting the folder 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].
   **Enter Folder Name**
   Refer to “Entering text”. (☞ 84)
   **Combine Folders**
   HDD
   Select “Yes”, then press [OK].
   **Delete Folder**
   Select “Yes”, then press [OK].
   **Move Photos**
   HDD
   Select “Move to new folder” or “Move to another folder”, then press [OK].
   • If “Move to another folder” is selected, set a destination folder.
   **Delete Photos**
   Select “Yes”, then press [OK].
   **Set up Protection**
   RAM SD
   Select “Yes”, then press [OK].
   • Even if the protection is set, the photo may be deleted by another unit.
   **Cancel Protection**
   RAM SD
   Select “Yes”, then press [OK].
   **Photos for Music**
   HDD
   Select “Yes”, then press [OK].


**Copying photos**

For data files (⇒ 9) only (JPEG, MPO)

-1 RAM DVD-R only

**Selecting and copying the photos**

| HDD → RAM SD |
| RAM DVD-R CD → HDD SD |
| USB HDD SD USB → HDD RAM |

1 On the Photo Menu screen:
   - To copy the folder:
     Select the folder, then press the blue button.
   - To copy the photo:
     1. Select the folder, then press [OK].
     2. Select the photos to copy, then press the blue button.

   • To select multiple folders or photos
     Press the yellow button when selecting the folder or photo.
     A check mark is displayed. Repeat this step.
     • Press the yellow button again to cancel.

2 Select the copying destination, then press [OK].

3 Select “Yes”, then press [OK].

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**

### Copying music (MP3) to HDD

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.

### To play other music (track)

Select the item, then press [OK].

**Example:**

**Music CD:**
- Insert the disc.
  Playback will automatically start.

**MP3:**

1. **Insert or connect the media.**
   - The menu screen appears. (⇒ 33)
   - **DVD-R, CD**: Playback will automatically start if only MP3 is recorded.

2. **Select “Play / Copy Music (MP3)”, then press [OK].**
   - Playback will start.
   - Using the tree screen to find a folder
     1. Press [OPTION].
     2. Select “Select Folder”, then press [OK].
     3. Select the folder, then press [OK].

3. **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.
Playing music recorded on HDD

1. Press [FUNCTION MENU].
2. Select “Music” in “Contents on HDD”, 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.

**Showing Track Information**

On the track list screen:
1. Select the track, then press [OPTION].
2. Select “Information”, then press [OK].
**Photo and 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 Basic Operation menu (⇒ 68).

**Sound Effects**

Refer to “Sound Effects” in Sound Settings menu (⇒ 69).

---

**Displaying photos (Screen Saver)**

Photos can be displayed during music playback.

While playing the music

Press the red button.

- To select the photos to display
  The original photo stored in the HDD by default or a folder registered with “Photos for Music” (⇒ 52) can be selected.
  (3D photos in the folder are played back in 2D.)

1. While screen saver is displayed
   Press [OPTION].
2. Select “Setting for Screen Saver”, then press [OK].
3. Select the item, then press [OK].

**To end the screen saver**

Press [RETURN ◐].

**To play music continuously even if the Power off link works**

Refer to “Playing music continuously even after turning off power to the TV”. (⇒ 67)
**Editing music/playlist**

   e.g.,

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

   - Editing operations will change depending on the screen.

   ![Musics Menu](image)

   - Tracks themselves are not deleted from the HDD.

- **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 84.

- **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.
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, 19
- 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 watch broadcasts received by this unit (Multiroom TV Streaming), videos and photos saved on HDD of this unit on DLNA (Client) compatible equipment.

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.

Preparation

- When DLNA (Server) Function is deactivated, make the settings. (>). 70, 78, 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 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).
- 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.
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.).

1. Press [FUNCTION MENU].
2. Select “DLNA Client” in “Home 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.

- You may not be able to use the Control Panel even if you use the Panasonic DLNA compatible equipment.
- Depending on the contents and the connected equipment, playback may not be possible.
- Playlist of Windows Media® Player can play back only the contents that are stored in the libraries.
- While playing back the 3D programme, you cannot set “3D Settings”. (► 37)
- Items displayed in grey on the display cannot be played back by this unit.
- Depending on the performance of the connected PC, video frames may be dropped during playback, or video may not be played back at all.
Network

Smart Home Networking (DLNA)

**Playable contents**

When this unit works as a DLNA client, following contents are playable.

### Video

<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>Recorded programmes (XP/SP/LP/EP/FR)(^{\text{#1}})</td>
<td>MPEG2</td>
<td>Dolby® Digital</td>
<td>.mpg</td>
</tr>
<tr>
<td>Recorded programmes (DR/HG/HX/HE/HLHM)(^{\text{#1}})</td>
<td>MPEG2, H.264</td>
<td>MPEG Dolby® Digital</td>
<td>.m2ts, .ts</td>
</tr>
<tr>
<td>AVCHD(^{\text{#1}})</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>MPEG2</td>
<td>MPEG2</td>
<td>Dolby® Digital</td>
<td>.mpg, .mpeg</td>
</tr>
<tr>
<td>Xvid</td>
<td>H.264</td>
<td>MP3 Dolby® Digital</td>
<td>.avi</td>
</tr>
<tr>
<td>MKV</td>
<td>H.264</td>
<td>AAC-LC MP3 Dolby® Digital PCM Vorbis FLAC</td>
<td>.mkv</td>
</tr>
</tbody>
</table>

\(^{\text{\#1}}\) Only when the server is another Panasonic Blu-ray Disc Recorder, etc.

### Photo

- Only when the server is another Panasonic Blu-ray Disc Recorder, etc.

### Audio

<table>
<thead>
<tr>
<th>Format</th>
<th>Example of file extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG</td>
<td>.jpg</td>
</tr>
<tr>
<td>MPO(^{\text{#2}})</td>
<td>.mpo</td>
</tr>
</tbody>
</table>

\(^{\text{\#2}}\) 2D playback only.

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

- 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 “Media Renderer” in “Home Network”, then press [OK].
3. Operate the Digital Media Controller compatible equipment.

To exit from Home Network (Media Renderer) screen
Press [RETURN QUIT].

• 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.
Enjoying Network Service

Network Service allows you to access some specific websites supported by Panasonic, and enjoy Internet contents such as photos, videos, etc. from Network Service home screen.

e.g.,

Network Service home screen

- Images are for illustration purpose, contents may change without notice.

Preparation
- Network connection (⇒ 17, 19)

1. Press [INTERNET].
   The message is displayed. Please read it carefully and then press [OK].

2. Select the item, then press [OK].
   • Operable buttons: [▲, ▼, ◀, ►], [OK], [RETURN اظ], colour buttons and number buttons.

To exit
Press [EXIT اظ].

- Some features of websites may not be available on this unit's web browser.
- In the following cases, settings are possible using “Network Service Settings” (⇒ 70, 77)
  - When restricting the use of Network Service.
  - 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 Network Service function.
- The services through Network Service 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 Network Service may only be available for specific countries and may be presented in specific languages.
- If timer recording starts, Network Service will stop.
Recording from external equipment

Recording mode: XP, SP, LP, EP

**Preparation**
Connect the Set Top Box or video equipment (⇒ 15)

1. Press [INPUT SELECT] and select “AV”, then press [OK].
2. Press [REC MODE] to select the recording mode.
3. Select the channel on the Set Top Box or start play on the video equipment.
4. Press [REC ■].
Recording starts.
5. Set the time to record. (⇒ 25)

<table>
<thead>
<tr>
<th>REC1/OTR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input AV</strong></td>
</tr>
<tr>
<td><strong>Automatic Stop</strong></td>
</tr>
<tr>
<td><strong>Recording Time</strong></td>
</tr>
<tr>
<td><strong>Continuous recording</strong></td>
</tr>
</tbody>
</table>

**To stop recording**
Press [STOP ■].

**Manually programming timer recording from external equipment**
Refer to “Manually programming timer recording” (⇒ 28).

* Following contents or media cannot be played back while recording from external equipment.
- Xvid, MKV and AVCHD file
- photo
- SD card
- USB HDD (For data files, ⇒ 9) and USB memory
Copying the HD Video (AVCHD)

1. Connect the video camera or insert the media.
   • Make the video camera ready for data transfer.
   The menu screen appears. (⇒ 33)

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.
   e.g., [BD]

   - Press the yellow button again to cancel.
   (All the recordings on the same date become a title.)

4. Press [OK].

5. Select "Start", then press [OK].
   It will automatically format the unformatted disc, such as a new disc.
   • It may take time for the copying to start.

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

To copy to the DVD-R in High Definition
Refer to “Copying HD Video (AVCHD) to the DVD-R in High Definition”. (⇒ 49)

- The original file must be in the AVCHD standard.
- 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.
- 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.

- (PAL)
Registering the external HDD (USB HDD)

* "For recorded titles (→ 9)" 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 [FUNCTION MENU].
2. Select “Basic Settings” in “Setup”, then press [OK].
4. Select “USB HDD Disconnection”, then press [OK].
5. Select “Yes”, then press [OK].
6. Disconnect the USB HDD from this unit.
With Other Equipment

Registering the external HDD (USB HDD)

Registering the USB HDD

• If the registering screen appears when connecting the USB HDD, go to step 5.

1 Press [FUNCTION MENU].

2 Select “Basic Settings” in “Setup”, then press [OK].

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

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

5 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].

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

7 The confirmation screen appears.
   Press [OK].

To cancel all USB HDD registrations

Refer to “Cancellation of all USB HDD Registrations”. (☞ 74)

✱ 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. (☞ 31)

• 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. (☞ 31)
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”. (☞ 23)
• 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 Panasonic TV’s 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 HDAVI 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 [OPTION].
2. Select “Playback Settings” in “Playback Menu” or select “Playback Settings”, then press [OK].
3. Select the menu, then press [OK].
4. Select the item, then press [OK].
5. Change the setting.

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 [RETURN] until the Playback menu disappears.

Basic Operation

| Soundtrack* | Show or change the soundtrack. |
| Audio Selection | Switch in the case of multiple audio. |
| Audio Channel | Change audio (LR/L/R) during playback. |
| Subtitle Settings* | Turn the subtitle on/off, and change the language depending on the media. |
| Subtitle Settings | Select the subtitle style recorded on the disc. |
| Subtitle Position | Select the subtitle language in the case of multiple languages. |
| Subtitle Luminance | |
| Angle* | Change the number to select an angle. |
| Repeat Play | Select the item which you want to repeat. |
| Random | Select whether to play random or not. |
| Video | The original video recording method (MPEG-4 AVC etc.) appears. |
| Aspect (→ 85) | |

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

- **Picture Type**
  Select the picture quality mode.

- **Sharpness Adjustment**
  Adjusts the sharpness of images. The greater the value is, the sharper images will be.

- **Noise Reduction**
  Reduces unnecessary noise in videos. The greater the value is, the less noise will appear.

- **Luminance / Colour Adjustment**
  Adjusts the contrast, brightness, white gamma, black gamma, colour saturation and hue.

- **Bandwidth Limitation**
  Adjusts the bandwidth limitations.

- **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”.

- **Reset to Default Picture Settings**
  Restores the default settings of the Picture Settings menu.

**Sound Settings**

- **Sound Effects**
  - This function is effective when “Digital Audio Output” is set to “PCM” (→ 75)

- **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.

**3D Settings**

- **Signal Format (→ 37)**
- **3D Picture Mode (→ 37)**
- **Manual Settings (→ 37)**
- **Graphic Display Level**
  You can change the 3D position of the playback settings display, etc., during the 3D playback.

**Language**

<table>
<thead>
<tr>
<th>Language</th>
<th>ENG</th>
<th>English</th>
<th>JPN</th>
<th>Japanese</th>
<th>ARA</th>
<th>Arabic</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRA</td>
<td>French</td>
<td>CHI</td>
<td>Chinese</td>
<td>HIN</td>
<td>Hindi</td>
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<td>Korean</td>
<td>PER</td>
<td>Persian</td>
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<td>THA</td>
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<td>Hungarian</td>
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<td>Russian</td>
<td>FIN</td>
<td>Finnish</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The menu is not displayed when playing photos.
Basic Settings

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

Common procedures

1. Press [FUNCTION MENU].
2. Select “Basic Settings” in “Setup”, then press [OK].
3. Select the menu, then press [OK].
4. 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 (→ 72)
- Channel List (→ 72)
- Auto Setup (→ 72)
- Download from TV (→ 72)
- Manual Tuning (→ 72)
- Update Channel List (→ 72)
- Child Lock (Parental Rating) (→ 73)
- Signal Condition (→ 73)
- New Channel Message (→ 73)

HDD / Disc / USB HDD
- Settings for Playback (→ 73)
  - Soundtrack (→ 73)
  - Subtitles (→ 73)
  - Menu (→ 73)
  - DVD-Video Parental Control (→ 73)
- Settings for Recording (→ 73)
  - Timer Record Start Buffer (→ 73)
  - Timer Record Stop Buffer (→ 73)
  - REWIND LIVE TV (→ 73)
  - Aspect for Recording (→ 73)
  - Chapter Creation (→ 74)
  - Disc Speed for High Speed Copy (→ 74)
- HDD Management (→ 74)
  - Delete all titles (→ 74)
  - Delete all photos (→ 74)
  - Format HDD (→ 74)
- Settings for USB HDD (→ 74)
  - USB HDD Registration (→ 74)
  - USB HDD Disconnection (→ 74)
  - USB HDD Management (→ 74)
  - Delete all titles (→ 74)
  - Format USB HDD (→ 74)
  - Cancellation of all USB HDD Registrations (→ 74)
Convenient functions

**Picture**
- Still Mode (74)
- NTSC Video Output (74)

**Sound**
- Dynamic Range Compression (75)
- Downmix (75)
- Bilingual Audio Selection (75)
- Digital Audio Output (75)
  - PCM Down Conversion (75)
  - Dolby Digital (75)
  - DTS (75)
  - MPEG (75)
- Audio Delay (75)
- Audio Type for Digital Broadcast (75)
- Audio for HG / HX / HE / HL / HM Recording (75)

**Display**
- On-Screen Information (76)
- Unit's Display (76)
- Screen Saver (76)
- Teletext (76)

**Connection**
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  - 3D Type (76)
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  - HDMI Video Format (76)
  - Deep Colour Output (76)
  - HDMI Audio Output (76)
  - Contents Type Flag (76)
  - VIERA Link (76)

**Network**
- Easy Network Setting (77)
- Network Settings (77)
  - IP Address / DNS Settings (77)
  - Proxy Server Settings (77)
  - Network Service Settings (77)
  - Lock (77)
  - Automatic Volume Control (77)
  - Remote Recording Function Settings (77)
  - Remote Recording function (77)
  - Device ID (77)
  - Initialize Device Password (77)
- Home Network Settings (78)
  - Home Network function (78)
  - Setting device name (78)
  - Conversion Setting for DLNA (78)
  - Resolution Setting for DLNA (78)
  - Registration type for remote devices (78)
  - Remote device list (78)

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

Basic Settings

Digital TV Tuning

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

After editing as follows, save the Favourites.
Press [RETURN ataires], then press [OK].

• 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 ataires].

Channel List
You can edit the channel list.

• To hide unwanted channels
  1 Select the channel.
  2 Press [OK].
     The check mark is removed.
  • 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)

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].

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.

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. (⇒ 21)

**Signal Condition**
You can check the quality and strength of signals.
Press [CH ▲ ▼] to select the channel.
- The channels you can receive are affected by weather conditions, seasons, time (day/night), region, length of the cable that is connected to the aerial, etc.
- When the signal is too strong (red bar), reduce the signal amplification at your aerial. (For details, consult your dealer.)

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

**HDD / Disc / USB HDD**

**Settings for Playback**

**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 ※※※※”.  
  (⇒ 98, 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 ※※※※”.  
  (⇒ 98, Language code list)

**Menu**
Select the language for disc menus.
- Enter a code with the number buttons when you select “Other ※※※※”.  
  (⇒ 98, Language code list)

**DVD-Video Parental Control**
Set a rating level to limit DVD-Video play.
- PIN is required to change. (⇒ 21)

**Settings for Recording**

**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” (⇒ 79), “On” cannot be selected.

**Aspect for Recording**
Sets the aspect ratio when recording or copying except in DR mode.
- “HG”, “HX”, “HE”, “HL” or “HM” mode:  
  If “Automatic” is selected, the title will be recorded with the original aspect ratio.
- “XP”, “SP”, “LP” or “FR (recordings less than 5 hours)” mode:  
  If “Automatic” is selected, the title will be recorded with the original aspect ratio at the time when recording started (including when recording started at a commercial, etc.).
- “EP” or “FR (recordings 5 hours or longer)” mode:  
  If “Automatic” is selected, aspect is fixed to 4:3.
- In the following cases, aspect is fixed to 4:3.
  - When recording to a +R, +R DL and +RW.
Convenient functions

Basic Settings

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.

Disc Speed for High Speed Copy
Select the speed of high-speed copying.
If “Normal ( Silent )” is selected, the time required for copying will be longer.

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. (65)

USB HDD Disconnection
This function puts the USB HDD in a state in which it can be safely disconnected. (65)

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.

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.)

NTSC Video Output
Select how to output the NTSC image.
**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

**Bilingual Audio Selection**
Select whether to record the audio type (“M1” or “M2”) when:
- File Conversion (⇨ 40)
- Copying to a DVD-R, DVD-RW, +R and +RW.

**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.

**Dolby Digital**

**DTS**

**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.

**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 recorded in DR mode.
  - File Conversion (⇨ 40)
  - Normal speed copy from the title recorded in DR mode. (⇨ 42)

**Audio for HG / HX / HE / HL / HM Recording**
If the programme has multi channel audio, priority is given to what you select.
- This setting will give effect in the following cases.
  - Timer recording (⇨ 27)
  - File Conversion (⇨ 40)
  - Normal speed copy in HG, HX, HE, HL or HM mode from a title recorded in DR mode. (⇨ 42)
Convenient functions

Basic Settings

Display

On-Screen Information
Select the time until the channel information screen (⇒ 22) 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 (⇒ 23) 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.

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.

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.

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.

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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Network

Easy Network Setting
Press [OK] to start Easy Network Setting. (⇒ 19)

Network Settings

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 Network Service.
• PIN is required to change. (⇒ 21)

Automatic Volume Control
Volume is adjusted automatically to the standard volume while using Network Service.
• 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.)

Remote Recording function
When you set a recording from a smartphone 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.
Convenient functions

Basic Settings

Home Network Settings
You can set the DLNA (Server) function. (⇒ 58)

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”. (⇒ 79)
- If “Off” is selected, the setting for “Remote Recording function” is fixed to “Off”. (⇒ 77)

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”. (⇒ 84)

Conversion Setting for DLNA
• On:
  When playing back on DLNA (Client) compatible equipment, this setting reduces the chance of break-ups and freezing of an image by lowering the image quality.
  When this is set to “On”, switching the channel or starting playback will take longer.

Resolution Setting for DLNA
When “Conversion Setting for DLNA” is set to “On”, select the image quality.

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

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.

  - When “Home Network function” (⇒ 78) or “Remote Recording function” (⇒ 77) is set to “On”, the setting for this function is fixed to “On”.

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.

- When “REWIND LIVE TV” is set to “On” (⇒ 73), “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” (⇒ 25).

Automatic Standby after Copy

- **On:**
  This unit is turned to standby mode when it is not operated for approximately 5 minutes after completing copy (⇒ 44, Copying from media other than HDD with DIRECT NAVIGATOR, Copying titles with copying list).

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 “DVD 1”, 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].
Convenient functions

Basic Settings

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.

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.,

3 Press [OK].

System Update

Software Update in Standby
When you set this unit to standby mode, software (firmware) updates (⇒ 81) are downloaded automatically at the time you have specified.

Software Update Now (Internet)
Refer to “Software (Firmware) Update”. (⇒ 81)

Software Licence
Information about the software licence is displayed.

System Information
Display Software (firmware), HDAVI Control version of this unit.

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.
Software (Firmware) Update

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 Internet*

• To update the software (Firmware) immediately, use the following function:
  - 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, 19)

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

- It is displayed on the channel information (⇒ 22) when the Software (Firmware) can be updated immediately.

  e.g.,

  ![Display Image]

  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

- When "FINISH" is displayed, update of the software (firmware) has completed.

  ![Display Image]

  • It may take up to a few hours until the update is completed depending on the network 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/
Convenient functions

Other operations

Media management

RAM DVD-R DVD-RW +R +RW SD

Press [FUNCTION MENU].
Select “Media”, then press [OK].
Select the media, then press [OK].
Select the management item, then press [OK].
Select “Yes”, then press [OK].
Select “Start”, then press [OK].

Disc Name

RAM DVD-R DVD-RW +R +RW

This function is to name a disc.
Refer to “Entering text”. (⇒ 84)
- The disc name is displayed in the DVD Management window.
- DVD-R DVD-RW +R With a finalised disc, the name is displayed on the Top Menu.
- +RW The disc name is displayed only if you play the disc on other equipment after creating Top Menu.

Disc Protection

RAM
Select “Yes”, then press [OK].
- To release the protection
  Repeat the same steps.
  - The screen icon will be switched to “Off”.

Delete all titles

RAM
Select “Yes”, then press [OK].
Select “Start”, then press [OK].
- Photo data (JPEG/MPO) or computer data cannot be deleted.

• Do not perform this operation before copying HD Video (AVCHD) to DVD-R or DVD-R DL. (⇒ 49)
**Convenient functions**

**Format Disc/Format Card**

<table>
<thead>
<tr>
<th>RAM</th>
<th>DVD-RW</th>
<th>+RW</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

New disc only

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

1. Select “Yes”, then press [OK].
2. Select “Start”, then press [OK].
3. Press [OK].

**To stop formatting**

Press [RETURN].

- You can cancel formatting if it takes more than 2 minutes. The disc must be reformatted if you do this.

* The contents are deleted when you format a disc or card even if you have set protection.
* RAM: Formatting normally takes a few minutes; however, it may take up to a maximum of 70 minutes.
* Do not disconnect the AC mains lead while formatting. This can render the disc or the card unusable.
* When a disc or card has been formatted using this unit, it may not be possible to use it on any other equipment.
* It will become DVD Video format when a DVD-RW recorded in DVD Video Recording format is formatted with this unit.

**Top Menu**

<table>
<thead>
<tr>
<th>DVD-R</th>
<th>DVD-RW</th>
<th>+R</th>
<th>+RW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You can select the background for DVD-Video Top Menu.

Select the background, then press [OK].

**Auto-Play Select**

<table>
<thead>
<tr>
<th>DVD-R</th>
<th>DVD-RW</th>
<th>+R</th>
<th>+RW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You can select whether to show the Top Menu after finalising or creating Top Menu.

Select “Top Menu” or “Title 1”, then press [OK].

**Top Menu:**
The Top Menu appears first.

**Title 1:**
The disc content is played without displaying the Top Menu.

**Finalise**

<table>
<thead>
<tr>
<th>DVD-R</th>
<th>DVD-RW</th>
<th>+R</th>
<th>+RW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(You can play the disc on compatible DVD players by finalising it on the unit.)

1. Select “Yes”, then press [OK].
2. Select “Start”, then press [OK].
3. Press [OK].

**After finalising**

- DVD-R | +R: The disc becomes play-only and you can no longer record or edit.
- DVD-RW | You can record and edit the disc after formatting.

- You cannot cancel finalising.
- Finalising takes up to 15 minutes (Up to 60 minutes in case of DVD-R DL and +R DL).
- Do not disconnect the AC mains lead while finalising. This can render the disc unusable.
- Depending on the disc, it may take longer than displayed on the confirmation screen (approximately four times longer).
- You cannot finalise discs recorded on other manufacturer’s equipment.
- DVD-R | DVD-RW | +R: If you finalise discs recorded on Panasonic equipment other than this unit, the background selected as “Top Menu” may not be displayed.
- Discs finalised on this unit may not be playable on other players due to the condition of the recording.
Convenient functions

Other operations

Create Top Menu

You can create Top Menu for displaying on other equipment.

Make selections from "Top Menu" and "Auto-Play Select" before creating Top Menu.

1 Select “Yes”, then press [OK].
2 Select “Start”, then press [OK].
3 Press [OK].

• You cannot use the Top Menu for playing on this unit.
• The created menu is deleted when you record or edit the disc.

Entering text

Preparation

• Show the “Enter Title Name” screen, etc.
1 Select a character, then press [OK].
   Repeat this step to enter other characters.
   e.g.,
   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”
   1 Press [7] to move to the seventh row.
   3 Press [OK].

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

To end partway

Press [RETURN]. (Text is not added.)

• The maximum number of characters depends on the media.
• If a name is long, parts of it may not be shown in some screens.
### Convenient functions

#### 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 “Playback Settings” in “Playback Menu”, then press [OK].
3. Select “Aspect” in “Basic Operation”, then press [OK].
4. 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.

- This function does not work when watching 3D programme and playing back 3D title or 3D photo.
- It may also be adjusted using the screen mode of the TV etc.
- The screen mode is switched to “Normal” in the following situations:
  - when you change the channel
  - when you start or end the playback of a title
  - when you switch the unit on or to standby mode.
- **DVD-V** “Side cut” does not have any effect.
- When “TV Aspect” (§ 76) is set to “Pan & Scan” or “Letterbox”, the “Zoom” effect is disabled.

#### 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.

---

See page 85 for detailed instructions and settings.
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. (⇒ 81)

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 [.operation] on the main unit to switch the unit to standby.
   • If the unit does not switch to standby, press [operation] 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 [operation] 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. (⇒ 67, Power off link)

General operation
The remote control does not work.
• The remote control and main unit are using different codes. Change the code on the remote control.
  
  Press and hold [OK] and the indicated number button at the same time for more than 5 seconds. (⇒ 79)
  
  • Software (firmware) is updating when “UPD” is displaying on the unit’s display. Wait until the update is completed. (⇒ 81)
  
  • The HOLD function is activated. (⇒ 85)

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 the “Quick Start” is not activated. (⇒ 79)
  
  • Startup of this unit may be slower depending on the TV settings.

Screen size is wrong.
• Check the “TV Aspect” or “Aspect for 4:3 Video”. (⇒ 76)

TV screen and video
• Adjust the aspect ratio setting on TV.

• If you connect to 4:3 TV, set “HDMI Video Format” to “576p/480p”. (⇒ 70, 76)

• Check “Aspect for Recording” before recording or file conversion. (⇒ 70, 73)

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)”. (⇒ 70, 79)

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

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. (⇒ 76)

There is a lot of image lag when playing video.
• Set to “0” all items in the “Noise Reduction”. (⇒ 69)
• Set “Audio Delay”. (⇒ 70, 75)
Troubleshooting

Troubleshooting guide

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. (→ 70, 76)
• When Dolby Digital Plus, Dolby TrueHD, and DTS-HD® audio are not output properly, select "Yes" in "Default Settings" and make proper settings. (→ 70, 80)

• 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” (→ 70, 76) or “Contents Type Flag” (→ 70, 76) to "Off".

3D video is not output correctly.
• 3D video may be output correctly by changing the following settings:
  - "3D Type" of "3D Settings" (→ 70, 76)
  - "Signal Format" (→ 37, 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. (→ 76)

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 “Playback Settings” in “Playback Menu”, then press [OK].
  3 Select “3D Settings”, then press [OK].
  4 Select “Side by side” in “Signal Format”, then press [OK].
Troubleshooting

Sound

No sound.
Distorted sound.
• Check the connections. (⇒ 14)
• Check the settings of the connected TV, etc.
• Press [AUDIO] to select the audio. (⇒ 23, 36)
• To output audio from a device connected with an HDMI cable, set “HDMI Audio Output” to “On”. (⇒ 70, 76)

Cannot change audio channel.
• You cannot change the audio channel if “Digital Audio Output” is set to “Bitstream” (⇒ 75)

Recording, timer recording and copying

Cannot record.
Cannot copy.
• Some broadcasts are copyright protected.
• You cannot record to the disc by pressing the [REC] or timer recording.
• The disc is protected. (⇒ 82)
• DVD-R, DVD-RW, +R, +RW Since it will copy to HDD temporarily, copying is not possible if there is insufficient available capacity on the HDD.
• DVD-R, DVD-RW, +R, +RW Copying or editing may not be possible on these discs after ejecting and loading the disc or switching the unit on or to standby mode for approximately 30 times after being copied to.
• This unit cannot record/copy NTSC signals to discs that already have PAL signal recordings.

Timer recording does not work properly.
• Failed timer recordings are displayed in grey with on the Timer Recording screen. (⇒ 30)
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.

An unusually loud sound is coming from the rotating disc.
• If you want copy to perform more quietly, select “Normal ( Silent )” in “Disc Speed for High Speed Copy”. (⇒ 70, 74)
Troubleshooting

Troubleshooting guide

The time recorded on the disc and the available time shown do not add up.
- **[DVD-R][+R]** If you record or edit many times, the remaining capacity is reduced and then recording or editing may be disabled.
- Available disc space display may be different from actual.

**Play**

Cannot play back.
- The disc is dirty. (⇒ 10)
- The disc is scratched or marked.
- 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.

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

Image for the Quick View is not smooth.
- Image may not be played back smoothly in case of high definition titles.

Cannot play the disc on other players.
- Refer to “Play on other players”. (⇒ 9)

**Edit**

The available recording time does not increase even after deleting titles on the disc.
- **[DVD-R][+R]** Available space on the disc does not increase even after deleting titles.
- **[DVD-RW][+RW]** Available space on the disc increases when you delete the last title.

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. (⇒ 38)

Cannot create a video playlist.
- Creation or editing of playlists cannot be done on this unit.

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.
**Troubleshooting**

### 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 or 4096-bytes. (For details, consult the dealer of your USB HDD.)

### TV Guide

The TV Guide information is not displayed properly.
- Set the clock correctly. (⇒ 70, 80, 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”. (⇒ 70, 72)

### 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.
Troubleshooting guide

**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, 19)
- It may not be possible to connect depending on the types of the equipment or the status of the equipment.

**When using this unit as a server, video frames are dropped.**
- Change the following settings:
  - Conversion Setting for DLNA (∵ 70, 78)
  - Resolution Setting for DLNA (∵ 70, 78)

**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 may not be played back:
  - A title with access restriction
  - A title with incompatible format
- Playback via DLNA compatible equipment may not be performed when this unit is in the following conditions:
  - While simultaneously performing High speed copy and recording
  - While displaying the Basic Settings menu
  - While executing functions using a network, such as Network Service
- You cannot play back simultaneously from two or more items of DLNA compatible equipment.

**Reset**

**To return all the settings to the factory preset**
Perform “Shipping Condition” or “Default Settings”. (∵ 70, 80)
Messages on the unit’s display

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

**DVD**

( stands for a number.)

The remote control and main unit are using different codes. Change the code on the remote control. ( 87)

**CONV**

Selected titles in the USB HDD are being converted. Do not disconnect the USB HDD from this unit.

**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.

**NoERAS**

You cannot delete items on this disc. The disc may be damaged.

**NoREAD**

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

**NoWRITER**

You cannot write to this disc. The disc may be damaged. Use a new disc.

**PLEASE WAIT**

- Displayed 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. ( 30)

**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. ( 81)

**SW-DL**

Software (firmware) is downloading. Download will stop when the unit is turned on, or the timer recording starts. ( 81)

**UNSUPORT**

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. ( 81)

**U59**

The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Install or place this unit with good ventilation.

**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.

**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 [ ] on the main unit to switch the unit to standby mode. Now press [ ] on the main unit again to turn the unit on.

**X HOLD**

The HOLD function is activated. ( 85)

**DMRXW440GL_eng.book  93 ページ  2014年2月6日 木曜日 午前11時29分**
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)
- **Mass:** Approx. 2.9 kg
- **Power supply:** AC 220 V to 240 V, 50 Hz
- **Power consumption:** Approx. 28 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
- **DR mode:** Partial TS
- **HG, HX, HE, HL, HM mode:** MPEG-4 AVC/H.264, Dolby Digital
- **XP, SP, LP, EP mode:** MPEG2 (Hybrid VBR), Dolby Digital

### Video/Audio terminals
- **Analog video input (pin jack):** 1 pc.
  - Input level: 1 Vp-p (75 Ω)
  - Output level: 1 Vp-p (75 Ω)
- **Analog video output (pin jack):** 1 pc.
  - Input level: Full scale 2.0 Vrms at 1 kHz (> 10 kΩ)
  - Output level: Full scale 2.0 Vrms at 1 kHz (< 1 kΩ)
- **Analog audio L/R input (pin jack):** 1 pc.
  - Full scale 2.0 Vrms at 1 kHz (> 10 kΩ)
  - Output level: Full scale 2.0 Vrms at 1 kHz (< 1 kΩ)
- **Power consumption:** Approx. 28 W
  - "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)

### HDMI terminal
- **HDMI output (19 pin type A):** 1 pc.
  - PCM, MPEG, Dolby Digital, DTS®, PCM, Dolby Digital, DTS®, MPEG
- **HDMI terminal:**
  - This unit supports "HDAVI Control 5" function.

### Internal HDD capacity
- **500 GB**

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

---

**Reference**
**Recordable discs**

- **DVD-RAM:** 2X SPEED (Ver. 2.0), 2-3X SPEED (Ver. 2.1), 2-5X SPEED (Ver. 2.2)
- **DVD-R (SL):** 1X SPEED (Ver. 2.0), 1-4X SPEED (Ver. 2.0), 1-8X SPEED (Ver. 2.0), 1-16X SPEED (Ver. 2.1)
- **DVD-R (DL):** 2-4X SPEED (Ver. 3.0), 2-8X SPEED (Ver. 3.0)
- **DVD-RW:** 1X SPEED (Ver. 1.1), 1-2X SPEED (Ver. 1.1), 2-4X SPEED (Ver. 1.2), 2-6X SPEED (Ver. 1.2)
- **+R (SL):** 2.4X SPEED (Ver. 1.0), 2.4-4X SPEED (Ver. 1.1), 2.4-8X SPEED (Ver. 1.2), 2.4-16X SPEED (Ver. 1.3)
- **+R (DL):** 2.4X SPEED (Ver. 1.0), 2.4-8X SPEED (Ver. 1.1)
- **+RW:** 2.4X SPEED (Ver. 1.1), 2.4-4X SPEED (Ver. 1.2)

**Playable discs**

- **DVD-Video:** DVD-Video format
- **CD-DA (Audio CD):** CD-DA (Audio CD)
- **DVD-RAM:** DVD Video Recording format, AVCHD format, JPEG\(^1\), MPO\(^1\)
- **DVD-R:** DVD-Video format\(^2\), AVCHD format\(^2\), JPEG\(^1\), MPO\(^1\), MP3\(^1\), Xvid\(^1\), MKV\(^1\)
- **DVD-R DL:** DVD-Video format\(^2\), AVCHD format\(^2\), JPEG\(^1\), MPO\(^1\), MP3\(^1\), Xvid\(^1\), MKV\(^1\)
- **DVD-RW:** DVD-Video format\(^2\)
- **DVD-R DL:** DVD Video Recording format, AVCHD format\(^2\)
- **+R:** Video\(^2\), AVCHD format\(^2\)
- **+R DL:** Video\(^2\), AVCHD format\(^2\)
- **+RW:** Video\(^2\), AVCHD format\(^2\)
- **CD-R/CD-RW:** CD-DA, JPEG\(^1\), MPO\(^1\), MP3\(^1\), Xvid\(^1\), MKV\(^1\)

\(^1\) DVD/CD discs need to be based on UDF or ISO9660 format.

\(^2\) Finalising is necessary.

**Optical pick-up**

System with 2 lenses, 3 integration units
(405 nm wavelength for only start up, 661 nm wavelength for DVDs, 783 nm wavelength for CDs)

**LASER specification**

Class 1 LASER Product

- **Wave length:** 405 nm (only start up), 661 nm (DVDs), 783 nm (CDs)

Laser power:

No hazardous radiation is emitted with the safety protection

**Recording system**

- **DVD-RAM:** DVD Video Recording format
- **DVD-R (SL/DL):** DVD-Video format, AVCHD format
- **DVD-RW:** DVD-Video format
- **+R (SL/DL), +RW:** DVD-Video format

**Region code**

- **DVD:** #4
Specifications

■ 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, MPEG2, 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, MPEG2

Audio information

The audio output differs depending on which terminals are connected to the amplifier/receiver, and the setting on this unit. (⇒ 75, 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>
</table>
| HDMI AV OUT               | Bitstream: Output using original audio  
DVD-Video: 5.1ch PCM |
| DIGITAL AUDIO OUT         | Dolby Digital/ DTS Digital Surround™  
Down-mixed 2ch PCM |

Maximum numbers of titles that can be recorded

<table>
<thead>
<tr>
<th>Media</th>
<th>Maximum folders</th>
<th>Maximum files</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD</td>
<td>–</td>
<td>20000</td>
</tr>
<tr>
<td>DVD-RAM</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.

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 to DCF (Design rule for Camera File system) MPO conforming to MPF (Multi Picture Format)
### Reference

#### MP3
- **Playable media:** HDD, DVD-R, DVD-R DL, CD-R, CD-RW, USB device
- **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:
  - **Video resolution:** Up to 1920x1080
  - **Sampling rate:** 8 kHz to 48 kHz
  - **Number of audio channel:** 1 or 2

### MKV
- **Playable media:** DVD-R, DVD-R DL, CD-R, CD-RW, USB device
- 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

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

### Recording modes and approximate recording times

Depending on the content being recorded, the recording time may become shorter than indicated.

#### DR mode

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>HDD (500 GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR (HD quality)</td>
<td>69 hours</td>
</tr>
<tr>
<td>DR (SD quality)</td>
<td>131 hours</td>
</tr>
</tbody>
</table>

- **Recording time of DR mode 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 in the DR mode 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.

#### HG, HX, HE, HL, HM modes

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>HDD (500 GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HG</td>
<td>78 hours</td>
</tr>
<tr>
<td>HX</td>
<td>117 hours</td>
</tr>
<tr>
<td>HE</td>
<td>176 hours</td>
</tr>
<tr>
<td>HL</td>
<td>235 hours</td>
</tr>
<tr>
<td>HM</td>
<td>341 hours</td>
</tr>
</tbody>
</table>
Specifications

- **XP, SP, LP, EP modes**

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>HDD (500 GB)</th>
<th>DVD-RAM Single-sided (4.7 GB)</th>
<th>DVD-R DL +R DL (8.5 GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP</td>
<td>107 hours</td>
<td>1 hour</td>
<td>1 hour 45 min.</td>
</tr>
<tr>
<td>SP</td>
<td>215 hours</td>
<td>2 hours</td>
<td>3 hours 35 min.</td>
</tr>
<tr>
<td>LP</td>
<td>430 hours</td>
<td>4 hours</td>
<td>7 hours 10 min.</td>
</tr>
<tr>
<td>EP</td>
<td>860 hours</td>
<td>8 hours</td>
<td>14 hours 20 min.</td>
</tr>
</tbody>
</table>

- **Language code list**

  Abkhazian: 6566  Lingala: 7678
  Afar: 6565  Lithuanian: 7684
  Afrikaans: 6570  Macedonian: 7775
  Albanian: 8381  Malagasy: 7771
  Amharic: 6577  Malay: 7783
  Arabic: 6582  Malayalam: 7776
  Armenian: 7288  Maltese: 7784
  Assamese: 6583  Maori: 7773
  Aymara: 6589  Marathi: 7782
  Azerbaijani: 6590  Moldavian: 7779
  Bashkir: 6665  Mongolian: 7778
  Basque: 6985  Nauru: 7865
  Bengali: 6678  Nepal: 7869
  Bhutanese: 6890  Norwegian: 7879
  Bihari: 6672  Oriya: 7982
  Breton: 6682  Pashto, Pushto: 8083
  Bulgarian: 6671  Persian: 7065
  Burmese: 7789  Polish: 8076
  Byelorussian: 6669  Portuguese: 8084
  Cambodian: 7577  Punjabi: 8065
  Catalan: 6765  Quechua: 8185
  Chinese: 9072  Rhaeto-Romance: 8277
  Corsican: 6779  Romanian: 8279
  Croatian: 7282  Russian: 8285
  Czech: 6783  Samoan: 8377
  Danish: 6865  Sanskrit: 8365
  Dutch: 7876  Scots Gaelic: 7168
  English: 6978  Serbian: 8382
  Esperanto: 6979  Serbo-Croatian: 8372
  Estonian: 6984  Shona: 8378
  Faroese: 7079  Sindhi: 8368
  Fiji: 7074  Singhalese: 8373
  Finnish: 7073  Slovak: 8375
  French: 7082  Slovenian: 8376
  Frisian: 7089  Somali: 8379
  Galician: 7176  Spanish: 6983
  Georgian: 7565  Sundanese: 8385
  German: 6869  Swahili: 8387
  Greek: 6976  Swedish: 8386
  Greenlandic: 7576  Tagalog: 8476
  Guarani: 7178  Tadjik: 8471
  Gujarati: 7185  Tamil: 8465
  Hausa: 7265  Tatar: 8484
  Hebrew: 7387  Telugu: 8469
  Hindi: 7273  Thai: 8472
  Hungarian: 7285  Tibetan: 8679
  Icelandic: 7383  Tigrinya: 8473
  Indonesian: 7378  Tonga: 8489
  Interlingua: 7365  Turkish: 8482
  Irish: 7165  Turkmen: 8475
  Italian: 7384  Twi: 8487
  Japanese: 7465  Ukrainian: 8575
  Javanese: 7467  Urdu: 8582
  Kannada: 7578  Uzbek: 8590
  Kashmiri: 7583  Vietnamese: 8673
  Kazakh: 7575  Volapük: 8679
  Kirghiz: 7589  Welsh: 6789
  Korean: 7579  Wolof: 8779
  Kurdish: 7585  Xhosa: 8872
  Laotian: 7679  Yoruba: 8979
  Latin: 7665  Zulu: 9085

- **Regarding recording time remaining:**

  This unit records using a VBR (Variable bit rate) data compression system to vary recorded data segments to match video data segments which may cause differences in the displayed amount of time and space remaining for recording.
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At least three (3) years from delivery of this product, 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 GPL V2.0, LGPL V2.1 or the other licenses with the obligation to do so, as well as the respective copyright notice thereof.

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

The source code and the copyright notice are also available for free in our website below.
http://panasonic.net/avc/oss/diga/FCRCP14A.html

MS/PlayReady/Final Product Labeling
This product contains technology subject to certain intellectual property rights of Microsoft. Use or distribution of this technology outside of this product is prohibited without the appropriate license(s) from Microsoft.

MS/PlayReady/End User Notices
Content owners use Microsoft PlayReady™ content access technology to protect their intellectual property, including copyrighted content. This device uses PlayReady technology to access PlayReady-protected content and/or WMDRM-protected content. If the device fails to properly enforce restrictions on content usage, content owners may require Microsoft to revoke the device’s ability to consume PlayReady-protected content.

Revocation should not affect unprotected content or content protected by other content access technologies. Content owners may require you to upgrade PlayReady to access their content. If you decline an upgrade, you will not be able to access content that requires the upgrade.

Vorbis, FLAC, WPA Supplicant
The software licenses are displayed when “Software Licence” in the Basic Settings 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 DLNA 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)

7. The warranties hereby conferred do not extend to, and exclude, any costs associated with the installation, de-installation or re-installation of a product, including costs related to the mounting, de-mounting or remounting of any screen, (and any other ancillary activities), delivery, handling, freighting, transportation or insurance of the product or any part thereof or replacement of and do not extend to, and exclude, any damage or loss occurring by reason of, during, associated with, or related to such installation, de-installation, re-installation or transit.

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.

In addition to your rights under this warranty, Panasonic products come with consumer guarantees that cannot be excluded under the Australian Consumer Law. If there is a major failure with the product, you can reject the product and elect to have a refund or to have the product replaced or if you wish you may elect to keep the goods and be compensated for the drop in value of the goods. You are also entitled to have the product repaired or replaced if the product fails to be of acceptable quality and the failure does not amount to a major failure.

If there is a major failure in regard to the product which cannot be remedied then you must notify us within a reasonable period by contacting the Panasonic Customer Care Centre. If the failure in the product is not a major failure then Panasonic may choose to repair or replace the product and will do so in a reasonable period of time from receiving notice from you.

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.

The recording and playback of content on this or any other device may require permission from the owner of the copyright or other such rights in that content. Panasonic has no authority to and does not grant you that permission and explicitly disclaims any right, ability or intention to obtain such permission on your behalf. It is your responsibility to ensure that your use of this or any other device complies with applicable copyright legislation in your country. Please refer to that legislation for more information on the relevant laws and regulations involved or contact the owner of the rights in the content you wish to record or playback.

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.