Operating Instructions

DVD Recorder

Model No. DMR-EX77
DMR-EX87

Dear customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully.

Before connecting, operating or adjusting this product, please read the instructions completely. Please keep this manual for future reference.

Region number supported by this unit

Region numbers are allocated to DVD Recorders and DVD-Video according to where they are sold.

- The region number of this unit is "4".
- The unit will play DVD-Video marked with labels containing "4" or "ALL".

Example:

Dear customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully.

Before connecting, operating or adjusting this product, please read the instructions completely. Please keep this manual for future reference.
CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE
OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN
MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.
REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING:
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR
PRODUCT DAMAGE,
• DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE,
DRIPPING OR SPLASHING AND THAT NO OBJECTS
 FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE
PLACED ON THE APPARATUS.
• USE ONLY THE RECOMMENDED ACCESSORIES.
• DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO
 USER SERVICEABLE PARTS INSIDE. REFER SERVICING
 TO QUALIFIED SERVICE PERSONNEL.

CAUTION!
• DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE,
 BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE.
ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT
 RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO
OVERHEATING, ENSURE THAT CURTAINS AND ANY
OTHER MATERIALS DO NOT OBSTRUCT THE
VENTILATION VENTS.
• DO NOT OBSTRUCT THE UNIT’S VENTILATION OPENINGS
 WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND
SIMILAR ITEMS.
• DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS
LIT CANDLES, ON THE UNIT.
• DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY
 FRIENDLY MANNER.

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace
only with the same or equivalent type recommended by the
manufacturer. Dispose of used batteries according to the
manufacturer’s instructions.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

This product may receive radio interference caused by mobile
telephones during use. If such interference is apparent, please
increase separation between the product and the mobile
telephone.

The socket outlet shall be installed near the equipment and easily
accessible.
The mains plug of the power supply cord shall remain readily
operable.
To completely disconnect this apparatus from the AC Mains,
disconnect the power supply cord plug from AC receptacle.

CLASS 1
LASER PRODUCT

WARNING: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AND DIRECT EXPOSURE TO BE AVOIDED.

CAUTION: USE ONLY THE RECOMMENDED ACCESSORIES.

PRECAUTIONS TO BE TAKEN TO MINIMIZE THE RISK OF ELECTRIC SHOCK OR FIRE DUE TO OVERHEATING:
1. Do not block any ventilation openings.
2. Do not put any object wrapped in cloth or newspaper into the cabinet.
3. Do not place any water containing objects near the equipment.
4. Do not put any objects filled with liquids, such as vases, on top of the equipment.

Infomation on Disposal in other Countries outside the
European Union

This symbol is only valid in the European Union.
If you wish to discard this product, please contact
your local authorities or dealer and ask for the correct
method of disposal.
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About descriptions in these operating instructions
- These operating instructions are applicable to models DMR-EH57 and DMR-EH67. Unless otherwise indicated, illustrations in these operating instructions are of DMR-EH67 for Australia and N.Z.
- DMR-EH57: indicates features applicable to DMR-EH57 only.
- DMR-EH67: indicates features applicable to DMR-EH57 only.
- Instructions/notes regarding SD Cards and SD Drive are applicable to the DMR-EH67 model only.
- Pages to be referred to are indicated as “⩾” ○ ○”.

Index ........................................................................ Back cover
# HDD, disc and card information

## HDD, disc and card information

**Disc and discs you can use for recording and play**

<table>
<thead>
<tr>
<th>Disc type</th>
<th>HDD</th>
<th>DVD-RAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logo</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### HDD

- **Hard disk drive (HDD)**
  - ≥ 160 GB
  - ≥ 250 GB
- **DVD-RAM**
  - ≥ 4.7 GB/9.4 GB, 12 cm
  - ≥ 2.8 GB, 8 cm

### Recording format

**DVD Video Recording format**

- This is a recording format which allows you to record and edit television broadcasts and so on.
- You can delete unwanted parts of a title, create playlists, etc.
- The broadcasts that allow "One time only recording" can be recorded to a CPRM compatible disc.

### Data that can be recorded and played

<table>
<thead>
<tr>
<th>Video</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still pictures (ENSTD)</td>
<td>Still pictures (ENSTD)</td>
</tr>
</tbody>
</table>

### Re-writable

- DVD-R
  - –
  - –

### Play on other players

- DVD-R
  - –
  - –

### Compatible with high speed recording

- DVD-R
  - –
  - Up to 5X recording speed discs.

### What you can do on this unit

<table>
<thead>
<tr>
<th>Recording broadcasts that allow one copy</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recording both M 1 and M 2 for bilingual broadcasts</td>
<td></td>
</tr>
<tr>
<td>Recording 16:9 aspect picture</td>
<td></td>
</tr>
<tr>
<td>Creating and editing playlists</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disc type</th>
<th>DVD-R</th>
<th>DVD-R DL</th>
<th>DVD-RW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logo</td>
<td>● 4.7 GB, 12 cm</td>
<td>● 4.7 GB, 12 cm</td>
<td>● 4.7 GB, 12 cm</td>
</tr>
<tr>
<td></td>
<td>● 1.4 GB, 8 cm</td>
<td>● 1.4 GB, 8 cm</td>
<td>● 1.4 GB, 8 cm</td>
</tr>
</tbody>
</table>

### Recording format

**DVD-Video format**

- This recording format is the same as commercially available DVD-Video.
- The broadcasts that allow "One time only recording" cannot be recorded.

### Data that can be recorded and played

<table>
<thead>
<tr>
<th>Video</th>
<th>Video</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Re-writable

- DVD-R
  - –
  - –

### Play on other players

- DVD-R
  - Only after finalising the disc (≥ 57, 77),
  - Only on DVD-R DL compatible players after finalising the disc (≥ 57, 77),
  - Only after finalising the disc (≥ 57, 77),

### Compatible with high speed recording

- DVD-R
  - Up to 16X recording speed discs.
  - Up to 8X recording speed discs.
  - Up to 6X recording speed discs.

### What you can do on this unit

<table>
<thead>
<tr>
<th>Recording broadcasts that allow one copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recording both M 1 and M 2 for bilingual broadcasts</td>
</tr>
<tr>
<td>Recording 16:9 aspect picture</td>
</tr>
<tr>
<td>Creating and editing playlists</td>
</tr>
</tbody>
</table>

*(continued on the next page)*
HDD and discs you can use for recording and play

(continued)

<table>
<thead>
<tr>
<th>Disc type</th>
<th>+R</th>
<th>+R DL</th>
<th>+R DL</th>
<th>+RW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logo</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Indicated in these instructions by</td>
<td>DVDVR</td>
<td>VR DL</td>
<td>DVDVR</td>
<td>–</td>
</tr>
</tbody>
</table>

**Recording formats**

- **+VR (+R/+RW Video Recording) format**
  - This is a format for recording moving pictures to +R/+RW discs.
  - You can playback such discs recorded in this format in a similar way as contents recorded in the DVD-Video format.
  - The broadcasts that allow “One time only recording” cannot be recorded.
  - After finalising the disc or creating the top menu, you can play the disc on DVD players and other equipment.

<table>
<thead>
<tr>
<th>Data that can be recorded and played</th>
<th>Video</th>
<th>Video</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-writable</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Play on other players&lt;sup&gt;1,3&lt;/sup&gt;</td>
<td>Only after finalising the disc (§ 57, 77).</td>
<td>Only on +R DL compatible players after finalising the disc (§ 57, 77).</td>
<td>Only on +RW compatible players.</td>
</tr>
<tr>
<td>Compatible with high speed recording&lt;sup&gt;2,4&lt;/sup&gt;</td>
<td>Up to 16X recording speed discs.</td>
<td>Up to 8X recording speed discs.</td>
<td>Up to 4X recording speed discs.&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**What you can do on this unit (○ Can do, – Cannot do)**

| Recording broadcasts that allow one copy | – | – | – |
| Recording both M 1 and M 2 for bilingual broadcasts<sup>3</sup> | (Only one is recorded. ([62, Bilingual Audio Selection])] | (Only one is recorded. ([62, Bilingual Audio Selection])] | (Only one is recorded. ([62, Bilingual Audio Selection])] |
| Recording 16:9 aspect picture<sup>3,4</sup> | (The picture is recorded in 4:3 aspect.) | (The picture is recorded in 4:3 aspect.) | (The picture is recorded in 4:3 aspect.) |
| Creating and editing playlists | – | – | – |

<sup>1</sup> The amount of the recordable disc space doesn’t increase even if the programme is deleted when you use discs that can only be used for recording once.

<sup>2</sup> RAM can be played on Panasonic DVD Recorders and DVD-RAM compatible DVD players. If you play a DVD-R DL, +R DL or +R, use compatible equipment.

<sup>3</sup> The high-speed recording discs listed here are compatible with this unit. However, this is not the copy speed.

<sup>4</sup> For further information (∗ 8, Important notes for recording)

**Note**

When “Rec for High Speed Copy” is set to “On”, the restrictions on secondary audio recording are also applied to DVD-RAM. Turn this setting “Off” if high speed copy to DVD-R, etc. is not necessary when recording a programme. (The default setting is “On”. ∗ 61).

<sup>4</sup> +R discs recorded with this unit and +R discs recorded with another Panasonic DVD Recorder may be incompatible. However, discs that are finalised are compatible and can be played.

We recommend using Panasonic discs and cards. We also recommend using DVD-RAM discs with cartridges to protect them from scratches and dirt.

You may not be able to record depending on the condition of the discs and you may not be able to play due to the condition of the recording.

You cannot record programmes that allow “One time only recording” to CPRM compatible DVD-R and DVD-RW on this unit.

This unit cannot record NTSC signals to discs that already have PAL signal recordings. (However, both types of programmes can be recorded onto the HDD.)

**Finalise**

A process that makes play of a recorded disc possible on equipment that can play such media. After finalising, the disc becomes play-only and you can no longer record or edit. (∗ 57)

**Formatting**

Formatting is the process of making media such as DVD-RAM recordable on recording equipment. (∗ 56)

Formatting permanently deletes all contents.

**You cannot directly record to a DVD-R DL and +R DL disc on this unit.**

Record to the HDD and then copy to the disc.

**When playing DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided)**

DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided) discs have two writable layers on one side. If there is not enough space on the first layer to record a programme, the remainder is recorded on the second layer. When playing a title recorded on both layers, the unit automatically switches between layers and plays the title in the same way as a normal programme. However, video and audio may momentarily cut out when the unit is switching layers.

**Recording modes and approximate recording times (∗ 23)**
### Play-only discs (12 cm/8 cm cm)

<table>
<thead>
<tr>
<th>Disc type</th>
<th>DVD-Video</th>
<th>DVD-RW (DVD Video Recording format)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logo</td>
<td>DVD-Video</td>
<td>DVD-RW</td>
</tr>
<tr>
<td>Indicated in these instructions by</td>
<td>DVDV</td>
<td>RWVR</td>
</tr>
<tr>
<td>Instructions</td>
<td>High quality movie and music discs</td>
<td>DVD-RW recorded on another DVD Recorder</td>
</tr>
</tbody>
</table>

- You can play programmes that allow “One time only recording” if they have been recorded to a CPRM compatible disc.
- By formatting (➡ 56) the disc, you can record to it in DVD-Video format and play it on this unit.
- It may be necessary to finalise the disc on the equipment used for recording.

### Discs that cannot be played

- 2.6 and 5.2 GB DVD-RAM, 12 cm
- 3.95 and 4.7 GB DVD-R for Authoring
- Discs recorded with AVCHD format.
- PAL TV
- NTSC TV
- Multi-system TV
- DVD-Audio
- Blu-ray HD DVD
- DVD-ROM, +R (8 cm), CD-ROM, CDV, CD-G, Photo CD, CVD, SVCD, SACD, MV-Disc, PD, etc.

### Types of disc or title recorded on HDD for the type of connected TV

When you use the discs recorded either PAL or NTSC, or playback a title recorded on HDD using PAL or NTSC, refer to this table.

<table>
<thead>
<tr>
<th>TV type</th>
<th>Disc/Titles recorded on HDD</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-system TV</td>
<td>PAL</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>NTSC</td>
<td>O</td>
</tr>
<tr>
<td>PAL TV</td>
<td>PAL</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>NTSC</td>
<td>O*1 (PAL60)</td>
</tr>
<tr>
<td>NTSC TV</td>
<td>PAL</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>NTSC</td>
<td>O*2</td>
</tr>
</tbody>
</table>

*1 If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.

*2 Select “NTSC” in “TV System” (➡ 66).

- 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.

- Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.
Cards you can use on this unit [EH67]

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD Memory Card (from 8 MB to 2 GB)</td>
<td></td>
</tr>
<tr>
<td>SDHC Memory Card (4 GB)</td>
<td></td>
</tr>
<tr>
<td>miniSD Card*</td>
<td></td>
</tr>
<tr>
<td>MultiMediaCard</td>
<td></td>
</tr>
</tbody>
</table>

The card types mentioned above will be referred to as “SD Card” in these operating instructions.

Suitable SD Cards

- When using 4 GB SD Memory Cards, only SD Memory Cards that display the SDHC logo can be used.
- Usable memory is slightly less than the card capacity.
- Please confirm the latest information on the following website.
  [http://panasonic.co.jp/pavc/global/cs](http://panasonic.co.jp/pavc/global/cs) (This site is in English only.)
- If the SD Card is formatted on other equipment, the time necessary for recording may be longer. Also, if the SD Card is formatted on a PC, you may not be able to use it on this unit. In these cases, format the card on this unit (➡ 56, 77).
- This unit is compatible with SD Memory Cards that meet SD Card Specifications FAT 12 and FAT 16 formats, as well as SDHC Memory Cards in FAT 32 format.
- SDHC Memory Cards used for recording with this unit can only be used with other SDHC Memory Card-compatible equipment. SDHC Memory Cards cannot be used with equipment that is only compatible with SD Memory Cards.
- This unit cannot play AVCHD format motion pictures on an SD Card.
- We recommend using a Panasonic SD Card.
- Keep the Memory Card out of reach of children to prevent swallowing.

Structure of folders displayed by this unit [EH67]

The following can be displayed on this unit.

* : Numbers  XXX: Letters

<table>
<thead>
<tr>
<th>DVD-RAM</th>
<th>Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG</td>
<td>DCIM</td>
</tr>
<tr>
<td>DCIM</td>
<td>XXXX</td>
</tr>
<tr>
<td>XXXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>XXXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>XXXX</td>
<td>XXXX</td>
</tr>
</tbody>
</table>

* Folders can be created on other equipment. However, these folders cannot be selected as a copying destination.

- The folder cannot be displayed if the numbers are all “0” (e.g., DCIM000, etc.).
- If a folder name or file name has been input using other equipment, the name may not be displayed properly or you may not be able to play or edit the data.
### Important notes for recording

#### When recording a bilingual programme

<table>
<thead>
<tr>
<th>HDD</th>
<th>RAM</th>
<th>Both main and secondary audio can be recorded.</th>
<th>㎝ 32, Changing audio during play</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>However in the following cases, select whether to record the main or secondary audio:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-- Recording sound in LPCM ( menstrual 62, Audio Mode for XP Recording)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-- &quot;Rec for High Speed Copy&quot; is set to &quot;On&quot; (The default setting is &quot;On&quot;. 61)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>If you record from external equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-- Select both &quot;M 1&quot; and &quot;M 2&quot; on the external equipment.</td>
<td></td>
</tr>
</tbody>
</table>

#### About the aspect when recording a programme

<table>
<thead>
<tr>
<th>HDD</th>
<th>RAM</th>
<th>RAMV</th>
<th>-R</th>
<th>-RW(V)</th>
<th>+R</th>
<th>+RW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-R</td>
<td>+R</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

- If "Aspect for Recording" in the Setup menu is set to "Automatic" (The default setting is "Automatic" 61), the programme will be recorded in the original aspect used when recording started (including when recording started at a commercial, etc.). If recorded with a different aspect, select the correct aspect ("16:9" or "4:3").

#### When you want to copy titles in high speed mode from the HDD to DVD-R, etc.

Set "Rec for High Speed Copy" to "On" before recording to the HDD (The default setting is "On". 61).

- You can copy titles in high speed mode (max. speed is 75X); however, the audio and aspect settings (㎝ above) are necessary before recording to the HDD.

- Depending on the disc, max. speed may vary.

#### When recording the “One time only recording” broadcasts

It is not possible to record the broadcasts that allow “One time only recording” onto DVD-R, DVD-RW, +R, +RW or 8 cm DVD-RAM discs. Use the HDD or CPRM (77) compatible DVD-RAM.

- CPRM compatible discs only.

#### Playing the disc on other DVD players

The disc must be finalised after recording or copying (57). It is necessary to finalise DVD-R, etc. on this unit after recording or copying titles to them. You can then play them as a commercially sold DVD-Video. However, the discs become play-only and you can no longer record or copy.

- You can record and copy again if you format DVD-RW.

#### Recording to DVD-R DL and +R DL

You cannot directly record to a DVD-R DL and +R DL disc on this unit.

- Record to the HDD and then copy to the disc.

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HDD (Hard disk drive) handling care

The HDD is a high precision recording instrument and because of its long recording capability and high speed operation it is a very special device that is easily susceptible to damage. As a basic rule, save important content to a disc as backup.

- **The HDD is a device that is not built to withstand vibration/shock or dust**
- Depending on the setup environment and handling of the HDD some content may become damaged and play and recording may no longer be possible. Especially during operation, do not subject the unit to any vibration, shock, or remove the AC mains lead from the household mains socket. In the event of a power failure during recording or play, the content may be damaged.

- **The HDD is a temporary storage device**
- The HDD is not an everlasting storage device for recorded content. Use the HDD as a temporary storage place for one-off viewing, editing, or saving recorded content to a disc.

- **Immediately save (backup) all content as soon as you feel there may be a problem with the HDD**
- If there is an irregularity within the HDD, repetitive strange sounds or problems with picture (block noise, etc.) may result. Using the HDD in this condition may worsen the problem and in the worst case the HDD may no longer be usable. As soon as you notice this type of problem, copy all content to disc and request service. Recorded content (data) on a HDD that has become unusable is unrecoverable.

- **When the HDD has been automatically entered power save mode (below), or the unit is turned on or off, there may be an unexpected sound. This does not indicate a problem with this unit.**

  - 3 minutes

### Setup precautions
- Do not place in an enclosed area where the rear cooling fan and the cooling vents on the side are covered up.
- 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 video cassette recorder, etc.
- Do not place in an area often subject to temperature changes.
- Place in an area where condensation does not occur. Condensation is a phenomenon where moisture forms on a cold surface when there is an extreme change in temperature. Condensation may cause internal damage to the unit.

### Conditions where condensation may occur
- When there is an extreme change in temperature (moving from a very hot location to a very cold location, or vice versa, or when subjected to an air conditioner or when cooled air directly impacts the unit). When the HDD (warms during operation) is subjected to cold air, condensation may form on the inside of the HDD and may cause damage to the HDD heads, etc.
- When there is high humidity or a lot of steam in the room.
- During the rainy season.

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.

### HDD 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.
- If the remaining amount of time is insufficient, delete any unwanted titles to create enough space before you start recording. (Deleting a playlist will not increase the amount of time.)

### The HDD automatically enters power save mode
- The HDD has been automatically entered power save mode. (The HDD continues to rotate at high speed while the unit is on. In order to extend the life of the HDD, the HDD will be entered power save mode if no operation has been performed for 30 minutes while there is no disc on the disc tray.)

- **While operating**
- Do not move the unit or subject to vibration or impact. (The HDD may become damaged.)
- Do not move the AC mains lead from the household mains socket, or flip the power breaker switch.
- While the unit is on, the HDD is rotating at high speed. Sound or movement due to rotation is normal.

- **When moving the unit**
  1. Turn the unit off. (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. 2 minutes) in order to avoid subjecting to vibration and shock. (Even after turning the unit off, the HDD continues operating for a short time.)

### Cigarette smoke etc. causes malfunction or breakdown
- The unit may breakdown if cigarette smoke or bug spray/vapor, etc. gets inside the unit.

### 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).
Disc and card handling

How to hold a disc or card
Do not touch the recorded surface or the terminal surface.

Concerning non-cartridge discs
Be careful about scratches and dirt.

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

Handling precautions
• Do not attach labels or stickers to discs. (This may cause disc warping and un-balanced rotation, rendering it unusable.)
• Write on the label side of the disc only with a soft, oil-based felt pen. Do not use ballpoint pens or other hard writing implements.
• Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
• Do not expose the terminals of the card to water, garbage or other strange things.
• Do not drop, stack, or impact discs. Do not place objects on them.
• 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, such as heart shapes.

• Do not place in the following areas:
  – In direct sunlight.
  – In very dusty or humid areas.
  – Near a heater.
  – Locations susceptible to significant difference in temperature (condensation can occur).
  – Where static electricity or electromagnetic waves occur.
• To protect discs from scratches and dirt, return them to their cases or cartridges when you are not using them.

The manufacturer accepts no responsibility and offers no compensation for loss of recorded or edited material due to a problem with the unit or recordable media, and accepts no responsibility and offers no compensation for any subsequent damage caused by such loss.
Examples of causes of such losses are
• A disc recorded and edited with this unit is played in a DVD Recorder or computer disc drive manufactured by another company.
• A disc used as described above and then played again in this unit.
• A disc recorded and edited with a DVD Recorder or computer disc drive manufactured by another company is played in this unit.

Unit care

The precision parts in this unit are readily affected by the environment, especially temperature, humidity, and dust. Cigarette smoke also can cause malfunction or breakdown.

To clean 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.

Observe the following points to ensure continued listening and viewing pleasure.
Dust and dirt may adhere to the unit’s lens over time, making it impossible to record or play discs.
Use the DVD lens cleaner about once every year, depending on frequency of use and the operating environment. Carefully read the lens cleaner’s instructions before use.

DVD lens cleaner: RP-CL720E
• This lens cleaner may not be for sale depending on the region.

Do not place the unit on amplifiers or equipment that may become hot.

The heat can damage the unit.

Note
Do not obstruct the rear panel’s internal cooling fan.

Before moving the unit, ensure the disc tray is empty.
Failure to do so will risk severely damaging the disc and the unit.
Included accessories

Please check and identify the supplied accessories.
(Product numbers correct as of April 2007. These may be subject to change.)

For Asia and Middle East
1 Remote control
1 AC mains lead

For Asia
1 AC mains lead

For Australia and N.Z.
2 Remote control
2 RF coaxial cables
2 Batteries for remote control
1 Audio/video cable

For Middle East
2 AC mains lead

For Saudi Arabia

- For use with this unit only. Do not use it with other equipment.
- Also, do not use cords for other equipment with this unit.

The remote control information

Batteries
- Insert so the poles (± and −) match those in the remote control.
- When closing the lid, insert it from the − (minus) side.

Use
- Remote control signal sensor
- 7 m directly in front of the unit
- 30°, 20°, 30°

- Do not use rechargeable type batteries.
- Do not mix old and new batteries.
- Do not use different types at the same time.
- Do not heat or expose to flame.
- Do not take apart or short circuit.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use batteries if the covering has been peeled off.

Mis handling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

Remote control operations (→ 12)
Remote control

Instructions for operations are generally described using the remote control.

① Turn the unit on (19)
② Select drive [HDD, DVD or SD (22, 30, 36)
Drive changes each time you press [DRIVE SELECT].
③ Select channels and title numbers, etc./Enter numbers
④ To delete unnecessary recorded titles or still pictures (46)
⑤ Basic operations for recording and play
⑥ Skip the specified time (32)
⑦ Selection/OK, Frame-by-frame (32)
⑧ Show Top Menu/DIRECT NAVIGATOR (30, 31, 40)
⑨ Show OPTION menu (40)
This menu is used when playing or editing titles and still pictures, etc.
⑩ Select audio (32)
⑪ Colour buttons for switching between Video/Picture (32) and Video/Playlists, manual tuning settings (30, 49, 65)
⑫ Show on-screen menu (38)
⑬ Recording functions
[REC] Start recording (22)
[REC MODE] Change recording mode (22)
[F Rec] Start Flexible Recording (25)
⑭ Transmit the remote control signal
⑮ Channel select (22)
⑯ Input select (AV1, AV2, AV3, AV4 or DV) (54)
⑰ Show on-screen menu (26)
⑱ Exit the menu screen
⑲ Show Timer Recording screen (27)
⑳ Show FUNCTION MENU window (59)
⑳ By using the FUNCTION MENU window you may access the main functions (Playback, Recording, etc.) quickly and easily.
⑴ Return to previous screen
⑵ Create chapter (32)
⑶ Skip approx. 30 seconds forward (32)
⑷ Show status messages (39)
**Main unit**

1. Standby/on switch (I/II) (19)
   Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

2. Disc tray (22, 30)

3. Connection for digital video (DV) camcorder (54)

4. Connection for VCR, camcorder etc. (54)

5. Display (below)

6. Channel select (22)

7. Stop (22, 31)

8. Start play (30)

9. Start recording (22)/Specify a time to stop recording (24)

10. Open/close disc tray (22, 30)

11. Remote control signal sensor

12. SD Card slot (below)

13. Rear panel terminals (14–17)

**Inserting, Removing the SD Card**

When the card indicator ("SD") on the unit’s display is flashing, the card is being read from or written to. Do not turn off the unit or remove the card. Such action may result in malfunction or loss of the card’s contents.

*Inserting foreign objects can cause a malfunction.*

*You can use SD Cards with capacities from 8 MB to 4 GB (7).*

**Inserting the card**

Press on the centre of the card until it clicks into place.

Insert the card label up with the cut-off corner on the right.

If you are using a miniSD card, insert it into the miniSD card adaptor that comes with the card. Insert and remove this adaptor from the unit.

**Removing the card**

1. Press on the centre of the card.

2. Pull it straight out.

**Automatic drive select function**

If you insert an SD Card while the unit is stopped, the “SD Card” screen is displayed. Select an item and press [OK] to switch to the SD drive (36, 52).

If you remove an SD Card, the HDD drive is automatically selected.

**The unit’s display**

1. Copying indicator
   Lights during copy.

2. Recording indicator
   Recording indicator
   Recording/Playback indicator

3. Timer recording indicator

4. SD Card slot indicator

5. Disc indicator
   Lights when a disc that is supported by this unit is inserted in the tray.

6. Drive (HDD, DVD or SD (EH67)) indicator
   Lights when the HDD, DVD or SD drive is selected.

7. Main display section indicator

8. Recording mode indicator
STEP 1 Connection

Make sure to use the pair of supplied RF coaxial cables
Use the pair of supplied RF coaxial cables only when you make connections to the unit through its RF IN and RF OUT terminals. Striping may appear and disrupt images on the TV if you use different cables for connection.

• Before connection, turn off all equipment and read the appropriate operating instructions.
• Select the connection pattern that matches your environment from pattern A–B. Confirm connections not listed below with your dealer.

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 it is turned off (approx. 2 W (Power Save mode)).
When “Power Save” is set to “On”, the “Quick Start” function does not work.

A Connecting a television

To the aerial

Aerial cable

RF coaxial cable (included)

2

Television’s rear panel

RF IN

Video IN

Audio IN

Other connections (➡ 16, 17)

Audio/Video cable (included)

To household mains socket

For Australia and N.Z.
(AC 220 to 240 V, 50 Hz)
For Asia and Middle East
(AC 220 to 240 V, 50/60 Hz)

For Saudi Arabia
BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 2 BEFORE CONNECTION.

AC mains lead (included)
Connect only after all other connections are complete.
For Middle East
• Use the AC mains lead that matches the socket for the area you live in.

Cooling fan

Connecting to a television with 21-pin Scart terminal

You can also connect with the AV1 terminal on this unit using the 21-pin Scart cable. If your television is equipped with RGB input capability, by connecting with a fully wired 21-pin Scart cable you can see video using RGB output on this unit.

Required setting
“AV1 Output” in the Setup menu (➡ 63)
Connecting a television and VCR

Connecting to a television with 21-pin Scart terminal
You can also connect with the AV1 terminal on this unit using the 21-pin Scart cable. If your television is equipped with RGB input capability, by connecting with a fully wired 21-pin Scart cable you can see video using RGB output on this unit.

Required setting
“AV1 Output” in the Setup menu (p. 63)

Connecting to a VCR with 21-pin Scart terminal
You can also connect with the AV2 terminal on this unit using the 21-pin Scart cable.

Required setting
“AV2 Input” in the Setup menu (p. 63)
STEP 1 Connection

Other connections

Connecting a television with S VIDEO terminals

The S VIDEO OUT terminal achieves a more vivid picture than the VIDEO OUT terminal. (Actual results depend on the television.)

Television's rear panel

Connecting a television with COMPONENT VIDEO terminals

COMPONENT VIDEO terminals can be used for either interlace or progressive output (77) and provide a purer picture than the S VIDEO OUT terminal.

Connect to terminals of the same colour.

If you have a regular television (CRT: cathode ray tube)

Use component output with progressive "Off" (The default setting 63), even if it is progressive compatible, because progressive output can cause some flickering. This is the same for multi system televisions using PAL mode.

Connecting an amplifier or system component

Connecting an amplifier with a digital input terminal

To enjoy multi-channel surround sound DVD-Video, connect an amplifier with Dolby Digital, DTS and MPEG decoders.

- "Digital Audio Output" in the Setup menu (62)
- When this unit is connected to an amplifier with an Optical digital audio cable and connected to a television with an HDMI cable, you can enjoy the highest quality of audio from the disc by setting "Digital Audio Output" to "Optical Only" in the Setup menu (63).
- In this case audio is only output from the amplifier not the television.
- Before purchasing an optical digital audio cable (not included), check the terminal shape of the connected equipment.
- You cannot use DTS Digital Surround decoders not suited to DVD.

Connecting a stereo amplifier

Amplifier's rear panel

Optical digital audio cable
Do not bend sharply when connecting.
Connecting with an HDMI (High Definition Multimedia Interface) terminal

When connected to an HDMI compatible unit, an uncompressed digital audio and video signal is transmitted. You can enjoy high quality, digital video and audio with just one cord. When connecting to an HDMI-compatible HDTV (High Definition Television), this unit’s output can be switched to 1080p, 1080i or 720p HD video.

**Preparation**

From the Setup menu (⇒ 63), set “Digital Audio Output” to “HDMI and Optical”.

### Connecting to a TV

**Television’s rear panel**

- HDMI IN
- HDMI OUT
- HDMI AV OUT

- **This unit’s rear panel**

- HDMI IN
- HDMI OUT

- **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 (⇒ 77) and output as 2 channels, even if connecting with an HDMI cable. (Some discs cannot be down mixed.)**

- **You cannot connect this unit to DVI devices that are incompatible with HDCP.**

For units compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection that are equipped with a digital DVI input terminal (PC monitors, etc.):

Depending on the unit, images may not display properly or at all when connecting with a DVI/HDMI switching cable. (Audio cannot be output.)

### Connecting to a receiver

**Television’s rear panel**

- HDMI IN
- HDMI OUT

- **Receiver’s rear panel**

- HDMI IN
- HDMI OUT

- **This unit’s rear panel**

### What is VIERA Link “HDAVI Control”?”

**What is VIERA Link “HDAVI Control”?”**

1. **VIERA Link “HDAVI Control”** is a convenient function that offers linked operations of this unit, and a Panasonic TV (VIERA) or receiver under “HDAVI Control”. You can use this function by connecting the equipment with the HDMI cable. See the operating instructions for connected equipment for operational details.

2. **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.**

3. **This unit supports “HDAVI Control 2” function.**

4. “HDAVI Control 2” is the newest standard (current as of February, 2007) for Panasonic’s HDAVI Control compatible equipment. This standard is compatible with Panasonic’s conventional HDAVI equipment.

5. **It is recommended that you use Panasonic’s HDMI cable. Recommended part number: RP-CDHG15 (1.5 m), RP-CDHG30 (3.0 m), RP-CDHG50 (5.0 m), etc.**

6. **Non-HDMI-compliant cables cannot be utilised.**

**Preparation**

1. Connect this unit to your TV or receiver with an HDMI cable (⇒ above).
2. Set “VIERA Link” to “On” (⇒ 63). (The default setting is “On”.)
3. Set the “HDAVI Control” operations on the connected equipment (e.g., TV).
4. Turn on all “HDAVI Control” compatible equipment, turn the TV off/on, and then select this unit’s input channel on the connected TV so that the “HDAVI Control” function works properly.

**Also when the connection or settings are changed, repeat this procedure.**

### What you can do with “HDAVI Control”

#### When the TV is on

**Easy playback**

When the TV is on and the following operations are performed, the TV’s input will automatically switch to HDMI input mode and the TV displays the corresponding action.

- (Picture or sound may not be available for the first few seconds.)


**When the TV is off**

**Power on link**

When the TV is off and the following operations are performed, the TV will automatically turn on and displays the corresponding action.

- (Picture or sound may not be available for the first few seconds.)


- The TV is automatically turned on when you insert the discs.

**Power off link**

When you set the TV to standby mode, the unit is also automatically set to standby mode. When the unit is set to standby mode even if the FUNCTION MENU screen etc. is displayed during playback or when the unit set to a timer recording.

Even if the TV is set to standby mode, the unit will not be set to standby mode at the same time when recording, copying, finalising etc.

- **This unit is connected to an “HDAVI Control” compatible Panasonic receiver with an HDMI cable, the receiver will also turn off.**

---

1. This button is available only when this unit is on.
2. When this button is pressed, the playback image is not immediately displayed on the screen and it may not be possible to watch the contents from where playback started.
3. In this case, press [　] or [　] to go back to where playback started.
4. Only for Australia and N.Z.

- These functions may not work normally depending on the equipment condition.

- About “HDAVI Control” function, read the manual of the connected equipment (e.g., TV) too.
STEP 1 Connection (continued)

**Easy control only with VIERA remote control**

If you connect this unit to the TV that has “HDAVI Control 2” function with an HDMI cable, you can enjoy using more convenient functions.

You can operate this unit using the following buttons on the TV remote control:

- [▲, ▼, ◀, ▶], [OK], [RETURN], [EXIT], [OPTION], and the coloured buttons.

Use the remote control for this unit to operate any other buttons (numbered buttons, etc.) that are not listed above.

---

### Using the FUNCTION MENU window to operate this unit

Refer to the TV operating instructions for operating the TV.

1. Display this unit’s “FUNCTION MENU” window using the TV remote control.
   - If this unit is set to standby mode, it will automatically turn on.

2. Select the item you want to operate with the TV remote control, and press [OK].

### Using the OPTION menu window to operate this unit

By using the TV remote control, you can play discs using the “Control Panel” (below) and display the Top Menu for DVD-Video.

1. Press [OPTION].
   - e.g.,
     - [Control Panel]
       - [FUNCTION MENU]
       - [Menu]
      - [Drive Select]

   **NOTE**
   - You cannot use the OPTION menu while the Top Menu for DVD-Video is displayed and while DVD-Video is copying.

2. Select an item then press [OK].

### Using the Control Panel

Using the “Control Panel”, you can operate search backward, search forward, stop, etc., with the TV remote control. Perform steps 1 and 2 of “Using the OPTION menu window to operate this unit” (above).

The Control Panel is displayed (right).
- When playing a title or DVD-Video, etc.,
  - [▲]: Pause, [▼]: Stop, [◄]: Search backward, [►]: Search forward, [OK]: Play, [EXIT]: Exit the screen.
- While playing still pictures
  - [▼]: Stop, [◄]: View previous picture, [►]: View next picture, [EXIT]: Exit the screen.

---

**■ When you want to leave the TV on and set only this unit to standby mode**

Press [© DVD] on this unit's remote control and set to standby mode.

**■ When not using “HDAVI Control”**

Set “VIERA Link” in the Setup menu to “Off” (➡ 63).
STEP 2 Channel reception settings and TV aspect settings

1. Turn on the television and select the appropriate AV input to suit the connections to this unit.

2. Press [DVD] to turn the unit on.

3. Press [ to select the item you want to change. This is a 24-hour clock. The items change as follows:
   - Hour
   - Minute
   - Second
   - Day
   - Month
   - Year
   Reset the clock regularly to maintain accuracy (67). (Monthly accuracy +/- 15 seconds.)

4. Press [ or ] to change the setting. You can also use the numbered buttons for setting.

5. Press [OK] when you have finished the settings.

   TV aspect setting screen appears.

6. Press [ or ] to select the TV aspect and press [OK].
   - 16:9: When connected to a 16:9 widescreen television.
   - Pan & Scan: When connected to a 4:3 aspect television, side picture is trimmed for 16:9 picture (77).
   - Letterbox: When connected to a 4:3 aspect television. 16:9 picture is shown in the letterbox style (77).

To stop partway: Press [RETURN].

To confirm that stations have been tuned correctly (65)
To restart set up (66)
STEP 3 Set up to match your television and remote control

You can enjoy progressive video by connecting this unit's COMPONENT VIDEO OUT terminals to an LCD/plasma television or LCD projector compatible with progressive scan (☞77).

1 While stopped
Press [FUNCTION MENU].

2 Press [-caret, pad] to select “To Others” and press [OK].

3 Press [-caret, pad] to select “Setup” and press [OK].

4 Press [-caret, pad] to select “Connection” and press [ok].

5 Press [caret, pad] to select “Progressive” and press [OK].

6 Press [caret, pad] to select “On” and press [OK].

Output becomes progressive.

Note
● When connected to a regular television (CRT: Cathode ray tube) or a multi system television using PAL mode, even if it is progressive compatible, progressive output can cause some flickering. Turn off “Progressive” if this occurs (☞39).
● Picture will not be displayed correctly if connected to an incompatible television.
● There is no output from the COMPONENT VIDEO OUT terminals if “AV1 Output” in the Setup menu is set to “RGB 1 (without component)” or “RGB 2 (without component)” (☞63).

To return to the previous screen
Press [RETURN].

To exit the screen
Press [EXIT].

To enjoy progressive video

You can configure the remote control TV operation buttons to turn the television on/off, change the television input mode, select the television channel and change the television volume.

1 Point the remote control at the television
While pressing ([TV]), enter the code with the numbered buttons.

e.g., 01: [0] [1] 10: [1] [0]

(continued on the next page)
When other Panasonic products respond to this remote control

Change the remote control code on the main unit and the remote control (the two must match) if you place other Panasonic products close together.

Use “DVD 1”, the factory set code, under normal circumstances.

1 While stopped
   Press [FUNCTION MENU].
2 Press [▲, ▼] to select “To Others” and press [OK].
3 Press [▲, ▼] to select “Setup” and press [OK].
4 Press [▲, ▼] to select “Others” and press [1].
5 Press [▲, ▼] to select “Remote Control” and press [OK].
6 Press [▲, ▼] to select the code (“DVD 1”, “DVD 2” or “DVD 3”) and press [OK].

To change the code on the remote control
7 While pressing [OK], press and hold the numbered button ([1], [2] or [3]) for more than 5 seconds.
8 Press [OK].

When the following indicator appears on the unit’s display

The unit’s remote control code

Change the code on the remote control to match the main unit’s (⇒ step 7).

Note
Executing “Shipping Condition” in the Setup menu returns the main unit code to “DVD 1”. Change the remote control code to 1 (⇒ step 7).

To return to the previous screen
Press [RETURN].
To exit the screen
Press [EXIT].

2 Test by turning on the television and changing channels.

Repeat the procedure until you find the code that allows correct operation.
If your television brand is not listed or if the code listed for your television does not allow control of your television, this remote control is not compatible with your television.

Note
If your television brand has more than one code listed, select the one that allows correct operation. 

Refer to the control reference on page 20.

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>MEI</td>
<td>02/28</td>
</tr>
<tr>
<td>AIWA</td>
<td>27</td>
<td>MITSUBISHI</td>
<td>05/19/20/47</td>
</tr>
<tr>
<td>AKAI</td>
<td>33</td>
<td>MIVAR</td>
<td>24</td>
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<td>BEJING</td>
<td>33</td>
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<td>05/71/72/73/74</td>
<td>NOBLEX</td>
<td>33</td>
</tr>
<tr>
<td>BENQ</td>
<td>58/59</td>
<td>NOKIA</td>
<td>25/26/27/60/61</td>
</tr>
<tr>
<td>BP</td>
<td>09</td>
<td>NOROMENE</td>
<td>10</td>
</tr>
<tr>
<td>BRANDT</td>
<td>10/15</td>
<td>OLEVIA</td>
<td>46</td>
</tr>
<tr>
<td>BUSH</td>
<td>05</td>
<td>ONWA</td>
<td>30/39/70</td>
</tr>
<tr>
<td>CENTREX</td>
<td>66</td>
<td>ORION</td>
<td>05</td>
</tr>
<tr>
<td>CHANGHONG</td>
<td>69</td>
<td>PEONY</td>
<td>46/69</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>33</td>
<td>SALORA</td>
<td>26</td>
</tr>
<tr>
<td>FUNAI</td>
<td>63/67</td>
<td>SAMSUNG</td>
<td>32/42/43/65/68</td>
</tr>
<tr>
<td>GOLDSTAR</td>
<td>05/50/51</td>
<td>SANSUI</td>
<td>05</td>
</tr>
<tr>
<td>GOODMANS</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>05/69/75/76/77/78</td>
</tr>
<tr>
<td>HIKONA</td>
<td>52</td>
<td>SELECO</td>
<td>05/25</td>
</tr>
<tr>
<td>HITACHI</td>
<td>05/22/23/40/41</td>
<td>SHARP</td>
<td>18</td>
</tr>
<tr>
<td>INNO HIT</td>
<td>05</td>
<td>SIEMENS</td>
<td>09</td>
</tr>
<tr>
<td>IRRAIO</td>
<td>30</td>
<td>SINUDYNE</td>
<td>05</td>
</tr>
<tr>
<td>ITT</td>
<td>25</td>
<td>SONY</td>
<td>08</td>
</tr>
<tr>
<td>JINGXING</td>
<td>49</td>
<td>TCL</td>
<td>31/33/66/67/69</td>
</tr>
<tr>
<td>JVC</td>
<td>17/30/39/70</td>
<td>TELEFUNKEN</td>
<td>10/11/12/13/14</td>
</tr>
<tr>
<td>KDS</td>
<td>52</td>
<td>TEVION</td>
<td>52</td>
</tr>
<tr>
<td>KOLIN</td>
<td>45</td>
<td>TEX ONDA</td>
<td>52</td>
</tr>
<tr>
<td>KONKA</td>
<td>62</td>
<td>THOMSON</td>
<td>10/15/44</td>
</tr>
<tr>
<td>LG</td>
<td>05/50/51</td>
<td>TOSHIBA</td>
<td>16/57</td>
</tr>
<tr>
<td>LOEWE</td>
<td>07/46</td>
<td>WHITE WESTINGHOUSE</td>
<td>05</td>
</tr>
<tr>
<td>MAG</td>
<td>52</td>
<td>YAMAHA</td>
<td>18/41</td>
</tr>
</tbody>
</table>
Recording television programmes

3 Press [▲ V CH] to select the channel.

To select with the numbered buttons:
- 9: 5
- 15: [-] [1] [5]

4 Press [REC MODE] to select the recording mode (XP, SP, LP or EP).

- To record sound using LPCM (XP mode only):
  - Set the “Audio Mode for XP Recording” to “LPCM” in the Setup menu (62).

5 Press [REC] to start recording.

Recording will take place on open space on the HDD or on disc. Data will not be overwritten.
- You cannot change the channel or recording mode during recording.
- You can record while the unit is in standby for timer recording. However, once the time for the timer recording to begin is reached, any recording taking place will stop and the timer recording will begin.
- HDD RAM When “Rec for High Speed Copy” is set to “Off” (61), you can change the audio being received by pressing [AUDIO] during recording. (Does not affect the recording of audio.)

To pause recording
Press [Ⅰ].
Press again to restart recording.
For other operations.
- You play a disc or start recording to discs other than DVD-R, DVD-RW (DVD-Video format) and +R (recorded with this unit) on other DVD players, it is necessary to finalise them (57).

To stop recording
Press [Ⅲ].
- From the start to the end of the recording is called one title.
- When using 8 cm DVD-RAM, or 8 cm DVD-R, remove the disc from the cartridge.

Quick Start (64)
1 Sec. Quick Start for Recording on DVD-RAM and HDD
- From the power on, recording on DVD-RAM and HDD starts in about 1 second after the REC button is pressed. (Quick Start Mode)
- “Quick Start” is set to “On” at the time of purchase.

Note
- Startup takes up to a minute when:
  - You play a disc or start recording to discs other than DVD-RAM.
  - You want to make other operations.
  - The clock has not been set.
Recording modes and approximate recording times

Depending on the content being recorded, the recording times may become shorter than indicated. (The times provided on this chart are an estimate.)

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>HDD (160 GB)</th>
<th>DVD-RAM (250 GB)</th>
<th>DVD-R +R (4.7 GB)</th>
<th>DVD-R DL +R (8.5 GB)</th>
<th>+R DL +R (8.5 GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XP</strong> (High picture quality mode)</td>
<td>36 hours</td>
<td>55 hours</td>
<td>1 hour</td>
<td>1 hour</td>
<td>1 hour 45 min.</td>
</tr>
<tr>
<td><strong>SP</strong> (Standard recording mode)</td>
<td>70 hours</td>
<td>111 hours</td>
<td>2 hours</td>
<td>2 hours</td>
<td>3 hours 35 min.</td>
</tr>
<tr>
<td><strong>LP</strong> (Long recording mode)</td>
<td>138 hours</td>
<td>222 hours</td>
<td>4 hours</td>
<td>4 hours</td>
<td>7 hours 10 min.</td>
</tr>
<tr>
<td><strong>EP</strong> (Extra long recording mode)</td>
<td>284 hours +R</td>
<td>443 hours +RW</td>
<td>8 hours</td>
<td>16 hours</td>
<td>14 hours 20 min.</td>
</tr>
<tr>
<td><strong>FR (Flexible Recording Mode)</strong></td>
<td>284 hours +R</td>
<td>443 hours +RW</td>
<td>8 hours maximum</td>
<td>8 hours maximum for one side</td>
<td>14 hours 20 min.</td>
</tr>
</tbody>
</table>

- **XP** (High picture quality mode) is not possible to record or play continuously from one side of a double sided disc to the other.
- **SP** (Standard recording mode) you cannot record directly to DVD-R DL and +R DL discs with this unit.
- **LP** (Long recording mode) when “Recording time in EP mode” is set to “EP (6 Hours)” in the Setup menu, the sound quality is better when using “EP (6 Hours)” than when using “EP (8 Hours)”. You cannot record directly to DVD-R DL and +R DL discs with this unit. The table shows the recording time when copying.
- **FR (Flexible Recording Mode)** can be used for one side.
- **FR (Flexible Recording Mode)** cannot copy in “EP” or “FR (recordings 5 hours or longer)” mode.
- **EP** (Extra long recording mode) when recording to DVD-RAM using “EP (8 Hours)” mode, play may not be possible on DVD players that are compatible with DVD-RAM. Use “EP (6 Hours)” mode if playback may be on other equipment.
- **FR (Flexible Recording Mode)** can set FR (Flexible Recording mode) when copying or programming timer recordings.
- The unit automatically selects a recording rate between XP and EP (8 Hours) that will enable the recordings to fit in the remaining disc space with the best possible recording quality.
- For example with a 90 minute recording to an unused DVD-RAM, the picture quality is adjusted to between “XP” and “SP”.
- **FR (Flexible Recording Mode)** can record up to 500 titles on HDD. (When continuously recording for long durations, titles are automatically divided every 8 hours.) You cannot record directly to DVD-R DL and +R DL discs with this unit. The table shows the recording time when copying.
- **FR (Flexible Recording Mode)** can record up to 99 titles on one disc.
- **FR (Flexible Recording Mode)** can record up to 49 titles on one disc.

### Disc Insertion/Ejection

**When the format confirmation screen is displayed**

When inserting a new disc or a disc recorded on a computer or other equipment, a format confirmation screen is displayed. Format the disc to use it. However, all the recorded contents are deleted.

- **Format**
  - This disc is not formatted properly. Do you want to format the disc now?
  - Yes
  - No

Press [YES] or [NO] to select “Yes” and press [OK].

To format a disc
- Deleting all the contents of a disc or card—Format (56)

**When removing a recorded disc**

The following screen appears when you have not processed the disc for play on other equipment.

- **To finalise the disc**
  - Press [REC] on the main unit.
  - You cannot stop this process once you have started it.
  - If you want to set the background, play menu select or provide a disc name, select “Top Menu” (57), “Auto-Play Select” (57) or “Disc Name” (55) in “DVD Management” before finalising.

- **To open the tray without disc finalisation**
  - Press [OPEN/CLOSE] on the main unit.
Recording television programmes

Recording settings for High Speed Copy

When copying in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW, set “Rec for High Speed Copy” to “On” before recording to the HDD. (The default setting is “On”.)

However, some restrictions apply:
Refer to the “When recording a bilingual programme” and “About the aspect when recording a programme” for more information.

Note
If you do not intend to copy titles in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW, set “Rec for High Speed Copy” to “Off”.

To specify a time to stop recording—One Touch Recording

During recording
Press [REC] on the main unit to select the recording time.

- You can specify up to 4 hours later.

- The unit display changes as shown below.
  OFF 0:30 -> OFF 1:00 -> OFF 1:30 -> OFF 2:00
  Counter (cancel) -> OFF 3:00

- This does not work during timer recordings (26) or while using Flexible Recording (25).

- The unit turns off automatically after the time to stop recording is reached.

To cancel
Press [REC] on the main unit several times until the counter appears.

- The time to stop recording is cancelled; however, recording continues.

To stop recording
Press [■].

Recording settings for High Speed Copy

When copying in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW, set “Rec for High Speed Copy” to “On” before recording to the HDD. (The default setting is “On”.)

However, some restrictions apply:
Refer to the “When recording a bilingual programme” and “About the aspect when recording a programme” for more information.

Note
If you do not intend to copy titles in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW, set “Rec for High Speed Copy” to “Off”.

To specify a time to stop recording—One Touch Recording

During recording
Press [REC] on the main unit to select the recording time.

- You can specify up to 4 hours later.

- The unit display changes as shown below.
  OFF 0:30 -> OFF 1:00 -> OFF 1:30 -> OFF 2:00
  Counter (cancel) -> OFF 3:00

- This does not work during timer recordings (26) or while using Flexible Recording (25).

- The unit turns off automatically after the time to stop recording is reached.

To cancel
Press [REC] on the main unit several times until the counter appears.

- The time to stop recording is cancelled; however, recording continues.

To stop recording
Press [■].
Flexible Recording

(Recording that fits the remaining disc space)

The unit sets the best possible picture quality that fits the recording within the remaining disc space. The recording mode becomes FR mode.

- Using “Flexible Rec” is convenient in these kinds of situations.
  - When the amount of free space on the disc makes selecting an appropriate recording mode difficult
  - When you want to record a long programme with the best picture quality possible

HDD
- When you want to record a title to HDD so that it can then be copied to fit one 4.7 GB disc perfectly
- You do not need to edit the recorded title, or change the recording mode when copying, to fit the disc space
e.g., Recording a 90 minute programme to disc

RAM
- When you want to record a programme to RAM so that it can then be copied to fit one 4.7 GB disc perfectly
- You do not need to edit the recorded title, or change the recording mode when copying, to fit the disc space
e.g., Recording a 90 minute programme to disc

Preparation
- Select the channel or the external input to record.
- Press [DRIVE SELECT] to select the HDD or DVD drive.

1 While stopped
Press [F Rec].

Maximum recording time
This is the maximum recording time in EP (8 Hours) mode.

2 Press [◄, ►] to select “Hour” and “Min.” and press [▲, ▼] to set the recording time.
- You can also set the recording time with the numbered buttons.
- You cannot record more than 8 hours.

3 When you want to start recording
Press [▲, ▼,◄, ►] to select “Start” and press [OK].
- Recording starts.
- All the recording modes from XP to EP appear in the display.

To exit the Direct Navigator screen
Press [DIRECT NAVIGATOR].

To stop recording
After play stops
1 Press [DIRECT NAVIGATOR] to exit screen.
2 If the recording is on the other drive
   Press [DRIVE SELECT] to select the recording drive.
3 Press [■].

To stop timer recording
After play stops
1 Press [DIRECT NAVIGATOR] to exit screen.
2 If the recording is on the other drive
   Press [DRIVE SELECT] to select the recording drive.
3 Press [■].
4 Press [◄, ►] to select “Stop Recording” and press [OK].

Note
“Chasing playback” and “Simultaneous rec and play” can only be used with programmes of the same encoding system (PAL/NTSC).
Timer recording

Depending on the type of disc used for recording or the type of broadcast, there may be restrictions on the title you are trying to record.

You can enter up to 32 programmes up to a month in advance.

- You can enter up to 32 programmes up to a month in advance. (Each daily or weekly programme is counted as one programme.)

To use a new disc, formatting is necessary.

Preparation

- Turn on the television and select the appropriate video input to suit the connections to this unit.
- If recording to DVD, insert a disc that you can use for recording.
- Make sure that the clock settings are correct.

Entering G-CODE numbers is an easy way of timer recording. You can find these numbers in TV listings in newspapers and magazines.

1. Press [G-Code].
2. Press the numbered buttons to enter the G-code number. Press [2] to move back to correct a digit.
3. Press [OK].

- Confirm the programme (start and end time) by using a TV magazine, etc. and make corrections if necessary using [3, 4, 2, 1] (➡ 27, step 3).
- When “---” appears in the “Name” column, you cannot set timer recording. Press [3, 4] to select desired programme position. After you have entered the information of a TV station, it is kept in the unit’s memory.

4. Press [OK].

The timer programme is stored and the timer icon is displayed.

“F” lights on the unit’s display to indicate timer recording standby has been activated.

Repeat steps 1–4 to programme other recordings.

Press [DVD] to turn the unit off.

To cancel recording when recording has already begun (➡ 28)

To release the unit from recording standby (➡ 28)

■ Notes on timer recording (➡ 28)

For Australia and N.Z.

G-CODE is a registered trademark of Gemstar Development Corporation. The G-CODE system is manufactured under license from Gemstar Development Corporation.
Manually programming timer recordings

1. Press [PROG/CHECK].


3. Press [►] to move through the items and change the items with [▲, ▼].

- Press and hold [▲, ▼] to alter the Start (Start time) and Stop (Finish time) in 30-minute increments.
- You can also set Name (Programme position/TV Station Name), Date, Start (Start time), and Stop (Finish time) with the numbered buttons.
- Date
  - Date: Current date up to one month later minus one day
  - Daily timer: SUN-SAT→MON-SAT→MON-FRI
  - Weekly timer: SUN→---→SAT
- You can also press [DRIVE SELECT] to select the recording drive. When the recording drive is “DVD” and there is not enough remaining space, recording automatically switches to the “HDD” (➡ 29, Relief Recording).
- You can also press [REC MODE] to change the recording mode.
  - HDD RENEW (Auto Renewal Recording) (➡ 29)
  - ON→OFF
  - Programme Name
    - Press [<, >] to select “Programme Name” and press [OK].
      (➡ 58, Entering text)

4. Press [OK].

The timer programme is stored and the timer icon is displayed.

“F” lights on the unit’s display to indicate timer recording standby has been activated.

Repeat steps 2–4 to programme other recordings.

Press [DVD] to turn the unit off.

- To cancel recording when recording has already begun (➡ 28)
- To release the unit from recording standby (➡ 28)
- Notes on timer recording (➡ 28)
To cancel recording when recording has already begun

1 While the unit is on
Press [DRIVE SELECT] to select the recording drive and press [∫].

2 Press [∫, ▶] to select “Stop Recording” and press [OK].
If you stop a timer recording, it will be cancelled. However, if you have set a weekly or daily timer recording, the recording will start from the next time the timer recording is set.

To release the unit from recording standby

• Even when the unit is turned off, you can display the timer recording list by pressing [PROG/CHECK].

1 Press [PROG/CHECK].
2 Press [∫, ▼] to select the programme and press the “Red” button.
  • The timer icon “F” (29, left column) disappears from the timer recording list.
  • You cannot cancel timer recording standby mode as long as even one timer icon “F” (29, left column) remains in the timer recording list.
  • Press the “Red” button again to activate timer recording standby.

Notes on timer recording

• When a timer recording is set, DVDs that were recorded using a different TV system cannot be played unless the TV system is changed in the Setup menu (66) or the timer recording has completed or has been cancelled.
• Timer recordings are activated regardless of whether the unit is turned on/off.
• Timer recordings begin when the set time is reached even when playing.
• Timer recordings do not begin while editing or copying in normal speed mode (47).
• If the unit is turned on when timer recording begins, it remains turned on after recording finishes. It does not turn off automatically. You can turn the unit off during timer recording.
• If the unit is not put in the timer recording standby mode at the last 10 minutes before the programmed timer recording starting time, the “F” flashes on the unit’s display.
• When you programme successive timer recordings to start immediately one after the other, the unit cannot record the part at the beginning of the later programmes.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Programme</th>
<th>Not recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorded</td>
<td>Recorded</td>
<td></td>
</tr>
</tbody>
</table>

• If the actual broadcasting times of timer recordings overlap, the recording that starts first always has priority, and the recording of the later programme will start only after the first timer recording has finished.
Check, change or delete a programme

Even when the unit is turned off, you can display the timer recording list by pressing [PROG/CHECK].

**Press [PROG/CHECK].**

- **Icons**
  - Timer recording standby is activated.
  - This programme is currently recording.
  - The times overlap those in another programme.
  - Recording of the programme with the later start time starts when the earlier programme finishes recording.
  - You stopped a weekly or daily timer recording. The icon disappears the next time the timer programme starts recording.
  - The disc was full so the programme failed to record.
  - The material was copy-protected so it was not recorded.
  - The programme did not complete recording because the disc is dirty or some other reason.
  - Timer programmes set to Auto Renewal Recording (right column).
  - Titles that have been rerouted to the HDD (Displayed while recording.)

- **HDD**
  - Recording drive is set to HDD

- **DVD**
  - Recording drive is set to DVD

**Message displayed in the “Drive space” line**

- **OK:** Displayed if the recording can fit in the remaining space.
- **(Date):** For recordings made daily or weekly, the display will show until when recordings can be made (up to a maximum of one month from the present time) based on the time remaining on the disc.
- **!:** It may not be possible to record because:
  - there is not enough space left
  - the number of possible titles has reached its maximum.

- **Relief:** Timer programmes that will be relief recorded to the HDD.

**Relief Recording**

When the recording drive is “DVD” and there is not enough remaining space, recording automatically switches to the “HDD”. If there is no disc in the tray or the disc cannot be recorded on or when timer recording starts while copying, the recording drive will be altered to the HDD.

- The Direct Navigator shows which programmes were relief-recorded (“P” is displayed.) (30).
- If the time remaining on the HDD is insufficient, as much of the programme as possible will be recorded onto the HDD.

**Auto Renewal Recording**

If you record a programme onto HDD repeatedly everyday or every week using timer recording, the unit will record the new programme over the old one.

This function can be used only when weekly recording or daily recording is selected.

1. Press [PROG/CHECK].
2. Press [3, 4] to select the programme and press [OK].

**Notes**

- If a programme set for Auto Renewal Recording is protected or while play back is taking place from the HDD, or while copying, the programme will not be overwritten. Instead the programme set for recording will be saved as a separate programme, and this programme will be the one to be overwritten when the next Auto Renewal Recording takes place.
- Playlists made from programmes that were set for Auto Renewal Recording are deleted along with auto renewal.
- When there is not enough space on the HDD, the programme may not be recorded completely.

**To change a programme**

Press [3, 4] to select the programme and press [OK]. (27, step 3)

**To delete a programme**

Press [3, 4] to select the programme and press [DELETE Δ].

You can also delete a programme with the following steps

1. Press [3, 4] to select the programme and press [OPTION].

**To exit the timer recording list**

Press [PROG/CHECK].

Programmes that failed to record are deleted from the timer recording list at 4 a.m. two days later.
Playing recorded video contents/Playing play-only discs

16:9 aspect programmes are recorded in 4:3 aspect in the following cases.

- If you recorded using “EP” or “FR (recordings 5 hours or longer)” recording mode.
- If you recorded to the HDD or a DVD-RAM and “Rec for a long time” was set to “Off” in the Setup menu.
- If you recorded using “EP” or “FR (recordings 5 hours or longer)” recording mode. However, if you recorded to the HDD or a DVD-RAM and “Rec for a long time” was set to “Off” in the Setup menu, the aspect will remain 16:9.

Preparing

- Turn on the television and select the appropriate video input to suit the connections to this unit.
- Turn on this unit.

1 Press [DRIVE SELECT] to select the HDD or DVD drive.

The HDD or DVD indicator lights up on the unit's display.

If you selected the DVD drive

Press [OPEN/CLOSE] on the main unit to open the tray and insert a disc.

- Press the button again to close the tray.
- When using 8 cm DVD-RAM, or 8 cm DVD-R, remove the disc from the cartridge.

Automatic drive select function (22)

3 Press [PLAY].

HDD RAM +R RL DL +RW VR +R DL +RW VR
RAM +R RL DL +RW VR and MP3

Play starts from the most recently recorded title.

DivX
DivX Menu screen appears (34).

- When using cartridge discs with the write-protect tab in the protect position (55), play automatically starts when inserted in the unit.

Selecting recorded programmes (titles) to play—Direct Navigator

HD RAM +R RL DL +RW VR +R DL +RW VR
(This function does not work with finalised discs.)

1 Press [DIRECT NAVIGATOR].

- Thumbnail Display
- Table Display

Switching the Direct Navigator appearance

1 Press [OPTION] while Thumbnail Display is displayed.
2 Press [A, B] to select “Table Display” and press [OK].
3 Press [A, B] to select the item and press [OK].

If you select an item other than “No.”

The Direct Navigator screen will reappear after playback of the selected title has finished. (You cannot play titles continuously.)

- Skip and Time Slip will only function with the title currently being played back.
- If you exit the Direct Navigator screen, or switch to “PICTURE” Direct Navigator screen (EH67), the sorted Title View will be cancelled.

2 Press the “Red” button to select “VIDEO”.

The illustration shows the display of DMR-EH67.

3 Press [A, B, C, D] to select the title and press [OK].

You can also select titles with the numbered buttons.

e.g.,

<table>
<thead>
<tr>
<th>HDD RAM</th>
<th>+R RL DL</th>
<th>+RW VR</th>
<th>+R DL +RW VR</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM +R RL DL +RW VR</td>
<td>+R DL +RW VR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To show other pages

Press [A, B, C, D] to select “Previous” or “Next” and press [OK]. (Thumbnaill Display only)

- You can also press [<<, >>, >] to show other pages.

To exit the screen

Press [DIRECT NAVIGATOR].

Direct Navigator screen icons

- Currently recording.
- Title protected.
- Title that was not recorded due to recording protection (Digital broadcasts etc.)
- Title cannot be played
- (When copying a title to the HDD, or when data is damaged etc.)
- Titles that have been recored to the HDD (29, Relief Recording)
- Title with “One time only recording” restriction (77, CPRM)
- Title recorded using a different encoding system from that of the TV system currently selected on the unit.
- A list of “TV System” setting on this unit to suit (66).
When a menu screen appears on the television

Press [A, V, , ] to select the item and press [OK].

Some items can also be selected using the numbered buttons.
If "ENTER" appears on the screen, press [OK].

Press the numbered buttons to select the item.

For example:
5: [0] 15: [1]  [5]

To return to the menu screen
- Press [DIRECT NAVIGATOR].
- You can also return to the menu screen with the following steps:
  1. Press [OPTION].
  2. Press [A, ] to select "Top Menu" or "Menu" and press [OK].

Note:
- When recording while the "TV System" is set to "PAL", discs recorded in NTSC format cannot be played. To play, change the "TV System" to "NTSC" in the Setup menu (➡ 66).
- It is not possible to play continuously from one side of a double sided disc to the other. You will need to eject the disc and turn it over.
- Depending on the disc, it may take time for the menu screen, pictures, sound, etc. to start.
- Discs continue to rotate while menus are displayed. Press [∫] when you have finished playback to protect the unit's motor, your television screen and so on.
- 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.
- When playing back a title recorded on the HDD, ensure that you match the "TV System" setting to the recorded title (➡ 66).

Operations during play

Stop
- Press [∫].
  - The stopped position is memorized.
- Resume play function
  - Press [►] (PLAY) to restart from this position.
- Stopped position
  - If [∫] is pressed several times, the position is cleared.
  - The position is cleared if the tray is opened.
  - [CD, VCD] and [MP3/DivX]: The position is cleared if the unit is turned off.

Pause
- Press [II].
  - Press [II] again or [►] (PLAY) to restart play.

Search
- Press [◄] or [►].
  - The speed increases up to 5 steps. [X] [X] [X] [X] [X] [X] [X] [X] [X] (up to 3 steps)
  - Press [►] (PLAY) to restart play.
  - [CD] and [MP3]: Audio is heard during first level search forward.
  - [DivX]: Audio is heard during all levels of search.
  - Depending on the disc, Search may not be possible.

Skip
- Press [◄] or [►].
  - Skip to the title, chapter or track you want to play.
  - Each press increases the number of skips.
  - [DivX]: Press [►] to return to the beginning of the title currently playing.

Starting from a selected title
- Press the numbered buttons.
  - Play starts from the selected title, chapter or track.
  - [HDD]
    - e.g., 5: [0] 15: [0] [5]
  - [MP3 and JPEG]
    - e.g., 5: [0] 15: [0] [5]
  - [Other discs]
    - Input a 2-digit number
      - e.g., 5: [0] [5]
    - This works only when stopped (right, Screen saver is displayed on the television) with some discs.
    - [CD] (with playback control)
      - If you press the numbered buttons while stopped (the above screen saver is displayed on the television) you can cancel PBC. (Elapsed play time appears on the unit's display.)

Quick View
- Press and hold [►] (PLAY/× 1.3).
  - Play speed is quicker than normal.
  - Press again to return to normal speed.
Playing recorded video contents/Playing play-only discs

Refer to the control reference on page 30.

Operations during play

(continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
</table>
| Slow-motion | While paused, press [◄◄] or [►►]. The speed increases up to 5 steps. | Press ►► (PLAY) to restart play. 
Press ● (STOP) to stop play. 
Press ▼ (REW) to reverse or fast reverse. 
Press ► (FWD) to fast forward or skip. |

Frame-by-frame | While paused, press [◄] or [►] (II(II)). Each press shows the next frame. | Press ►► (PLAY) to restart play. 
Press ● (STOP) to stop play. |

Skipping the specified time (Time Slip) | 1 Press [TIME SLIP]. 2 Press [▲, ▼] to select the time and press [OK]. Play skips the specified time. |

| Note | This automatically disappears after approximately 5 seconds. To show the screen again press [TIME SLIP] again. |


Create Chapter (⇒ 40, Title/Chapter) | Press [CREATE CHAPTER]. Chapters are divided at the point pressed. |

Changing audio during play

Press [AUDIO].

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio change during play</td>
<td>You can change the audio channel number each time you press the button. This allows you to change things like the soundtrack language (⇒ 38, Soundtrack).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Note</th>
<th>You cannot change the audio type in the following cases.</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a DVD-R, DVD-R DL, DVD-RW (DVD-Video format) +R, +R DL or +RW disc is in the disc tray while DVD drive is selected.</td>
<td></td>
</tr>
<tr>
<td>When the recording mode is XP and “Audio Mode for XP Recording” is set to “LPCM” (⇒ 62).</td>
<td></td>
</tr>
<tr>
<td>When “Rec for High Speed Copy” is set to “On” (The default setting is “On”).</td>
<td></td>
</tr>
</tbody>
</table>

Press [AUDIO].

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
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</tr>
<tr>
<td>When “Rec for High Speed Copy” is set to “On” (The default setting is “On”).</td>
<td></td>
</tr>
</tbody>
</table>
### Playing DivX discs, MP3 discs and still pictures (JPEG)

#### Regarding DivX discs, MP3 discs and still pictures (JPEG)

<table>
<thead>
<tr>
<th>DivX</th>
<th>E</th>
<th>P</th>
<th>DL</th>
<th>CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playable discs</td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
</tr>
<tr>
<td>File format</td>
<td>DivX</td>
<td>Files must have the extension &quot;.DIVX&quot;, &quot;.divx&quot;, &quot;.AVI&quot; or &quot;.avi&quot;.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of folders</td>
<td>Maximum number of folders recognizable: 300 folders (including the root folder)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of files</td>
<td>Maximum number of files recognizable*: 200 files</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support version</td>
<td>Plays all versions of DivX video (including DivX 6) with standard playback of DivX media files. Certified to the DivX Home Theater Profile.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Video</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of stream: Up to 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Codec: DIV3, DIV4, DIVX, DV50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Picture size: 32 x 32 to 720 x 576</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- FPS (Frame Per Second): Up to 30 fps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of stream: Up to 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Format: MP3, MPEG, AC3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Multi channel: AC3 is possible. MPEG multi is 2 ch conversion.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GMC (Global Motion Compensation) is not supported.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| MP3 |
|------|---|---|----|----|
| Playable discs | ≈ | ≈ | ≈ | ≈ |
| File format | MP3 | Files must have the extension ".mp3" or ".MP3". |  |
| Number of folders (groups) | Maximum number of folders (groups) recognizable: 300 folders (groups) (including the root folder) |  |
| Number of files (tracks) | Maximum number of files (tracks) recognizable*: 3000 files (tracks) |  |
| Bit rates | 32 kbps to 320 kbps |  |
| Sampling frequency | 16 kHz/22.05 kHz/24 kHz/32 kHz/44.1 kHz/48 kHz |  |
| ID3 tags | not compatible |  |

*Files must have the extension ".mp3" or ".MP3".

#### Still pictures (JPEG)

<table>
<thead>
<tr>
<th>Still pictures (JPEG)</th>
<th>≈</th>
<th>≈</th>
<th>≈</th>
<th>≈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playable discs and cards</td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
</tr>
<tr>
<td>File format</td>
<td>JPEG</td>
<td>Files must have the extension &quot;.jpg&quot; or &quot;.JPG&quot;.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of pixels</td>
<td>Between 34 x 34 and 6144 x 4096 (Sub sampling is 4:2:2 or 4:2:0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of folders</td>
<td>Maximum number of folders recognizable: 300 folders (including the root folder)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of files</td>
<td>Maximum number of files recognizable*: 3000 files (including higher folders)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTION JPEG</td>
<td>not supported</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Total number of recognizable file including MP3, JPEG, DivX and other types of files is 4000.

** It may take a few moments for still pictures to display.

*** When there are many files and/or folders, some files may not display or be playable.
Playing DivX discs, MP3 discs and still pictures (JPEG)

You can play CD-R/CD-RW discs which contain MP3 files, DivX video contents or still pictures that have been recorded on a computer.

The screen shown below is displayed when you insert a disc containing DivX video contents, MP3 files and still pictures (JPEG).

1. When playing the file displayed on the screen
   Press [OK].
2. When you want to play files other than the one displayed on the screen
   Follow the steps below.

   1 Press [RETURN].
   2 Press [FUNCTION MENU].
   3 Press [3, 4] to select "Playback" and press [OK].
   4 Press [3, 4] to select playback mode and press [OK].

Selecting file type to play

CD
You can play CD-R/CD-RW discs which contain DivX video contents or still pictures that have been recorded on a computer.

The screen shown below is displayed when you insert a disc containing DivX video contents, MP3 files and still pictures (JPEG).

- When playing the file displayed on the screen
  Press [OK].
- When you want to play files other than the one displayed on the screen
  Follow the steps below.

1 Press [RETURN].
2 Press [FUNCTION MENU].
3 Press [3, 4] to select "Playback" and press [OK].

Using the tree screen to find a folder

1 While the file list is displayed
   Press [▲, ▼] while a title is highlighted to display the tree screen.
   F: Selected folder no./Total folder no. including DivX title.

2 Press [▲, ▼] to select a folder and press [OK].
   The file list for the folder appears.

To return to the previous screen
   Press [RETURN].
Regarding DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the on-line instructions for purchasing DivX VOD content to display the unit’s registration code. (64, “DivX Registration” in “Others” tab)

Display the unit’s registration code.

To learn more visit www.divx.com/vod

Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. (“Rental Expired” is displayed.)

When playing this content:

• The number of remaining plays is reduced by one if
  – you press [DIRECT NAVIGATOR].
  – you press [ ].
  – you press [DRIVE SELECT] to change the drive.

• Resume functions do not work.

Playing MP3 discs

You can play CD-R/CD-RW discs which contain MP3 files that have been recorded on a computer.

Preparation

Press [DRIVE SELECT] to select the DVD drive.

1 Press [DIRECT NAVIGATOR].

G: Group No.
T: Track No. in the group
TOTAL: Track No./Total

• Files are treated as tracks and folders are treated as groups.
• When the DivX or JPEG Menu is displayed, perform steps 1–4 in “To select file type” on page 34 selecting “MP3” in step 4 to change the playback mode.

2 Press [ , ] to select the track and press [OK].

Play starts on the selected track.

• “ ” indicates the track currently playing.
• You can also select the track with the numbered buttons.
  e.g., 5: [0] [0] [0] [0] [5]
  15: [0] [0] [0] [1] [5]

To show other pages
Press [ ], [ ], [ ].
To return to the previous screen
Press [RETURN].

Using the tree screen to find a group

1 While the file list is displayed
Press [ ] while a track is highlighted to display the tree screen.

Selected group No./Total groups
If the group has no track, “––” is displayed as group number.

You cannot select groups that contain no compatible files.

2 Press [ , , , ] to select a group and press [OK].

The file list for the group appears.

To return to the previous screen
Press [RETURN].
Playing DivX discs, MP3 discs and still pictures (JPEG)

Refer to the control reference on page 34.
Instructions/notes regarding SD Cards and SD Drive are applicable to the DMR-EH67 model only.

Playable discs and cards are:

- **EH57**: CD
- **EH67**: HDD, RAM, CD, SD

≥ You can playback still pictures recorded onto a CD-R/CD-RW on a PC.
≥ You can use SD Cards with capacities from 8 MB to 4 GB (➡ 7).
≥ You cannot playback still pictures while recording or copying.
≥ Inserting, Removing the SD Card (➡ 13)

1 Press [DRIVE SELECT] to select the HDD, DVD or SD drive.
The indicator lights up on the unit’s display.

2 Press [DIRECT NAVIGATOR].

3 Press [▲, ▼, ◀, ▶] to select the album and press [OK].
e.g., HDD
You can also select album with the numbered buttons.

4 Press [▲, ▼, ◀, ▶] to select the still picture and press [OK].
You can also select still pictures with the numbered buttons.

To return to the Album View screen or Picture (JPEG) View screen Press [RETURN].
To exit the screen Press [DIRECT NAVIGATOR].

While stopped put the card in the slot, and the menu (➡ below) is automatically displayed.
Press [▲, ▼] to select “Album View” and then press [OK] to display the Album View screen shown in step 2.

1 Press [DRIVE SELECT] to select the HDD, DVD or SD drive.
The indicator lights up on the unit's display.

2 Press [DIRECT NAVIGATOR].

3 Press [▲, ▼, ◀, ▶] to select the album and press [OK].

4 Press [▲, ▼, ◀, ▶] to select the still picture and press [OK].

To select still pictures in another folder (➡ 37)

Direct Navigator screen icons

- Picture and folder protected.

To show other pages
Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [OK].
You can also press [◀, ▶] to show other pages.

To select the still pictures in another folder (➡ 37)
Useful functions during still picture play

Playable discs and cards are: [EH57] [CD] [HDD] [RAM] [SD]

Start Slide Show

Slide Show Setting

Slide Interval

You can display still pictures one by one at a constant interval.

1 While the Album View screen is displayed
   Press [A, V, 
   to select the folder and press [OK].
2 Press [>] (PLAY).

You can also start Slide Show with the following steps.
1 While the Album View screen is displayed
   Press [A, V, ] to select the desired folder and press [OK].
2 Press [A, V] to select “Start Slide Show” and press [OK].

To change the display interval

1 While the Picture (JPEG) View screen is displayed
3 Press [A, V, ] to select the desired interval (0–30 seconds) and press [OK].
4 Press [OPTION].
5 Repeat Play
   1 Press [A, V] to select “Repeat Play”.

To select the still pictures in another folder

1 While the Album View screen is displayed
   Press [A, V, , ] to select the album.
2 Press [>] (PLAY).

To exit the picture properties screen

1 While the Album View screen is displayed
   Press [STATUS] twice.

Properties

1 While playing
   Press [OPTION].
2 Press [A, V] to select “Folder” and press [OK].
3 Press [A, V, ] to select the higher folder and press [OK].

■ To select the still pictures in another folder

1 While the Picture (JPEG) View screen is displayed
2 Press [A, V] to select the folder and press [OK].

While playing

1 While playing
   Press [OPTION].
2 Press [A, V] to select “Zoom in” and press [OK].
3 Press [A, V, ] to select “Zoom out” and press [OK].

To switch to another higher folder

(Only if there is a multiple number of higher folders recognizable)
1 While the Album View screen is displayed
   Press [OPTION].
2 Press [A, V] to select “Select Folder” and press [OK].
3 Press [A, V, ] to select the higher folder and press [OK].

To switch to another higher folder

(Only if there is a multiple number of higher folders recognizable)
1 While the Album View screen is displayed
   Press [A, V, , ] to select the album.
2 Press [>] (PLAY).

The illustration shows the display of DMR-EH67.
Using on-screen menus

Common procedures

1 Press [DISPLAY].

2 Press [△, ▽] to select the menu and press [OK].

3 Press [△, ▽] to select the item and press [OK].

4 Press [△, ▽] to select the setting.

To clear the on-screen menus
Press [DISPLAY].
Play menu—Change the play sequence

This function works only when the elapsed play time is displayed. Select the item for repeat play. Depending on the disc, the items that can be selected will differ.

**Repeat Play**
- **All**
- **Chapter**
- **Group**
- **PL (Playlist)**
- **Title**
- **Track**

Select "Off" to cancel.

Picture menu—Change the picture quality

**Playback NR**
Reduces noise and picture degradation.

**Progressive**
Select "On" to enable progressive output. Select "Off" if the picture is stretched horizontally.

**Transfer**
When "Progressive" is set to "On".
Select the method of conversion for progressive output to suit the type of title being played (➡ 77, Film and video).

When the output signal is PAL.
(When the tray is opened, the setting will return to "Auto".)
- **Auto**: Automatically detects the film and video content, and appropriately converts it.
- **Video**: Select when using "Auto", and the content is distorted.
- **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".

When the output signal is NTSC
- **Auto1**: Automatically detects the film and video content, and appropriately converts it.
- **Auto2**: In addition to "Auto1", automatically detects film contents with different frame rates and appropriately converts it.
- **Video**: Select when using "Auto1" and "Auto2", and the content is distorted.

**AV-in NR**
(Only when AV1, AV2, AV3, AV4 or DV is selected)
Reduces video tape noise while copying.
- **Automatic**: Noise reduction only works on picture input from a video tape.
- **On**: Noise reduction works for input video.
- **Off**: Noise reduction is off. You can record the input signal as it is.

Sound menu—Change the sound effect

**V.S.S.**
(Dolby Digital, MPEG, 2-channel or over only)
Enjoy a surround-like effect if you are using two front speakers only.
- Turn V.S.S. off if it causes distortion. (Check the surround function on the connected equipment.)
- V.S.S. does not work for bilingual recordings.

**Dialog Enhancer**
(Dolby Digital, 3-channel or over only, including a centre channel)
The volume of the centre channel is raised to make dialogue easier to hear.

Other menu—Change the display position

**Position**
1–5: The higher the setting the lower the on-screen menu moves.

Status messages

The display changes each time you press the button.

**AV audio type**
STEREO: STEREO stereo broadcast
M 1/M 2: Bilingual dual-sound broadcast
M 1: Monaural broadcast
Editing titles/chapters

1. During play or while stopped
   Press [DIRECT NAVIGATOR].

2. Select
   Press the “Red” button to select “VIDEO”.

3. Press [▲, ▼, ◄, ►] to select the title.

4. Press [OPTION].

5. Press [▲, ▼] to select the operation
   and press [OK].
   • If you select “Edit”, press [▲, ▼] to select the operation and press [OK].

6. Press [▲, ▼, ◄, ►] to select the chapter.
   To start play ➤ Press [OK].
   To edit ➤ Step 7.

7. Press [OPTION], then [▲, ▼] to select the operation and press [OK].

   To return to the previous screen
   Press [RETURN].

   To exit the screen
   Press [DIRECT NAVIGATOR].

---

You can modify (remove unnecessary parts, divide, etc.) recorded programmes.

Preparation
• Turn on the television and select the appropriate video input to suit the connection to this unit.
• Turn the unit on.
• Press [DRIVE SELECT] to select the drive containing the recorded title to be edited.

Note
• Once deleted, divided or partially deleted, recorded content cannot be restored to its original state. Make certain before proceeding.
• You cannot edit during recording or copying, etc.
• Restricted recording information remains even after editing (e.g. dividing a title etc).
• HDD: Each time you edit a title the information is saved to the free space on the disc. If you do this numerous times, the amount of free space decreases.

Title/Chapter
Programmes are recorded as a single title consisting of one chapter.

<table>
<thead>
<tr>
<th>Start</th>
<th>Chapter</th>
<th>Chapter</th>
<th>Chapter</th>
<th>Chapter</th>
<th>End</th>
</tr>
</thead>
</table>

The maximum number of items on a disc:

- Titles: 500
- Chapters: Approx. 1000 per title

(HDD: depends on the state of recording.)

- Titles: 99
- Chapters: Approx. 500

(ITA: depends on the state of recording.)

Note

You can divide a title into multiple chapters. Each section between the division points becomes a chapter.

(32, 41, Create Chapter)

Title View screen

The illustration shows the display of DMR-EH67.

To show other pages
Press [▲, ▼, ◄, ►] to select “Previous” or “Next” and press [OK].

Multiple editing
Select with [▲, ▼, ◄, ►] and press [OK]. (Repeat.)

A check mark appears. Press [OK] again to cancel.

If you select “Chapter View”

To show other pages
Press [▲, ▼] to select “Previous” or “Next” and press [OK].

Playing still pictures ➤ 36, step 3

Switching the Direct Navigator appearance ➤ 30

Refer to "Title operations" (☞ 41).

Deleting

Chapter View screen

To edit ➤ Step 7.

Refer to "Chapter operations" (☞ 41).

You can go back to Title View.

To return to the previous screen
Press [RETURN].

To exit the screen
Press [DIRECT NAVIGATOR].


## Title operations

After performing steps 1–5 (40)

**Delete**

Press [4, ▶] to select “Delete” and press [OK].

*Once deleted, the recorded contents are lost and cannot be restored.* Make certain before proceeding.

*The available recording space on DVD-R, DVD-R DL, +R or +R DL does not increase when you delete titles.

*Available recording space on DVD-RW (DVD-Video format) and +RW increases only when the last recorded title is deleted. It does not increase if other titles are deleted.*

**Properties**

Information (e.g., time and date) is shown.

- Press [OK] to exit the screen.

**Enter Name**

You can give names to recorded titles.

- Press [OK] to exit the screen (58, Entering text)

**Set up Protection**

If set, this will protect the title from accidental deletion.

- Press [OK] when the title is protected.

**Partial Delete**

You can remove unnecessary part of the recording.

1. Press [OK] at the start point and end point of the section you want to delete.
2. Press [▲, ▼] to select “Finish” and press [OK].

*Select “Next” and press [OK] to delete other sections.*


**Change Thumbnail**

You can change an image to be shown as the thumbnail picture in the Title View.

1. Press [▲] to select “Change”.
2. Press [OK] when the image you want to use as a thumbnail.

**Divide Title**

You can divide a title into two.

1. Press [OK] at the point you want to divide the title.
2. Press [▲, ▼] to select “Finish” and press [OK].

To confirm the division point

Press [▲, ▼] to select “Preview” and press [OK]. (The unit plays 10 seconds before and after the division point.)

To change the division point

Restart play and press [▲, ▼] to select “Divide”, then press [OK] at the point you want to divide the title.

*The divided titles retain the title name and CPRM property (77) of the original title.*

*Video and audio just before and after the dividing point may momentarily cut out.*

* Multiple editing is possible.

## Chapter operations

After performing steps 1–7 (40)

**Delete Chapter**

Press [◄, ▶] to select “Delete” and press [OK].

*Once deleted, the recorded contents are lost and cannot be restored.* Make certain before proceeding.

*Select “Combine Chapters” (below) when you only want to delete the division point between chapters.

(The recorded contents will not be deleted.)

**Create Chapter**

Select the point where you want to start a new chapter while viewing the title.

1. Press [OK] at the point you want to divide.
2. Press [▲, ▼] to select “Finish” and press [OK].

**Combine Chapters**

Press [◄, ▶] to select “Combine” and press [OK].

*The selected chapter and following chapter are combined.*

* Multiple editing is possible.

---

For your reference

- Use search (31), Time Slip (32) to find the desired point.
- To find the desired point correctly, use Slow-motion (32) and Frame-by-frame (32).
- To skip to the start or end of a title, press [◄◄] (start) or [►►] (end).
Creating, editing and playing playlists

You can arrange the chapters (40) to create a playlist.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Chapter</th>
<th>Chapter</th>
<th>Chapter</th>
<th>Chapter</th>
</tr>
</thead>
</table>

Playlist

Chapter Chapter

Copy calculator (47) a playlist will create a title.

-Playlists are not recorded separately so this doesn’t use much capacity.
-Editing chapters in a playlist does not modify the source titles and source chapters.
-You cannot create or edit playlists while recording or copying.

The maximum number of items on a disc:
-Playlists: 99
-Chapters in playlists: Approx. 1000
(Contains on the state of recording.)
-If you exceed the maximum numbers of items for a disc, all the items entered will not be recorded.

Creating playlists

Preparation
- Turn on the television and select the appropriate Video input to suit the connection to this unit.
- Turn the unit on.
- Press [DRIVE SELECT] to select the drive containing the recorded title to be edited.
- Release protection (55).
- You cannot create or edit a playlist while recording or while copying.
- Playlists must be made in accordance with the encoding system currently selected in “TV System” (66).

1 While stopped
Press [FUNCTION MENU].

2 Press [▲, ▼] to select “To Others” and press [OK].

3 Press [▲, ▼] to select “Playlists” and press [OK].

4 Press [▲, ▼, ●, ▶] to select “Create” and press [OK].

5 Press [●, ▶] to select the source title and press [▼].
- Press [OK] to select all the chapters in the title, then skip to step 7.

6 Press [●, ▶] to select the chapter you want to add to a playlist and press [OK].

- Press [▲] to cancel.

7 Press [●, ▶] to select the position to insert the chapter and press [OK].

- You can also create a new chapter from the source title.
- Press [OPTION] to select “Create Chapter” and press [OK] (41, Create Chapter).

8 Press [RETURN].

All the selected scenes become the playlist.

To return to the previous screen
Press [RETURN].

To exit the screen
Press [EXIT].
**Editing and playing playlists/chapters**

1. **While stopped**
   Press [FUNCTION MENU].

2. **Press [A, V]** to select “To Others” and press [OK].

3. **Press [A, V]** to select “Playlists” and press [OK].

4. **Press [A, V, <, >]** to select the playlist.
   To start play ➡ Press [OK].

5. **Press [OPTION]**, then [A, V] to select the operation and press [OK].
   ➡ To show other pages/Multiple editing (➡ 40)
   ➡ You can go back to Playlist View.

6. **Press [A, V, <, >]** to select the chapter.
   To start play ➡ Press [OK].
   To edit ➡ Step 5.

7. **Press [OPTION]**, then [A, V] to select the operation and press [OK].
   ➡ To show other pages/Multiple editing (➡ 40)
   ➡ You can go back to Playlist View.

**Playlist operations**

**Delete**

- Press [A, V] to select “Delete” and press [OK].
- Once deleted, the playlists are lost and cannot be restored.
- Make certain before proceeding.

**Properties**

- Playlist information (e.g., total time and date) is shown.
- Press [OK] to exit the screen.

**Create**

(➡ 42, Creating playlists, Step 5–8)

**Copy**

- Press [A, V] to select “Copy” and press [OK].
- The copied playlist becomes the newest one in the playlist view screen.

**Enter Name**

(➡ 58, Entering text)

**Change Thumbnail**

(➡ 41, Change Thumbnail)

**Chapter operations**

**Add Chapter**

(➡ 42, Creating playlists, Step 5–7)

**Move Chapter**

Press [A, V, <, >] to select the position to insert the chapter and press [OK].

**Combine Chapters**

(➡ 41, Combine Chapters)

**Delete Chapter**

(➡ 41, Delete Chapter)
- The playlist itself is deleted if you delete all the chapters in it.

* Multiple editing is possible.
Editing still pictures

1. Press [DIRECT NAVIGATOR].
2. HDD/SD
   Press the “Green” button to select “PICTURE”.
3. Editing an album:
   Select the album to be edited and press [OPTION].
   - When you want to create an album using “Create Album”, press [OPTION] without selecting album.
   Editing a still picture:
   1. Select the album which contains the still picture to edit and press [OK].
   2. Select the still pictures to edit and press [OPTION].
   - To switch to another higher folder (➡ 37)
4. Press [▲, ▼] to select the operation and press [OK].

   To edit the album
   (e.g., SD)

   &nbsp;Start Slide Show
   &nbsp;Slide Show Setting
   &nbsp;Add Pictures
   &nbsp;Create Album
   &nbsp;Edit Album
   &nbsp;Set up Protection
   &nbsp;Cancel Protection
   &nbsp;Enter Album Name
   &nbsp;Select Folder
   &nbsp;Album and picture operation (➡ 45)

   This is only displayed when there are other higher folders that can be viewed.
   To switch to another higher folder (➡ 37)

   To edit still picture
   (e.g., SD)

   &nbsp;Delete Picture
   &nbsp;Set up Protection
   &nbsp;Cancel Protection
   &nbsp;Album View
   &nbsp;You can go back to Album View.

To return to the previous screen
Press [RETURN].
To exit the screen
Press [DIRECT NAVIGATOR].
Album and picture operation

After performing steps 1–4, page 44

Delete Picture®

Press [◄, ►] to select “Delete” and press [OK].

Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.

When deleting an album, files other than the still picture files inside the album will also be deleted. (This does not apply to folders under the album concerned.)

Delete Album®

You can give names to albums.
(➡ 58, Entering text)

Album names input using this unit may not be displayed on other equipment.

Enter Album Name

You can give names to albums.
(➡ 58, Entering text)

If set, this will protect the still picture or album from accidental deletion.

Set up Protection®

Press [◄, ►] to select “Yes” and press [OK].

The lock symbol appears when the still picture or album is protected.

≥ If “Select pictures to copy” is selected Select the still picture you want to add and press [OK].

≥ If “Copy all pictures” is selected All the still pictures in the album will be copied.

≥ If you want to continue copying, select “Yes” and go to step 3.

Only for “Create Album”

Press [◄, ►] to select “Yes” or “No” and press [OK].

If “Yes” is selected:
You can give names to albums. (➡ 58, Entering text)

If “No” is selected:
The recording date of the first picture in the album becomes the album name. (If there is no recording date information, the date will appear as [---.--.----].)

Create Album

You can give names to albums.
(➡ 58, Entering text)

Copy to DVD-RAM

Press [◄] to select “Start” and press [OK].

You cannot copy if multiple albums are selected.

Copy to HDD

Press [◄] to select “Start” and press [OK].

You cannot copy if multiple albums are selected.

Note

≥ Timer recordings do not start when performing “Add Pictures”, “Create Album”, “Copy to DVD-RAM” or “Copy to HDD”.

≥ You cannot perform “Add Pictures” or “Create Album” to a higher folder.

Multiple editing is possible.

[RAM] [SD]

Press [2, 1] to select “Delete” and press [OK].

Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.

When deleting an album, files other than the still picture files inside the album will also be deleted. (This does not apply to folders under the album concerned.)

[RAM] [SD]

Press [2, 1] to select “Start” or “Yes” and press [OK].

To switch to another higher folder
1 Press [OPTION].
2 Select “Select Folder” and press [OK].
3 Press [◄, ►] to select the higher folder and press [OK].

Press [◄, ►] to select the item and press [OK].

If “Select pictures to copy” is selected Select the still picture you want to add and press [OK].

If “Copy all pictures” is selected All the still pictures in the album will be copied.

Press [◄, ►] to select “Yes” or “No” and press [OK].

Only for “Create Album”

Press [◄, ►] to select “Yes” or “No” and press [OK].

If “Yes” is selected:
You can give names to albums. (➡ 58, Entering text)

If “No” is selected:
The recording date of the first picture in the album becomes the album name. (If there is no recording date information, the date will appear as [---.--.----].)
Instructions/notes regarding SD Cards and SD Drive are applicable to the DMR-EH67 model only.

1. While stopped
   Press [FUNCTION MENU].

2. Press [△, ▽, ◀, ▶] to select “Delete” and press [OK].

   The illustration shows the display of DMR-EH67.

3. If you want to delete a title:
   Press [△, ▽, ◀, ▶] to select the title and press [OK].

   If you want to delete an album:
   Press [△, ▽, ◀, ▶] to select the album and press [DELETE *].

   If you want to delete a still picture:
   ① Press [△, ▽, ◀, ▶] to select the album that contains the still picture you want to delete and press [OK].
   ② Press [△, ▽, ◀, ▶] to select the still picture and press [OK].

   You can confirm the titles or pictures etc. that you have selected using the option menu.
   - Refer to option menu operations for the “Title View” ( page 40, step 5).
   - Refer to option menu operations for the “Album View” ( page 44, step 4).
   - Refer to option menu operations for the “Picture (JPEG) View” ( page 44, step 4).

   To show other pages
   Press [◀, ▶] to show other pages.

   Multiple deleting
   Select with [△, ▽, ◀, ▶] and press [OK]. (Repeat.)
   A check mark appears. Press [_OK] again to cancel.

4. Press [◀] to select “Delete” and press [OK].

   The title, album or the picture is deleted.

To return to the previous screen
Press [RETURN].

To exit the screen
Press [EXIT].

Deleting titles or pictures during play

1. While playing
   Press [DELETE *].

   You cannot delete a picture during a Slide Show.

2. Press [◀, ▶] to select “Delete” and press [OK].

   The title or the picture is deleted.
### Copying titles or playlists

<table>
<thead>
<tr>
<th>Features</th>
<th>Copy</th>
<th>Advanced Copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD – DVD</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>DVD – HDD</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

#### Copy direction

- **HDD – DVD**: Easy copying from HDD to DVD with no difficult settings. You can set the unit to copy titles or playlists in the way you want.
- **DVD – HDD**: Make a copy list and then copy. Copying playlists from titles using a variety of recording modes or multiple titles using FR recording mode.
- **Titles that contain many deleted segments**: (Display [R])
- **You cannot copy in “EP” or “FR (recordings 5 hours or longer)” mode**: (Displayed [B])

#### High speed mode copy

- **DVD**: You cannot perform high-speed copy with head video and audio may momentarily cut out when the unit is switching layers. (When playing a title recorded on both layers, video and audio may momentarily not be played.)
- **You cannot perform high-speed copy from +RW to HDD**: (Only from a finalised disc)

#### Changing recording mode

- **When arranging multiple titles for copying, if any titles are recorded with “Rec for High Speed Copy” to “Off”, then you cannot perform with high-speed copy.**
- **Playlists mixed with a variety of audio types (Dolby Digital and LPCM, etc.).**
- **Are thumbnails maintained?**
- **Copying SD Video from an SD Card**
  - **Copy direction**
    - **XP**: One title becomes one chapter.
  - **TP**: Thumbnails return to the default position.
  - **Are chapters maintained?**

#### Recording and Playing while Copying

- **Regarding copying from HDD to DVD with no difficult settings**: (Display [R])
- **Copy direction**: (Display [B])
- **High speed mode copy**: (Displayed [B])
- **Changing recording mode**: (Display [R])
- **Recording and Playing while Copying**: (Displayed [R])

#### Approximate copying times (Max. speed)

**Includes time required to write data management information.**

<table>
<thead>
<tr>
<th>HDD</th>
<th>5X Speed DVD-RAM</th>
<th>12X Speed DVD-R ¹</th>
<th>4X Speed DVD-R DL ²</th>
<th>4X Speed DVD-RW ³</th>
<th>8X Speed +R ⁴</th>
<th>4X Speed +R DL ⁵</th>
<th>4X Speed +R ⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP</td>
<td>12 min. 45 sec.</td>
<td>5 min. 46 sec. 10X</td>
<td>15 min. 4X</td>
<td>12 min. 4X</td>
<td>15 min. 4X</td>
<td>15 min. 4X</td>
<td>15 min. 4X</td>
</tr>
<tr>
<td>SP</td>
<td>6 min. 10X</td>
<td>2 min. 30X</td>
<td>24 sec.</td>
<td>1 min. 30X</td>
<td>2 min. 30X</td>
<td>2 min. 30X</td>
<td>2 min. 30X</td>
</tr>
<tr>
<td>LP</td>
<td>3 min. 20X</td>
<td>1 min. 21X</td>
<td>44 sec.</td>
<td>1 min. 45X</td>
<td>1 min. 45X</td>
<td>1 min. 45X</td>
<td>1 min. 45X</td>
</tr>
<tr>
<td>EP (6H)</td>
<td>2 min. 30X</td>
<td>1 min. 30X</td>
<td>44 sec.</td>
<td>1 min. 30X</td>
<td>2 min. 30X</td>
<td>2 min. 30X</td>
<td>2 min. 30X</td>
</tr>
</tbody>
</table>

- **The above values indicate the quickest possible times and speeds to high speed recording a one hour title recorded on the HDD is a high speed recording compatible disc. Depending on what part of the disc is being written to, the features of the disc, etc., the times and speeds will vary.**
- **In this unit, copying with a 16X Speed DVD-R disc will be performed at the same speed as with a 12X Speed DVD-R disc.**
- **In this unit, copying with a 6X Speed DVD-RW disc will be performed at the same speed as with a 4X Speed DVD-R disc.**
- **In this unit, copying with a 16X Speed +R disc will be performed at the same speed as with a 8X Speed +R disc.**

#### Note

- **When recording or playing while copying, the unit may not use the maximum recording speed.**
- **Depending on the condition of the disc, the unit may not copy using the maximum speed.**
- **Regarding copying to DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided) when not copying in high speed mode, titles are temporarily copied at normal speed to the HDD and then copied at high speed to DVD-R DL and +R DL.**
- **The titles that were temporarily copied to the HDD are then deleted.**
  - **Regarding the copy to DVD-R DL and +R DL in the following cases.**
  - **When there is not enough free space on the HDD.**
  - **You cannot copy from DVD-R DL and +R DL in the following cases.**
  - **When playing a title recorded on both layers, video and audio may momentarily cut out when the unit is switching layers.**

#### Regarding copying of the broadcasts that allow “One time only recording”

- **You can copy a recorded title to a CPRM (77) compatible DVD-RAM, however, the title is deleted from the HDD.**
- **Titles or playlists cannot be copied from DVD-RAM to the HDD.**
- **Titles will not be copied if they are protected (41).**
- **You cannot copy playlists created from “One time only recording” titles.**
- **Titles with recording limitations and playlists cannot be registered on the same copying list.**
When copying a title with main and secondary audio
• Select the audio type for recording bilingual broadcast from "Bilingual Audio Selection" (§62) when:
  – Copying to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW.
  – When "Audio Mode for XP Recording" is set to "LPCM" (§62) and you are copying in XP mode.

### Speed and recording mode when copying

- **Rec for High Speed Copy** (§61)
  - Only titles recorded with "Rec for High Speed Copy" set to "On" are automatically finalised (§77). After finalising, the discs become play-only and you can also play them on other DVD equipment. However, you can no longer record or edit. (You cannot copy to finalised discs.)

#### Reference
- **Copy speed**
  - High speed:
    - When copying to a finalised disc, recording mode will be set to FR.
    - When copying in normal speed, sound of the disc rotating becomes louder than normal.
  - Normal speed:
    - When copying to a finalised disc, recording mode will be set to FR. (However, if there is still not enough space after setting to FR mode, copy will not be performed.)

**Not**
- When copying titles in high speed mode to high speed recording compatible DVD-Video formats, +R and +R DL discs, the sound of the disc rotating becomes louder than normal.
- If you want to copy to perform more quietly, select "Normal (Silent)" in "DVD Speed for High Speed Copy" in the Setup menu (§61).
- If you are copying in XP mode, titles recorded in "EP" or "FR (recordings 5 hours or longer)" mode, and you are copying in XP mode.

---

1. **While stopped**
   - Press [FUNCTION MENU].
2. **Press [▲, ▼] to select “Copy” and press [OK].**
3. **Press [▲, ▼] to select the title you want to copy and press [OK].**
   - To show other pages
     - Press [◄, ►] to show other pages.
   - Multiple editing
     - Select with [▲, ▼] and press [□]. (Repeat.)
     - Press [OK] to register.
     - A check mark appears. Press [□] again to cancel.
4. **After you start copying DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL discs, they become play-only and you can no longer record or edit.**
   - Press [◄, ►] to select “Start” and press [OK].

---

1. **To return to the previous screen**
   - Press [RETURN].
2. **To stop copying (§50)**
3. **COPY Navigator/Copying list icons and functions (§50)**
4. **To check the properties of a title and sort COPY Navigator**
   - **Press [▲, ▼] to select the title and press [OPTION].**
5. **Press [▲, ▼] to select “Properties” or “Sort” and press [OK].**

**Properties:**
- The name, recording date, channel etc. of the selected title are shown.

**Sort:**
- Press [▲, ▼] to select the item and press [OK].

- This changes the way that titles are displayed. You can select to display titles by No., recording date, day, channel, recording start time and title name. (You cannot select a title if it has a check mark.)

**Note**
- When copying titles in high speed mode to high speed recording compatible DVD-Video formats, +R and +R DL discs, the sound of the disc rotating becomes louder than normal.
- If you want to copy to perform more quietly, select "Normal (Silent)" in "DVD Speed for High Speed Copy" in the Setup menu (§61).
- If you register multiple titles, they are copied in order from the top of the screen and not in the order you registered them.
- To change the order that titles are copied, create a copying list and then copy the contents of the list (§49).
Copying using the copying list—Advanced Copy

You can order titles and playlists as desired for copy to disc.

See also “Before copying” (☞ 48).

1 While stopped
Press [FUNCTION MENU].

2 Press [▲, ▼] to select “To Others” and press [OK].

3 Press [▲, ▼] to select “Advanced Copy” and press [OK].

4 Set the copy direction.
● If you are not going to change the copying direction, press [▼] several times (☞ step 7).

1 Press [▲, ▼] to select “Copy Direction” and press [►].

2 Press [▲, ▼] to select “Source” and press [OK].

3 Press [▲, ▼] to select the drive and press [OK].

4 If you select “HDD”, “Destination” is automatically set to “DVD”, or vice versa. (☞ Go to step 6)

5 Press [▲, ▼] to select “Destination” and press [OK].

6 Press [▲, ▼] to select the drive and press [OK].

The same drive as the copy source cannot be selected.

7 Press [▲, ▼] to select “Start Copying” and press [OK].

When copying titles in high speed mode to high speed recording compatible DVD-RAM 5X, DVD-R 8X, +R 8X or +RW 4X, the sound of the disc rotating becomes louder than normal.

If you want copy to perform more quietly, select “Normal” in “DVD Speed for High Speed Copy” in the Setup menu (☞ 61).

8 Press [▲, ▼] to select “Yes” and press [OK] to start copying.

Press [▲, ▼] to select “Copy & Finalise” or “Copy Only” and press [OK].

If “Copy & Finalise” is selected
After finalising, the discs become play-only and you can also play them on other DVD equipment. However, you can no longer record or edit.

To make titles and playlists copyable

For copying using the copying list

1 Press [▲, ▼] to select “Create List” and press [OK].

2 Press [▲, ▼] to select “New item” and press [OK].

3 Press [▲, ▼] to select “Source” and press [OK].

4 Press [▲, ▼] to select the drive and press [OK].

5 Press [▲, ▼] to select “Format” and press [OK].

6 Press [▲, ▼] to select “Format” and press [OK].

7 Press [▲, ▼] to select “Destination” and press [OK].

8 Press [▲, ▼] to select “Start Copying” and press [OK].

9 Press [▲, ▼] to select “Copy” and press [OK].


11 Press [▲, ▼] to select “Copy & Finalise” or “Copy Only” and press [OK].

12 If “Copy & Finalise” is selected
After finalising, the discs become play-only and you can also play them on other DVD equipment. However, you can no longer record or edit.

To show other pages
Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [OK].

You can also press [◀, ▶] to show other pages.

Multiple editing
Select with [▲, ▼, ◀, ▶] and press [OK]. (Repeat.)
Press [OK] to register to the list.
A check mark appears. Press [OK] again to cancel.
When you switch between the “VIDEO” and “Playlists” tab, the check mark is cancelled.
Copying titles or playlists

(Continued)

Refer to the control reference on page 48.

To stop copying
Press and hold [RETURN] for 3 seconds. (You cannot stop while finalising)

When High-speed copying
All titles that have completely copied at the point cancelled are copied.

When Normal Speed copying
Copies until the point cancelled. However titles with “One time only recording” restriction, only titles that have completely copied at the point cancelled are copied to the disc. Titles that are cancelled before the copy is complete are not copied and remain on the HDD.

- If copy is cancelled during the step while temporarily copying to the HDD, nothing will be copied.
- If copy is cancelled during the step while copying to disc from the HDD, then only titles completely copied at the point cancelled are copied.

Even if the title was not copied to the DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW, the amount of remaining writable disc space becomes less.

To return to the previous screen
Press [RETURN].

Recording and playing while copying
You can record and play using the HDD while high speed copying. (Only when high speed copying without finalising)

Still pictures cannot be played.
Press [OK] to cancel the screen display.

To confirm the current progress
Press [STATUS].

Timer recordings executed while copying are recorded to the HDD regardless of the recording drive settings. (Only when high speed copying without finalising)

COPY Navigator/Copying list icons and functions

COPY Navigator/Copying list icons

- Titles and playlists that can be copied in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL, +RW
- Titles and playlists that can be copied in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format) (However, titles and playlists cannot be copied in high speed mode to +R, +R DL, +RW)
- [W]DL [RW] is displayed, but copy cannot be performed.
- Title with “One time only recording” restriction (⇒ 8, When recording the “One time only recording” broadcasts)
- Titles deleted from the HDD by “One time only recording” restriction after copying (⇒ 8, When recording the “One time only recording” broadcasts)
- Title or playlist contains still picture(s)
- Still picture(s) cannot be copied.
- Title or playlist recorded using a different encoding system from that of the TV system currently selected on the unit.
- Titles and playlists displaying these marks cannot be selected.

Data size of each registered item

Size:
Data size recorded to the copy destination
- 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, because of data management information being written to the copy destination, etc.

To play DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL on other players, it is necessary to finalise them after copy.

To edit the copying list
Select the item in step 6–9 (⇒ 49, right column)
1 Press [OPTION].
2 Press [▲, ▼] to select the operation and press [OK].

Delete All:
Delete all items registered on the copying list.
Press [▲, ▼] to select “Yes” and press [OK].

Add:
Add new items to the copying list.
Press [▲, ▼, ◄, ►] to select the playlists and titles to be added and press [OK].

Delete:
Delete the selected items.
Press [▲, ▼] to select “Yes” and press [OK].
You can also delete multiple items (⇒ 49, Multiple editing).

Move:
Move selected items or change the order of items on the copying list.
Press [▲, ▼] to select the destination and press [OK].

To cancel all registered copying setting and lists
After performing steps 1–3 (⇒ 49, left column)
1 Press [▲, ▼] to select “Cancel All” and press [OK].
2 Press [▲, ▼] to select “Yes” and press [OK].

The settings and lists may be cancelled in the following situations.
When a title, still picture (EH67), etc. has been recorded or deleted at the copy source.
When steps have been taken, for instance, to turn off the unit, open the tray, change the copy direction, etc.
Copying a finalised DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL

You can copy the content of finalised DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, and +R DL to the HDD and re-edit. While playing a disc, the content being played is copied to the HDD according to the set time.

- If you perform search, frame-by-frame or pause while copying, that portion of title is not recorded.
- When "Rec for High Speed Copy" (61) is set to "On" and you make a copy, the copy will be made using the picture size selected in "Aspect for Recording" (61) of the Setup menu.

> 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.
> The following cannot be copied: Video CD, Audio CD and so on.

**Preparation**
Insert the finalised disc (30).

After performing steps 1–5 ("Format" is automatically set to "DVD-Video") (49, Copying using the copying list—Advanced Copy)

### 6 Set “Copy Time”.
- If you are not going to change the setting (step 7).

**Setting the unit to copy according to the set time**
1. Press [▲, ▼] to select “Copy Time” and press [▶].
3. Press [▲, ▼] to select the disc.
5. Press [▲, ▼] to select “Copy Time” and press [OK].

**Setting the copying time**
1. Press [▲, ▼] to select “On” and press [OK].
2. Press [▲, ▼] to select “Copy Time” and press [OK].

3. Press [▲, ▼] to select “Start Copying” and press [OK].
4. Press [▲, ▼] to select “Stop Copying” and press [OK].
6. Press [▲, ▼] to select “Stop when HDD is full” and press [OK].
7. Press [▲, ▼] to select “Cancel All” and press [OK].

Copying to the HDD continues for the set time even after the content being played finishes.

- Set a few minutes longer than the source title, in order to include the operation time before play begins.
- You can also set the recording time with the numbered buttons.

### 7 Press [▲, ▼] to select “Start Copying” and press [OK].
Press [▲, ▼] to select “Yes” and press [OK] to start copying. The disc top menu is displayed.

- Disc play automatically begins from title 1 when “Title 1” is selected from the "Auto-Play Select" menu when finalising the disc (57).

### 8 When the top menu is displayed
Press [▲, ▼, ◀, ▶] to select the title you want to start copying, and press [OK].

While playing in order, all the titles after the selected title are recorded until the set time. (After the last title on the disc has finished playing the top menu is recorded until the set time is reached.)

To return to the previous screen
Press [RETURN].

You can also press and hold [RETURN] for 3 seconds to stop copying.

- If stopped partway, copying will be up to that point.

**Note**
- The screen saver on the right is recorded at the beginning.
- The content is recorded as 1 title from the start of copy to the end.
- If play does not begin automatically or if the top menu does not display automatically, press [▶] (PLAY) to start.
- Even if you copy a high quality video/audio DVD, the original picture and audio quality cannot be exactly replicated.
- If you want to copy a title from a finalised DVD-RW (DVD Video Recording format), create a copy list and then copy (49, Copying using the copying list—Advanced Copy).

**Copying SD Video from an SD Card**

Motion pictures encoded in the MPEG2 format, which have been taken by a Panasonic SD Video Camera, digital video camera etc, can be stored on HDD or DVD-RAM.

(All the recordings on the same date become a title.)

- You cannot playback or record while copying SD Video.
- You must copy the files to the HDD or a DVD-RAM.
- This unit cannot copy AVCHD format motion pictures from an SD Card.

The display below automatically appears when you insert a card into the SD Card slot while stopped.
Press [▲, ▼] to select "Copy Video (MPEG2)" and press [OK]. Then go to step 7 on page 49.

**To stop copying**
Press [▼]

- You can also press and hold [RETURN] for 3 seconds to stop copying.
- If stopped partway, copying will be up to that point.

**Copy Direction:**
Source : SD CARD
Copy Mode:
Format : VIDEO
- SD Video on an SD Card are automatically registered on the copy list.
- If there are no SD Video on an SD Card, "Copy Video (MPEG2)" is not displayed.

- Conventionally recorded programmes

**Copying titles or playlists**

### How to copy
Refer to "Copying using the copying list—Advanced Copy" (49)
Please set the items in step 4 and 5 as shown below.

**Copy Direction:**
Source : SD CARD
Copy Mode:
Format : VIDEO
- SD Video on an SD Card are automatically registered on the copy list.
- If there are no SD Video on an SD Card, "Copy Video (MPEG2)" is not displayed.
5 Set the recording mode.
If you are not going to change the recording mode, press [\[\] (step 6).
1 Press [\(\) to select “Copy Mode” and press [\[\].
2 Press [\(\) to select “Format” and press [OK].
3 Press [\(\) to select “PICTURE” and press [OK].
“Recording Mode” is automatically set to “High Speed”.
4 Press [\] to confirm.

6 Register still pictures for copy.

- If you are going to copy a registered list without making any changes to it (step 7).
You can register still pictures or still picture folders.
Still pictures and folders cannot be registered on the same list.

[New item (Total=0)]

- To register individual still pictures

1 Press [\(\) to select “Create List” and press [\[\].
2 Press [\(\) to select “New item” and press [OK].
3 Press [\(\), \(\), \(\) to select the still picture and press [OK].

- To select a multiple number of items together, press [\[\] to add the check mark and press [OK] (P53, Multiple editing).
- To show other pages (P53)
- To select the still pictures in another folder (P53)
- To edit the copying list (P53)
You can register a multiple number of still pictures on the copying list by repeating steps 2-3.
4 Press [\] to confirm.

- To register on a folder by folder basis

1 Press [\(\) to select “Create List” and press [\[\].
2 Press [\(\) to select “Picture/Folder” and press [OK].

[Cancel All]

3 Press [\(\) to select “Folder” and press [OK].
4 Press [\(\) to select “New item” and press [OK].
5 Press [\(\), \(\), \(\) to show other pages (P53)
6 To select the folder and press [OK].
7 To select a multiple number of items together, press [\[\] to add the check mark and press [OK] (P53, Multiple editing).
8 To show other pages (P53)
9 To switch to another higher folder (P53)
10 To edit the copying list (P53)
You can register a multiple number of folders on the copying list by repeating steps 3-8.
11 Press [\] to confirm.

7 Press [\(\), \(\) to select “Start Copying” and press [OK].

- For individual still pictures only
When specifying another folder as the copying destination, select “Folder”.

8 Press [\[\], \[\] to select “Yes” and press [OK] to start copying.

To stop copying
Press and hold [RETURN] for 3 seconds.
To return to the previous screen
Press [RETURN].
To switch to another higher folder
1 Press [OPTION] and press [OK].

To select another folder
2 Press [A, V] to select the folder and press [OK].

You can also select folders with the numbered buttons.
e.g., 5: [0] ➔ [0] ➔ [5]
15: [0] ➔ [1] ➔ [5]
115: [1] ➔ [1] ➔ [5]

To switch to another higher folder
• Only when selecting the source folder
If there is a multiple number of higher folders recognizable, while the screen on the right appears
1 Press [OPTION] and press [OK].
2 Press [A, 4, ] to select the higher folder and press [OK].
You cannot register a folder with a different higher folder to the same list.
3 Press [A, V] to select the desired folder and press [OK].

Copying all the still pictures on a card—Copy All Pictures

Preparation
Press [DRIVE SELECT] to select the SD drive.

1 While stopped
Press [FUNCTION MENU].

2 Press [A, V] to select “To Others” and press [OK].

3 Press [A, V] to select “Copy All Pictures” and press [OK].


5 Press [A, V, 4, ] to select “Copy” and press [OK].

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

To return to the previous screen
Press [RETURN].

Note
• When copying the still pictures on a folder by folder basis (➡ 52) or card by card basis (➡ above, Copy All Pictures), files other than the still picture files inside the folder will also be copied. (This does not apply to the lower folders contained inside the folders.)
• If still pictures are already contained inside the copy destination folder, the new still pictures are recorded following the existing still pictures.
• If the space on the destination drive runs out or the number of files/folders to be copied exceeds the maximum (➡ 33), copying will stop partway through.
• When a name has not been input for the copy source folder, the folder’s name may be changed from the source folder. It is recommended that you input a folder name before copying (➡ 45, Enter Album Name).
• You cannot copy the information about the picture rotation.
• The sequence in which the still pictures are registered on the copy list may not be the same at the copy destination.
Copying from a video cassette recorder

1. While stopped
   The S VIDEO terminal achieves a more vivid picture than the VIDEO terminal. If the audio output of the other equipment is monaural, e.g., Connecting to the AV3 or DV input terminals on the front. You can also connect to the AV4 input terminals on the rear.

Turn off the unit and other video equipment before connecting.

This unit

DV cable (IEEE 1394, 4-pin)
S Video cable
Audio/Video cable

Other video equipment

Connect to Audio/Video output terminals.

If the audio output of the other equipment is monaural, connect it to L/MONO on the AV3 input terminals at the front.

The S VIDEO terminal achieves a more vivid picture than the VIDEO terminal. When recording from the unit's DV terminal:
- Select the type of audio recording from "Audio Mode for DV Input" in the Setup menu (>).
- When recording from DV equipment (e.g., digital video camcorder), you can record audio/visual recordings from DV tape only.
- When "Rec for High Speed Copy" is set to "ON" and you make a copy, the copy will be made using the picture size selected in "Aspect for Recording" (>). About the aspect when recording a programme (>)

Note
If it becomes time for a timer recording to start while copying, the recording will start and the copying will stop.

Manual recording

1. While stopped
   Press [INPUT SELECT] to select the input channel for the equipment you have connected.

   e.g., If you have connected to AV3 input terminals, select "A3".

   1 Turn off the main unit and DV equipment, then connect the unit off and back on.
   2 Press [FUNCTION MENU].
   3 Press [REC MODE] to select the recording mode.
   4 Pause play of the DV equipment at the point you want recording to start.
   5 When the output signal from the external equipment is NTSC, change the “TV System” to “NTSC” in the Setup menu (>). After preparation is completed, the following screen appears.

   Press [eselect “Rec to HDD” or “Rec to DVD” and press [OK].

2. Start play on the other equipment.
   When you want to start recording
   Press [REC].
   Recording starts.

   To skip unwanted parts
   Press [II] to pause recording. (Press again to restart recording.)
   To stop recording
   Press [ ].

   Almost all videos and DVD-Video on sale have been treated to prevent illegal copying. Any software that has been so treated cannot be recorded using this unit.

   Using Flexible Recording (> 25), you can record the content of a video cassette (approx. 1–8 hours) to a 4.7 GB disc with the best possible quality of recording without wasting disc space.

   3. When recording bilingual programmes
      When recording from DV equipment (e.g., digital video camcorder), you can record audio/video recordings from DV tape only.

   4. When recording from the unit’s DV terminal
      When recording finishes
      The confirmation screen appears. Press [OK] to finish DV automatic recording.

   When recording finishes
   The confirmation screen appears. Press [OK] to finish DV automatic recording.

   To stop recording
   Press [ ].

   Note
   Only one piece of DV equipment (e.g., digital video camcorder) can be connected to the unit via the DV input terminal.
   It is possible to operate the unit from the connected DV equipment.
   The DV input on this unit is for use with DV equipment only. (It cannot be connected to a computer, etc.)
   The unit cannot record NTSC signals to discs that already have PAL signal recordings. (However, both types of programmes can be recorded onto the HDD.)
   To reduce noise in input from a video cassette recorder, set “AV-in NR” to “On” in the on-screen menu (>).
   Check the time on the unit is correct.

   1 While stopped
   Press [INPUT SELECT] to select the HDD or DVD and then continue from step 1.

   1 While stopped
   Press [ ] to select “Other”.
   and press [OK].

   3 Press [ ] to select “DV Auto Rec” and press [OK].

   4 Press [ ] to select “Rec” and press [OK].

   Recording starts.

   When recording finishes
   The confirmation screen appears. Press [OK] to finish DV automatic recording.

   To stop recording
   Press [ ].

   Note
   Only one piece of DV equipment (e.g., digital video camcorder) can be connected to the unit via the DV input terminal.
   It is possible to use both the unit and the connected DV equipment.
   The DV input on this unit is for use with DV equipment only. (It cannot be connected to a computer, etc.)
   The DV equipment name may not be shown correctly.
   Depending on the DV equipment, the images or audio may not be input properly.
   The date and time information on the tape of the DV equipment will not be recorded.
   You cannot record and play simultaneously.

   If the DV automatic recording function does not work properly, check the connections and DV equipment settings, and turn the unit off and back on.
   If that does not work, follow the instructions for manual recording (left column).
HDD, disc and card management

Instructions/notes regarding SD Cards and SD Drive are applicable to the DMR-EH67 model only.

You can use SD Cards with capacities from 8 MB to 4 GB (7).

1 While stopped
   Press [FUNCTION MENU].

2 Press [▲, ▼] to select “To Others” and press [OK].
   e.g., Australia and N.Z.

   e.g., RAM

   *When HDD has been selected, “Delete all titles” and “Format HDD” are displayed.
   *When SD has been selected, “Format Card” only is displayed.

Setting the protection

RAM

Preparation
   Press [DRIVE SELECT] to select the DVD drive.

After performing steps 1–3 (left)

4 Press [▲, ▼] to select “Disc Protection” and press [OK].

5 Press [◄, ►] to select “Yes” and press [OK].

The lock symbol appears closed when the disc is write-protected.

To return to the previous screen
   Press [RETURN].

To exit the screen
   Press [EXIT].

Cartridge-protection

For a DVD-RAM with a cartridge
   *With the write-protect tab in the protect position, play automatically starts when inserted in the unit.

   SD (EH67)
   Switch the write-protect switch to the “LOCK” position.

Providing a name for a disc

RAM in [RAM] RWV (RAM)

You can provide a name for each disc.

Preparation
   Press [DRIVE SELECT] to select the DVD drive.
   • RAM Release protection (above).

After performing steps 1–3 (left)

4 Press [▲, ▼] to select “Disc Name” and press [OK].
   (58, Entering text)

   *The disc name is displayed in the DVD Management window.
   • ▲ RAM in [RAM] RWV (RAM) With a finalised disc, the name is displayed on the Top Menu.
   • ▲ RAM The disc name is displayed only if you play the disc on other equipment.

To return to the previous screen
   Press [RETURN].

To exit the screen
   Press [EXIT].
HDD, disc and card management

Refer to the control reference on page 55.

Dealing all titles and playlists—Delete all titles

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

Preparation

● Press [DRIVE SELECT] to select the HDD or DVD drive.
● Release protection (➡ 55).

After performing steps 1–3 (➡ 55)

4 Press [▲, ▼] to select “Delete all titles” and press [OK].
5 Press [◄, ►] to select “Yes” and press [OK].
6 Press [◄, ►] to select “Start” and press [OK].
7 Press [OK].

To return to the previous screen

Press [RETURN].

To exit the screen

Press [EXIT].

Note

● Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.
● Deleting all video titles will result in all playlists also being deleted.
● Still picture data (JPEG) or computer data cannot be deleted.
● Delete does not work if one or more titles are protected.

Deleting all the contents of a disc or card—Format

<table>
<thead>
<tr>
<th>HDD</th>
<th>RAM</th>
<th>RW(+)</th>
<th>RW(-)</th>
<th>RW(+)VR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Preparation

● Press [DRIVE SELECT] to select the HDD, DVD or SD drive.
● Release protection (➡ 55).

Note

Formatting deletes all contents (including computer data), and they cannot be restored. Check carefully before proceeding. The contents are deleted when you format a disc or card even if you have set protection.

After performing steps 1–3 (➡ 55)

4 Press [▲, ▼] to select “Format HDD”, “Format Disc” or “Format Card” and press [OK].
5 Press [◄, ►] to select “Yes” and press [OK].
6 Press [◄, ►] to select “Start” and press [OK].

A message appears when formatting is finished.

Note

● Formatting normally takes a few minutes; however, it may take up to a maximum of 70 minutes (RAM).
● Do not disconnect the AC mains lead while formatting. This can render the disc or the card unusable.

7 Press [OK].

Note

● When a disc or card has been formatted using this unit, it may not be possible to use it on any other equipment.
● Formatting cannot be performed on the disc.
● You can format DVD-RW only as DVD-Video format on this unit.

To stop formatting

Press [RETURN].

Note

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

To return to the previous screen

Press [RETURN].

To exit the screen

Press [EXIT].

Deleting all titles and playlists—Delete all titles

Deleting all the contents of a disc or card—Format

Formatting deletes all contents (including computer data), and they cannot be restored. Check carefully before proceeding. The contents are deleted when you format a disc or card even if you have set protection.

After performing steps 1–3 (➡ 55)

4 Press [▲, ▼] to select “Format HDD”, “Format Disc” or “Format Card” and press [OK].
5 Press [◄, ►] to select “Yes” and press [OK].
6 Press [◄, ►] to select “Start” and press [OK].

A message appears when formatting is finished.

Note

● Formatting normally takes a few minutes; however, it may take up to a maximum of 70 minutes (RAM).
● Do not disconnect the AC mains lead while formatting. This can render the disc or the card unusable.

7 Press [OK].

Note

● When a disc or card has been formatted using this unit, it may not be possible to use it on any other equipment.
● Formatting cannot be performed on the disc.
● You can format DVD-RW only as DVD-Video format on this unit.

To stop formatting

Press [RETURN].

Note

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

To return to the previous screen

Press [RETURN].

To exit the screen

Press [EXIT].
After performing steps 1–3 (Press [DRIVE SELECT] to select the DVD drive. 

Preparation
You can select whether to show the top menu after finalising.

After finalising steps 1–3

1. Press [DRIVE SELECT] to select the DVD drive.
2. Press [OK] to confirm.

Note
- When finalising a high-speed recording compatible disc, it may take longer than displayed on the confirmation screen (approximately four times).

After finalising
- [+R] DL: The disc becomes play-only and you can no longer record or edit.
- [+R] DL: You can record and edit the disc after formatting.
- [+R] DL: Titles are divided into about 5-minute (8-minute) chapters, if
- [+R] DL: Titles were directly recorded to the disc.
- [+R] DL: The titles were copied using any mode other than the high speed mode (excluding [+R] DL).
- [+R] DL: This time varies greatly depending on the condition and mode of recording.
- [+R] DL: There is a pause of several seconds between titles and chapters during play.

Before finalising
- Recording/Editing/Entering name
- Play on other players
- Start
- Yes
- Finalise

After finalising
- Recording/Editing/Entering name
- Play on other players

Selecting whether to show the Top Menu first—Auto-Play Select

You can select whether to show the top menu after finalising.

After performing steps 1–3

1. Press [DRIVE SELECT] to select the DVD drive.
2. Press [OK] to confirm.

Creating Top Menu—Create Top Menu

- [+R] DL discs contain no Top Menu data. Top Menu is a convenient function. We recommend you create the menu before playing a +RW disc on other equipment.
- You cannot use the Top Menu for playing on this unit.

Preparation
Press [DRIVE SELECT] to select the DVD drive.

Steps 1–3

1. Press [DRIVE SELECT] to select the DVD drive.
2. Press [OK] to confirm.

Creating Top Menu starts. You cannot cancel creating.

Press [OK] to create the menu. When selecting discs, press [OK] to select the disc. 

To return to the previous screen
Press [RETURN].

To exit the screen
Press [EXIT].
You can give names to recorded titles, etc.
The maximum number of characters:

<table>
<thead>
<tr>
<th>HDD RAM</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>64 (44&quot;)</td>
</tr>
<tr>
<td>Playlist</td>
<td>64</td>
</tr>
<tr>
<td>Album of still pictures</td>
<td>36</td>
</tr>
<tr>
<td>Disc (RAM)</td>
<td>64</td>
</tr>
</tbody>
</table>

Title name for timer recording

<table>
<thead>
<tr>
<th>HDD RAM</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>44</td>
</tr>
<tr>
<td>Disc</td>
<td>40</td>
</tr>
</tbody>
</table>

SD EH75

<table>
<thead>
<tr>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Album of still pictures</td>
</tr>
</tbody>
</table>

**Note**
If a name is long, parts of it may not be shown in some screens.

### 1 Show Enter Name screen.

**Title (timer recording)**
Select “Programme Name” in step 3 on page 27.

**Title**
Select “Enter Name” in step 5 on page 40.

**Playlist**
Select “Enter Name” in step 5 on page 43.

**Disc**
Select “Disc Name” in step 4 of “Providing a name for a disc” on page 55.

**Album of still pictures**
Select “Enter Album Name” in step 4 on page 44, “To edit the album”.

**Name field:** shows the text you have entered

### 2 Press [▲, ▼, ◄, ►] to select a character and press [OK].
Repeat this step to enter other characters.

- **To delete a character**
  Press [▲, ▼, ◄, ►] to select the character in the name field and press [DELETE]. (The selected characters are deleted.)

- **Using the numbered buttons to enter characters**
  e.g., entering the letter “R”
  3. Press [OK].

- **To enter a space**
  Press [DELETE] and press [OK].

### 3 Press [■] (Set).

“Writing...” appears then the screen returns to the Title view screen and so on.

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

**For your reference**
If you enter a long name, only part of it is shown in the Top Menu after finalisation (p. 57). When entering a title name, the name that will appear in the Top Menu can be previewed in “Top Menu Preview” window.
FUNCTION MENU window

By using the FUNCTION MENU window you may access the main functions quickly and easily.

1 While stopped
Press [FUNCTION MENU].
Functions displayed depend on the selected drive or type of disc.

2 Press [▲, ▼] to select an item and press [OK].
• If you select “To Others” and press [OK], the following screen appears. Press [▲, ▼] to select an item and press [OK].

To exit the FUNCTION MENU window
Press [FUNCTION MENU].

Child Lock

The Child Lock deactivates all buttons on the unit and remote control. Use it to prevent other people from operating the unit.

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

If you press a button while the Child Lock is on, “X HOLD” appears on the unit’s display and operation is impossible.

To cancel the Child Lock
Press and hold [OK] and [RETURN] simultaneously until “X HOLD” disappears.
Changing the unit’s settings

Common procedures

1. While stopped
   Press [FUNCTION MENU].
2. Press [△, ▼] to select “To Others” and press [OK].
3. Press [△, ▼] to select “Setup” and press [OK].
4. Press [△, ▼] to select the tab and press [►].
5. Press [△, ▼] to select the menu and press [OK].
6. Press [△, ▼] to select the option and press [OK].

To return to the previous screen
Press [RETURN].

To exit the screen
Press [EXIT].
### Summary of settings

The settings remain intact even if you switch the unit to standby.

#### Tabs

<table>
<thead>
<tr>
<th>Manual Tuning (➡ 65)</th>
</tr>
</thead>
</table>

#### Menus

<table>
<thead>
<tr>
<th>Auto-Setup Restart (➡ 66)</th>
</tr>
</thead>
</table>

#### Options (Underlined items are the factory presets.)

| Disc | Settings for Playback | 
| --- | 
| Ratings | 
| Set a ratings level to limit DVD-Video play. | 
| Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. | 
| Do not forget your password. | 

| Soundtrack | 
| Choose the language for audio, subtitle and disc menus. | 
| Some discs start in a certain language despite any changes you make here. | 

| Subtitle | 
| Enter a code (➡ 67) with the numbered buttons when you select “Other ††††”. There are discs where you can only switch the language from the menu screen (➡ 31). | 

<table>
<thead>
<tr>
<th>Menus</th>
</tr>
</thead>
</table>

#### Settings for Recording

<table>
<thead>
<tr>
<th>Press [OK] to show the following settings.</th>
</tr>
</thead>
</table>

| Recording time in EP mode | 
| Select the maximum number of hours for recording in EP mode (➡ 23, Recording modes and approximate recording times). | 

| Aspect for Recording | 
| Sets the aspect ratio when recording or copying. | 
| When recording or copying to the HDD or DVD-RAM with “Rec for High Speed Copy” set to “Off”, programme will be recorded in the original aspect ratio. | 

| Rec for High Speed Copy | 
| You can copy recorded titles from the HDD to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW using high speed mode. However, screen size, etc. is restricted (➡ right). | 
| We recommend turning the setting “Off” if high speed copy to DVD-R, etc. is not necessary when recording a programme. This setting is effective when recording from a television programme or external equipment (including DV equipment), or when copying from a finalised DVD-Video disc. | 

| DVD Speed for High Speed Copy | 
| Select the speed of high-speed copying (When using high-speed copy compatible DVD-RAM 5X, DVD-R, +R 8X or +RW 4X discs). | 

(continued on the next page)
Changing the unit's settings

(continued)

Refer to the control reference on page 60.

<table>
<thead>
<tr>
<th>Tabs</th>
<th>Menus</th>
<th>Options (Underlined items are the factory presets.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comb Filter</td>
<td>Select the picture sharpness when recording. The setting is fixed with &quot;On&quot; if you set &quot;TV System&quot; to &quot;NTSC&quot; (☞ 66).</td>
<td>On: Pictures become clear and vivid. Normally, use this setting. Off: Select it when recording noisy pictures.</td>
</tr>
<tr>
<td>Still Mode</td>
<td>Select the type of picture shown when you pause play (☞ 77, Frames and fields).</td>
<td>Automatic Frame: Select if jittering occurs when &quot;Automatic&quot; is selected. (The picture is coarser.) Frame: Select if small text or fine patterns cannot be seen clearly when &quot;Automatic&quot; is selected. (The picture is clearer and finer.)</td>
</tr>
<tr>
<td>Seamless Play</td>
<td>Select the play mode between playlist chapter segments and partially deleted titles.</td>
<td>On: The chapters in playlists are played seamlessly. This does not work when there are several audio types included on the playlist and when using Quick View (Play x1.3). Additionally, the positioning of chapter segments may change slightly. Off: The points where chapters in playlists change are played accurately, but the picture may freeze for a moment.</td>
</tr>
<tr>
<td>Sound</td>
<td>Dynamic Range Compression [DVDV] (Dolby Digital only)</td>
<td>Change the dynamic range for late night viewing. On</td>
</tr>
<tr>
<td>Bilingual Audio Selection</td>
<td>Select whether to record the main or secondary audio type when: –Recording or copying to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), ±R, ±R DL and ±RW. –&quot;Rec for High Speed Copy&quot; is set to &quot;On&quot;. –Recording or copying sound in LPCM (☞ below, &quot;Audio Mode for XP Recording&quot;).</td>
<td>M1: You cannot select the audio on this unit when recording from an external source, such as when copying from a video cassette recorder (except from DV equipment connected to this unit’s DV input terminal). Select the audio on the other equipment. M2: When recording from the unit’s DV terminal, select the type of audio recording from &quot;Audio Mode for DV Input&quot; (☞ below).</td>
</tr>
<tr>
<td>Digital Audio Output</td>
<td>Change the settings when you have connected equipment through this unit's DIGITAL AUDIO OUT terminal (☞ 16). Press [OK] to show the following settings.</td>
<td>On: Signals are converted to 48 kHz or 44.1 kHz. (Choose when the connected equipment cannot process signals with a sampling frequency of 96 kHz or 88.2 kHz.) Off: Signals are output as 96 kHz or 88.2 kHz. (Choose when the connected equipment can process signals with a sampling frequency of 96 kHz or 88.2 kHz.)</td>
</tr>
<tr>
<td>PCM Down Conversion</td>
<td>Select how to output audio with a sampling frequency of 96 kHz or 88.2 kHz. Signals are converted to 48 kHz or 44.1 kHz despite the settings across if the signals have a sampling frequency of over 96 kHz or 88.2 kHz, or the disc has copy protection.</td>
<td>On: Signals are converted to 48 kHz or 44.1 kHz. (Choose when the connected equipment cannot process signals with a sampling frequency of 96 kHz or 88.2 kHz.) Off: Signals are output as 96 kHz or 88.2 kHz. (Choose when the connected equipment can process signals with a sampling frequency of 96 kHz or 88.2 kHz.)</td>
</tr>
<tr>
<td>Dolby Digital</td>
<td>Select how to output the signal. Select &quot;Bitstream&quot; if the connected equipment decodes the signal. Select &quot;PCM&quot; if this unit decodes the signal and outputs it as 2 channels.</td>
<td>Bitstream: When connecting to equipment displaying the Dolby Digital logo. PCM: When connecting to equipment displaying the Dolby Digital logo.</td>
</tr>
<tr>
<td>Note: Not making the proper settings may result in noise or some trouble for digital recording.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTS</td>
<td>Not making the proper settings may result in noise or some trouble for digital recording.</td>
<td>Bitstream: When connecting to equipment displaying the DTS logo. PCM: When connecting to equipment not displaying the DTS logo.</td>
</tr>
<tr>
<td>MPEG</td>
<td>Not making the proper settings may result in noise or some trouble for digital recording.</td>
<td>Bitstream: When connected to equipment with a built-in MPEG decoder. PCM: When connected to equipment without a built-in MPEG decoder.</td>
</tr>
<tr>
<td>Audio Mode for XP Recording</td>
<td>Choose the audio type when recording or copying with XP mode.</td>
<td>Dolby Digital (☞ 77) LPCM (☞ 77) –The picture quality of LPCM recordings may be lower than that of normal XP mode recordings. –The audio recording becomes Dolby Digital even if you selected LPCM when using a recording mode other than XP. When recording a bilingual broadcast, select the type of audio in advance from “Bilingual Audio Selection” (☞ above).</td>
</tr>
<tr>
<td>Audio Mode for DV Input</td>
<td>You can select the kind of audio when recording from the unit’s DV input terminal (☞ 54).</td>
<td>Stereo 1: Records audio (L1, R1). Stereo 2: Records added audio such as narration (L2, R2) subsequent to original recording. Mix: Records both Stereo 1 and Stereo 2. When recording bilingual broadcast, select the type of audio in advance from &quot;Bilingual Audio Selection&quot; (☞ above).</td>
</tr>
</tbody>
</table>
## Display

<table>
<thead>
<tr>
<th>Tab</th>
<th>Menu</th>
<th>Options (Underlined items are the factory presets.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>On-Screen Messages</td>
<td>Choose whether to show status messages automatically.</td>
</tr>
<tr>
<td></td>
<td>Grey Background</td>
<td>Select &quot;Off&quot; if you do not want to have the unit show the grey background when tuner reception is weak.</td>
</tr>
<tr>
<td>FL Display</td>
<td></td>
<td>Changes the brightness of the unit's display. This setting is fixed with &quot;Automatic&quot; if you set &quot;Power Save&quot; to &quot;On&quot;.</td>
</tr>
</tbody>
</table>

## Connection

Connection TV Aspect

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:9:</td>
<td>When connected to a 16:9 widescreen television.</td>
</tr>
<tr>
<td>Widescreen</td>
<td>When connected to a 4:3 aspect television, side picture is trimmed for 16:9 picture.</td>
</tr>
<tr>
<td>Letterbox</td>
<td>When connected to a 4:3 aspect television, 16:9 picture is shown in the letterbox style.</td>
</tr>
</tbody>
</table>

Progressive

- **On**
- **Off**

TV System

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAL</td>
<td></td>
</tr>
<tr>
<td>NTSC</td>
<td></td>
</tr>
</tbody>
</table>

HDMI Settings

- Press [OK] to show the following settings.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>576i/480p</td>
<td></td>
</tr>
<tr>
<td>576p/480p</td>
<td></td>
</tr>
<tr>
<td>720p</td>
<td></td>
</tr>
<tr>
<td>1080i</td>
<td></td>
</tr>
<tr>
<td>1080p</td>
<td>When setting video output to &quot;1080p&quot;, we recommend using a Panasonic HDMI cable 5 meters or less in length to prevent video distortion. To enjoy High Quality Video up-converted to 1080p, you need to connect the unit to 1080p compatible HDTV.</td>
</tr>
<tr>
<td>Automatic</td>
<td>Automatically selects the output resolution best suited to the connected television (1080p, 1080i, 720p, 576p/480p or 576i/480p).</td>
</tr>
</tbody>
</table>

## Display

<table>
<thead>
<tr>
<th>Tab</th>
<th>Menu</th>
<th>Options (Underlined items are the factory presets.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>On-Screen Messages</td>
<td>Choose whether to show status messages automatically.</td>
</tr>
<tr>
<td></td>
<td>Grey Background</td>
<td>Select &quot;Off&quot; if you do not want to have the unit show the grey background when tuner reception is weak.</td>
</tr>
<tr>
<td>FL Display</td>
<td></td>
<td>Changes the brightness of the unit's display. This setting is fixed with &quot;Automatic&quot; if you set &quot;Power Save&quot; to &quot;On&quot;.</td>
</tr>
</tbody>
</table>

## Menu

<table>
<thead>
<tr>
<th>Menu</th>
<th>Options (Underlined items are the factory presets.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tabs</td>
<td>Menus</td>
</tr>
<tr>
<td>Options (Underlined items are the factory presets.)</td>
<td></td>
</tr>
</tbody>
</table>
Changing the unit’s settings

(continued)

Refer to the control reference on page 60.

<table>
<thead>
<tr>
<th>Tabs</th>
<th>Menus</th>
<th>Options (Underlined items are the factory presets.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others</td>
<td>Remote Control (➡ 21)</td>
<td>DVD 1</td>
</tr>
</tbody>
</table>

**Power Save**
- Refer to the following when “Power Save” is set to “On”.
  - FL Display is automatically set to “Automatic” (➡ 63).
  - The “Quick Start” function does not work. (It is automatically turned to “Off”)
- If “Quick Start” is set to “On”, “Power Save” is automatically turned to “Off”.

**Quick Start**
The Quick Start feature enables this unit to be ready to start recording as quick as approx. 1 second* after turning it on. You can start recording soon after deciding you want to record something.
- Only when recording to the HDD or DVD-RAM.
- If this is set to “On”, “Power Save” is automatically turned to “Off”.
- Startup takes up to a minute when:
  - You play a disc or start recording to discs other than DVD-RAM.
  - You want to make other operations.
  - The clock has not been set.

**For Australia and N.Z.**

<table>
<thead>
<tr>
<th>Country</th>
<th>Australia</th>
<th>New Zealand</th>
<th>Others</th>
</tr>
</thead>
</table>

**DivX Registration**
- You need this registration code to purchase and play DivX Video-on-Demand (VOD) content (➡ 35).

**Initialize**
- Press [OK] to show the following settings.

**Shipping Condition**
- All the settings except for the ratings level, ratings password and clock settings return to the factory preset. The timer recording programmes are also cancelled.

**Default Settings**
- All the settings other than the tuning settings, clock settings, country settings*, disc language settings, ratings level, ratings password, remote control code, return to the factory presets.
- Only for Australia and N.Z.
While stopped

Press [FUNCTION MENU].

2 Press [▲, ▼] to select “To Others” and press [OK].

3 Press [▲, ▼] to select “Setup” and press [OK].

4 Press [▲, ▼] to select “Tuning” and press [▶].

You can add or delete channels, or change programme positions.

5 Press [▲, ▼] to select “Manual Tuning” and press [OK].

To change the programme position in which the TV stations are assigned
Press [▲, ▼] or numbered buttons to select the number of the desired programme position and press [OK].

To enter or change the name of a TV station
Press [▲, ▼, ◄, ►] to enter station name and press [OK].

To enter newly available TV stations or change the channel number of an already tuned TV station
Press [▲, ▼] or the numbered buttons to enter the channel number of the desired TV station. Wait a few moments until the desired TV station has been tuned. After the desired TV station is tuned, press [OK].

To obtain the best tuning condition
Press [▲, ▼] to adjust the best tuning condition and press [OK].

To select the video system type
Press [▲, ▼] to select “PAL” or “SECAM” if the picture lacks colour, and press [OK].

Auto: This unit automatically distinguishes PAL and SECAM signals.
PAL: For receiving PAL signals.
SECAM: For receiving SECAM signals.

This setting is also available when you select the external input channel (AV1, AV2, AV3, AV4) in step 5.

In order to record properly, make the appropriate settings to match the connected equipment.

To select the audio reception type
If sound quality is poor, press [▲, ◄, ►] to select “BG”, “I” or “DK” and press [OK].
BG: PAL B.G.
I: PAL I
DK: PAL D.K.

To select the type of sound to be recorded
Press [▲, ◄, ►] to select “On” if the stereo sound is distorted due to inferior reception conditions, or if you want to record the normal (mono) sound during a stereo, bilingual or NICAM broadcast, and press [OK].

* Only for Asia and Middle East
Changing the unit's settings

Refer to the control reference on page 60.

**Auto-Setup Restart**

You can restart auto channel setting if set up (➡ 19) fails for some reason. After performing steps 1–4 (➡ 65)

5 Press [3, 4] to select "Auto-Setup Restart" and press [OK].
   The confirmation screen appears.

6 Press [2, 1] to select “Yes” and press [OK].

**Note**
   If the country setting menu appears on the television
   Press [3, 4] to select the country and press [OK].

You can also use the following method to restart Auto-Setup.
When the unit is on and stopped, Press and hold [X CH] and [CH W] on the main unit until the
   country setting screen or the Auto-Setup screen appears.
   All the settings except for the ratings level, ratings password and clock settings return to the factory preset. The timer recording programmes are also cancelled.

* Only for Australia and N.Z.

To return to the previous screen
Press [RETURN].
To exit the screen
Press [EXIT].

List of TV Reception Channels

### For Asia

<table>
<thead>
<tr>
<th>Tuner System</th>
<th>Channel Coverage</th>
<th>VHF</th>
<th>UHF</th>
<th>CATV</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAL–BGH, SECAM–BG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAL–I</td>
<td>Hong Kong</td>
<td>—</td>
<td>21–69</td>
<td>—</td>
</tr>
<tr>
<td>PAL–DK, SECAM–DKK1</td>
<td>OIRT</td>
<td>R1–R12</td>
<td>21–69</td>
<td>44 MHz to 470 MHz</td>
</tr>
<tr>
<td>PAL–D</td>
<td>China</td>
<td>1–12</td>
<td>13–57</td>
<td>Z1–Z35</td>
</tr>
</tbody>
</table>

### For Australia and N.Z.

<table>
<thead>
<tr>
<th>Tuner System</th>
<th>Channel Coverage</th>
<th>VHF</th>
<th>UHF</th>
<th>CATV</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAL–B</td>
<td>Australia</td>
<td>0–12</td>
<td>28–69</td>
<td>45 MHz to 470 MHz</td>
</tr>
<tr>
<td>PAL–BG</td>
<td>New Zealand</td>
<td>1–11</td>
<td>21–69</td>
<td>44 MHz to 470 MHz</td>
</tr>
</tbody>
</table>

### For Middle East

<table>
<thead>
<tr>
<th>Tuner System</th>
<th>Channel Coverage</th>
<th>VHF</th>
<th>UHF</th>
<th>CATV</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAL–BGH, SECAM–BG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAL–I</td>
<td>South Africa</td>
<td>4–13</td>
<td>21–69</td>
<td>—</td>
</tr>
<tr>
<td>PAL–DK, SECAM–DKK1</td>
<td>OIRT</td>
<td>R1–R12</td>
<td>21–69</td>
<td>44 MHz to 470 MHz</td>
</tr>
</tbody>
</table>

---

### List of TV System

<table>
<thead>
<tr>
<th>Tuner System</th>
<th>TV System</th>
<th>PAL</th>
<th>NTSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAL–B Australia</td>
<td>0–12</td>
<td>28–69</td>
<td>45 MHz to 470 MHz</td>
</tr>
<tr>
<td>PAL–BG New Zealand</td>
<td>1–11</td>
<td>21–69</td>
<td>44 MHz to 470 MHz</td>
</tr>
</tbody>
</table>

---

**TV System**

Change the setting to match the equipment you are connecting with, or to match the title when there are both PAL and NTSC titles on the HDD.

1 **While stopped**
   Press [FUNCTION MENU].
2 Press [3, 4] to select “To Others” and press [OK].
3 Press [3, 4] to select “Setup” and press [OK].
4 Press [3, 4] to select “Connection” and press [OK].
5 Press [3, 4] to select “TV System” and press [OK].

6 Press [3, 4] to select the TV system and press [OK].

   **PAL** (factory preset)
   —Select when connecting to a PAL or Multi-system television. Titles recorded using NTSC are played as PAL 60.
   —Select to record television programmes and PAL input from other equipment.
   —Select when playing a PAL input title recorded on the HDD.

   **NTSC**
   —Select when connecting to a NTSC television. Television programmes cannot be recorded properly.
   —Select to record NTSC input from other equipment.
   —Select when playing a NTSC input title recorded on the HDD.

7 Press [2, 1] to select “Yes” and press [OK].

---

**Note**

- **To change the setting all at once (PAL → NTSC)**
  While stopped, keep pressing [3, 4] and [OPEN/CLOSE] on the main unit simultaneously for 5 or more seconds.

- **To change the settings one at a time**
  Press [3, 4] and [OPEN/CLOSE] on the main unit simultaneously for 5 or more seconds.

---

**Note**

- This unit cannot record NTSC signals to discs that already have PAL signal recordings. (However, both types of programmes can be recorded onto the HDD.)
Clock Settings

In the case of a power failure, the clock setting remains in memory for approximately 60 minutes.

1 While stopped
Press [FUNCTION MENU].

2 Press [▲, ▼] to select “To Others” and press [OK].

3 Press [▲, ▼] to select “Setup” and press [OK].

4 Press [▲, ▼] to select “Others” and press [1].

5 Press [▲, ▼] to select “Clock” and press [OK].

6 Press [▲, ▼] to select the item you want to change.

7 Press [▲, ▼] to change the setting.

8 Press [OK] when you have finished the settings.

The clock starts.

To return to the previous screen
Press [RETURN].
To exit the screen
Press [EXIT].

Language code list

<table>
<thead>
<tr>
<th>Language</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abkhazian</td>
<td>6566</td>
</tr>
<tr>
<td>Catalan</td>
<td>6765</td>
</tr>
<tr>
<td>Gujarati</td>
<td>7185</td>
</tr>
<tr>
<td>Lingala</td>
<td>7678</td>
</tr>
<tr>
<td>Rhaeto-Romance</td>
<td>8678</td>
</tr>
<tr>
<td>Tamil</td>
<td>8465</td>
</tr>
<tr>
<td>Tatar</td>
<td>8484</td>
</tr>
<tr>
<td>Afar</td>
<td>6566</td>
</tr>
<tr>
<td>Chinese:</td>
<td>9072</td>
</tr>
<tr>
<td>Hausa:</td>
<td>7265</td>
</tr>
<tr>
<td>Lithuanian:</td>
<td>7684</td>
</tr>
<tr>
<td>Romanian:</td>
<td>8277</td>
</tr>
<tr>
<td>Telugu:</td>
<td>8469</td>
</tr>
<tr>
<td>Afrikaans:</td>
<td>6570</td>
</tr>
<tr>
<td>Corsican:</td>
<td>6779</td>
</tr>
<tr>
<td>Hebrew:</td>
<td>7387</td>
</tr>
<tr>
<td>Macedonian:</td>
<td>7775</td>
</tr>
<tr>
<td>Russian:</td>
<td>8285</td>
</tr>
<tr>
<td>Thai:</td>
<td>8472</td>
</tr>
<tr>
<td>Albanian:</td>
<td>8381</td>
</tr>
<tr>
<td>Croatian:</td>
<td>7282</td>
</tr>
<tr>
<td>Hindu:</td>
<td>7273</td>
</tr>
<tr>
<td>Malagasy:</td>
<td>7771</td>
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<td>Malagasy:</td>
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<td>Malagasy:</td>
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<td>Malagasy:</td>
<td>7771</td>
</tr>
</tbody>
</table>
## Messages

### On the television

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Possible Causes</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Authorisation Error.</strong></td>
<td>- You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit. (DivX)</td>
<td>34, 35</td>
</tr>
</tbody>
</table>
| **Cannot finish recording completely.** | - The programme was copy-protected.  
- The HDD or disc may be full.  
- The maximum number of program has been exceeded. | — |
| **Cannot playback. TV system is different from the setting.** | - You tried to play a title recorded using a different encoding system from that of the TV system currently selected on the unit.  
- Alter the “TV System” setting on this unit to suit. | 66 |
| **Cannot record to the disc.** | - The disc may be dirty or scratched. | — |
| **Unable to format.** | - You tried to play a non-compatible image.  
- Turn the unit off and re-insert the card. | 33, 10 |
| **Cannot record. Disc is full.** | - HDD RAM RW RU RW Create space by deleting any unnecessary titles.  
- Even if you delete recorded content from the DVD-R, DVD-R DL, +R or +R DL there is no increase in disc space. Available space on DVD-RW (DVD-Video format) and +RW increases only when the last recorded title is deleted.  
- Use a new disc. | 41, 46, 56 |
| **No Disc** | - The disc may be upside down. | — |
| **No folders.** | - There is no compatible folder in this unit. | 7, 33 |
| **Not enough space in the copy destination.** | - Create space by deleting any unnecessary items.  
- Delete one or more items registered on the copy list to ensure that the “Destination Capacity” is not exceeded. | 41, 45, 46, 56, 50, 53 |
| **This is a non-recordable disc.** | - The unit cannot record on the disc you inserted. Insert a DVD-RAM or unfinalised DVD-R, DVD-RW (DVD-Video format), +R or +RW.  
- You inserted an unformatted DVD-RAM, DVD-RW, +R, +R DL or +RW.  
- You cannot directly record to a DVD-R DL and +R DL disc on this unit. Record to the HDD and then copy to the disc. | 4–5 |
| **Not enough space on HDD. Space of 4 hours (in SP mode) is necessary.** | - It is not possible to copy when there is not enough free space on the HDD or when the total number of the recorded titles on the HDD and the titles to be copied are greater than 500.  
- Delete unwanted titles from the HDD. | 46 |
| **Rental Expired.** | - The DivX VOD content has zero remaining plays. You cannot play it. (DivX) | 35 |
| | - The operation is prohibited by the unit or disc. | — |
On the unit’s display
The following messages or service numbers appear on the unit’s display when something unusual is detected during startup and use.

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HARD ERR</strong></td>
<td>If there is no change after turning the unit on and off, consult the dealer where the unit was purchased.</td>
</tr>
<tr>
<td><strong>NoERAS</strong></td>
<td>You cannot delete items on this disc. The disc may be damaged. Use a new disc.</td>
</tr>
<tr>
<td><strong>NoREAD</strong></td>
<td>The disc is dirty or badly scratched. The unit cannot record, play, or edit. Press [OK] and the indicated number button at the same time for more than 5 seconds.</td>
</tr>
<tr>
<td><strong>NoWRIT</strong></td>
<td>You cannot write to this disc. The disc may be damaged. Use a new disc.</td>
</tr>
<tr>
<td><strong>PLEASE WAIT</strong></td>
<td>There was a power failure or the AC plug was disconnected while the unit was on. The unit is carrying out its recovery process. The unit is not broken. Wait until the message disappears.</td>
</tr>
<tr>
<td><strong>PROG FULL</strong></td>
<td>There are already 32 timer programmes. Delete unnecessary timer programmes.</td>
</tr>
<tr>
<td><strong>UNFORMAT</strong></td>
<td>You inserted an unformatted DVD-RAM, DVD-RW, +RW, an unused +R, +R DL or DVD-RW (DVD-Video format) that has been recorded on other equipment. Format the disc to use it. However all the recorded contents on the disc are deleted.</td>
</tr>
<tr>
<td><strong>UNSUPPORT</strong></td>
<td>You have inserted a disc the unit cannot play or record on.</td>
</tr>
<tr>
<td><strong>F74</strong></td>
<td>The HDMI connection connection could not be authenticated due to a transfer malfunction. Consult the dealer where the unit was purchased.</td>
</tr>
<tr>
<td><strong>F75</strong></td>
<td>The HDMI connection connection could not be authenticated due to an internal data malfunction. Consult the dealer where the unit was purchased.</td>
</tr>
<tr>
<td><strong>U59</strong></td>
<td>The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the cooling fan on the rear of the unit.</td>
</tr>
<tr>
<td><strong>U61</strong></td>
<td>(When a disc is inserted) Displays when there was something unusual detected with the disc while recording, playback or copy. This is displayed when the unit is in the recovery process to return to normal operation; it is not broken. Once the display disappears you can use the unit again.</td>
</tr>
<tr>
<td><strong>U72</strong></td>
<td>The HDMI connection acts unusually. - The connected equipment is not HDMI compatible. - The HDMI cable is too long. Please use a cable 5.0 meters or less. - The HDMI cable is damaged.</td>
</tr>
<tr>
<td><strong>U76</strong></td>
<td>HDMI cannot be output because you are connected to a model that does not support copyright protection.</td>
</tr>
<tr>
<td><strong>U80</strong></td>
<td>The unit fails to operate properly. Press [OK] on the main unit to switch the unit to standby mode. Now press [OK] on the main unit again to turn the unit on.</td>
</tr>
<tr>
<td><strong>U81</strong></td>
<td></td>
</tr>
<tr>
<td><strong>U99</strong></td>
<td></td>
</tr>
<tr>
<td><strong>U88</strong></td>
<td>(When a disc is inserted) Displays when there was something unusual detected with the disc while recording, playback or copy. This is displayed when the unit is in the recovery process to return to normal operation; it is not broken. Once the display disappears you can use the unit again.</td>
</tr>
<tr>
<td><strong>H</strong> or <strong>F</strong></td>
<td>There is something unusual. (The service number displayed after H and F depends on the unit’s condition.) Check the unit using the troubleshooting guide. If the service number does not disappear, do the following. 1. Disconnect the plug from the household mains socket, wait a few seconds, then reconnect it. 2. Press [OK] to turn the power on. (The unit may be fixed.) If the service number does not disappear despite after doing the above, request service from the dealer. Inform the dealer of the service number when requesting service.</td>
</tr>
<tr>
<td><strong>X HOLD</strong></td>
<td>The Child Lock function is activated. Press and hold [OK] and [RETURN] simultaneously until &quot;X HOLD&quot; disappears.</td>
</tr>
</tbody>
</table>

*The message are alternately displayed.
# Frequently asked questions

Refer to the following items if you have any doubts about unit operations.

## Set up

<table>
<thead>
<tr>
<th>Question</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>What equipment is necessary to play multi channel surround sound?</td>
<td>16, 17</td>
</tr>
<tr>
<td>You cannot playback multi-channel sound on this unit without other equipment. You must connect this unit with an HDMI cable or an optical digital cable to an amplifier with a built-in (Dolby Digital, DTS or MPEG) decoder.</td>
<td>16, 17</td>
</tr>
<tr>
<td>Are the headphones and speakers directly connected to the unit?</td>
<td>16, 17</td>
</tr>
<tr>
<td>You cannot directly connect them to the unit. Connect through the amplifier etc.</td>
<td>16</td>
</tr>
<tr>
<td>The television has both S VIDEO IN and COMPONENT VIDEO IN terminals. Which terminal should I connect with?</td>
<td>16</td>
</tr>
<tr>
<td>Connecting with the component video out terminal provides a more vivid picture compared to connecting with the S Video out terminal. If you have an LCD/plasma television or LCD projector compatible with progressive scan, connect through the component video terminals for high-quality progressive video. If you have a CRT television or a multi system television using PAL mode that is compatible with progressive scan, we cannot recommend progressive output as some flickering can occur.</td>
<td>16</td>
</tr>
<tr>
<td>Is my television progressive output compatible?</td>
<td>—</td>
</tr>
<tr>
<td>All Panasonic televisions that have 576 (625)/50i - 50p, 480 (525)/60i - 60p input terminals are compatible. Consult the manufacturer if you have another brand of television.</td>
<td>—</td>
</tr>
</tbody>
</table>

## Disc

<table>
<thead>
<tr>
<th>Question</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can I play DVD-Video and Video CDs bought in another country?</td>
<td>Cover</td>
</tr>
<tr>
<td>You cannot play DVD-Video if their region numbers are not supported by this unit. Refer to the disc’s jacket for more information.</td>
<td>—</td>
</tr>
<tr>
<td>Can a DVD-Video that does not have a region number be played?</td>
<td>—</td>
</tr>
<tr>
<td>The DVD-Video region number indicates the disc conforms to a standard. You cannot play discs that do not have a region number. You also cannot play discs that do not conform to a standard.</td>
<td>—</td>
</tr>
<tr>
<td>Please tell me about disc compatibility with this unit.</td>
<td>4-6</td>
</tr>
<tr>
<td>This unit records and plays DVD-R, DVD-RW (DVD-Video format), +R, and +RW, and plays DVD-RW (DVD Video Recording format). However you cannot directly record to a DVD-R DL or +R DL disc on this unit (playback and copy are possible).</td>
<td>4-6</td>
</tr>
<tr>
<td>This unit also records and plays high speed recording compatible DVD-R, DVD-R DL, DVD-RW, +R, +R DL, +RW discs.</td>
<td>—</td>
</tr>
<tr>
<td>Please tell me about CD-R and CD-RW compatibility with this unit.</td>
<td>6, 33</td>
</tr>
<tr>
<td>This unit plays CD-R/CD-RW discs which have been recorded in one of the following standards: CD-DA, Video CD, DivX, MP3 and still pictures (JPEG). You cannot write to a CD-R or CD-RW with this unit.</td>
<td>—</td>
</tr>
</tbody>
</table>

## Recording

<table>
<thead>
<tr>
<th>Question</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can I record from a commercially purchased video cassette or DVD?</td>
<td>—</td>
</tr>
<tr>
<td>Most commercially sold video cassettes and DVD are copy protected; therefore, recording is usually not possible.</td>
<td>—</td>
</tr>
<tr>
<td>Can DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW recorded on this unit be played on other equipment?</td>
<td>—</td>
</tr>
<tr>
<td>You can play on compatible equipment such as DVD players after finalising the disc on this unit. However, depending on the condition of the recording, the quality of the disc and capabilities of the DVD player, play may not be possible.</td>
<td>—</td>
</tr>
<tr>
<td>Can I record digital audio signals using this unit?</td>
<td>—</td>
</tr>
<tr>
<td>You cannot record digital signals from other equipment. The digital audio terminals on this unit are for output only. (The audio recorded using the unit’s DV input terminal from a digital video camcorder, for example, is recorded digitally.)</td>
<td>—</td>
</tr>
<tr>
<td>Can a digital audio signal from this unit be recorded to other equipment?</td>
<td>62</td>
</tr>
<tr>
<td>You can record if using the PCM signal. When recording DVD, change the “Digital Audio Output” settings to the following in the Setup menu. — PCM Down Conversion: On — Dolby Digital/DTS/MPEG: PCM However, only as long as digital recording from the disc is permitted and the recording equipment is compatible with a sampling frequency of 48 kHz. You cannot record MP3 signals.</td>
<td>62</td>
</tr>
<tr>
<td>Can I switch to bilingual broadcast during recording?</td>
<td>32</td>
</tr>
<tr>
<td>With HDD and DVD-RAM, you can. Just press [AUDIO]. (When “Rec for High Speed Copy” is set to “Off”)</td>
<td>62</td>
</tr>
<tr>
<td>With DVD-R, DVD-RW (DVD-Video format), +R, +RW you cannot. Change before recording with “Bilingual Audio Selection” in the Setup menu.</td>
<td>62</td>
</tr>
<tr>
<td>Can I high speed copy to a disc?</td>
<td>47</td>
</tr>
<tr>
<td>Yes, you can. (When “Rec for High Speed Copy” was set to “On” before recording the programme.) Depending on the disc type, the maximum speed varies.</td>
<td>47</td>
</tr>
</tbody>
</table>
## Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the solutions indicated in the chart do not solve the problem, consult your dealer for instructions.

### The following do not indicate a problem with this unit:

- Regular disc rotating sounds.
- Poor reception due to atmospheric conditions.
- Image disturbance during search.
- Interruptions in reception due to periodic terrestrial broadcasting breaks.
- A sound is heard when the HDD goes into power save mode, or operations are slow in respond in power save mode.
- Operations do not work due to a poor-quality disc. (Try again using a Panasonic disc.)
- The unit freezes due to one of its safety devices being activated. (Press and hold [Off] on the main unit for 10 seconds.)
- When the HDD has been automatically placed in the power save mode (=9), or the unit is turned on or off, there may be an unexpected sound. This does not indicate a problem with this unit.

### Power

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Solution</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power. The unit does not turn on when pressing [Off] DVD.</td>
<td>Insert the AC mains lead securely into a known active household mains socket.</td>
<td>14</td>
</tr>
<tr>
<td>The unit switches to standby mode.</td>
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<td>—</td>
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<tr>
<td>The power is turned off automatically.</td>
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<td>—</td>
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</tbody>
</table>

### Displays

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Solution</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The display is dim.</td>
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<td>—</td>
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<tr>
<td>“0:00” is flashing on the unit’s display.</td>
<td>Change “FL Display” in the Setup menu.</td>
<td>63</td>
</tr>
<tr>
<td>The time recorded on the disc and the available time shown do not add up.</td>
<td></td>
<td>—</td>
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<tr>
<td>The displayed time of this unit is different from the actual recording time or MP3 recording time.</td>
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<tr>
<td>Compared to the actual recorded time, the elapsed time displayed is less. (Only when recording in NTSC)</td>
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<td>—</td>
</tr>
<tr>
<td>“U88” is displayed and the disc cannot be ejected.</td>
<td></td>
<td>—</td>
</tr>
</tbody>
</table>

### TV screen and video

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Solution</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television reception worsens after connecting the unit.</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>Status messages do not appear.</td>
<td>Select “Automatic” in “On-Screen Messages” in the Setup menu.</td>
<td>63</td>
</tr>
<tr>
<td>The grey background does not appear.</td>
<td>Select “On” in “Grey Background” in the Setup menu.</td>
<td>63</td>
</tr>
<tr>
<td>Picture does not appear during timer recording.</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>The 4:3 aspect ratio picture expands left and right.</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>Screen size is wrong.</td>
<td></td>
<td>—</td>
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</tbody>
</table>

(continued on the next page)
### Troubleshooting guide

#### TV screen and video (continued)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titles recorded with 16:9 aspect are stretched vertically.</td>
<td>- 16:9 aspect programmes are recorded in 4:3 aspect in the following cases:</td>
</tr>
<tr>
<td></td>
<td>- If you recorded or copied using &quot;EP&quot; or &quot;FR&quot; (recordings 5 hours or longer) &quot;record mode.</td>
</tr>
<tr>
<td></td>
<td>- If you recorded or copied to a +R, +R DL or +RW.</td>
</tr>
<tr>
<td></td>
<td>- If you recorded with the &quot;Aspect for Recording&quot; set to &quot;4:3&quot; in the Setup menu.</td>
</tr>
<tr>
<td></td>
<td>When you want to record 16:9 programme in the same aspect, set “Rec for High Speed Copy” to &quot;On&quot;, and set the &quot;Aspect for Recording&quot; to &quot;16:9&quot;.</td>
</tr>
<tr>
<td></td>
<td>- By setting &quot;Aspect for Recording&quot; to &quot;Automatic&quot;, there is a chance that the recording will be</td>
</tr>
<tr>
<td></td>
<td>- Make the aspect settings to the broadcast when recording.</td>
</tr>
<tr>
<td></td>
<td>- It may be possible to adjust the display mode on the TV. Refer to your television’s operating</td>
</tr>
<tr>
<td></td>
<td>- instructions.</td>
</tr>
<tr>
<td>There is a lot of after-image when playing video.</td>
<td>- Set “Playback NR” in the Picture menu to “Off”.</td>
</tr>
<tr>
<td>When playing DVD-Video using progressive output, one part of the</td>
<td>- Set “Progressive” in the Picture menu to “Off”. This problem is caused by the editing method</td>
</tr>
<tr>
<td>picture momentarily appears to be doubled up.</td>
<td>or material used on DVD-Video, but should be corrected if you use interlace output.</td>
</tr>
<tr>
<td>There is no apparent change in picture quality when adjusted with</td>
<td>- The effect is less perceivable with some types of video.</td>
</tr>
<tr>
<td>the Picture menu in the on-screen menus.</td>
<td></td>
</tr>
<tr>
<td>The picture is distorted.</td>
<td>- Make sure that the television is connected to the VIDEO OUT terminal.</td>
</tr>
<tr>
<td></td>
<td>- S VIDEO OUT terminal, COMPONENT VIDEO OUT terminals or HDMI AV OUT terminal on this unit.</td>
</tr>
<tr>
<td></td>
<td>- Make sure that the television’s input setting (e.g., AV 1) is correct.</td>
</tr>
<tr>
<td></td>
<td>- Progressive output is set to on but the connected television is not progressive compatible.</td>
</tr>
<tr>
<td></td>
<td>- Press and hold [&gt;] and [()] (PLAY) on the main unit at the same time for more than 5 seconds</td>
</tr>
<tr>
<td></td>
<td>- to cancel this setting. The setting will change to interlace.</td>
</tr>
<tr>
<td></td>
<td>- The unit’s &quot;TV System&quot; setting differs from the TV system used by the disc now playing. While</td>
</tr>
<tr>
<td></td>
<td>- stopped, keep pressing [&gt;] and [() OPEN/CLOSE] on the main unit for 5 or more seconds.</td>
</tr>
<tr>
<td></td>
<td>- The system switches from PAL to NTSC or vice versa.</td>
</tr>
<tr>
<td></td>
<td>- When this unit is connected with an HDMI cable, use a disc that matches with this unit’s TV</td>
</tr>
<tr>
<td></td>
<td>- system.</td>
</tr>
<tr>
<td></td>
<td>- Picture may not be seen when more than 4 devices are connected with HDMI cables.</td>
</tr>
<tr>
<td></td>
<td>- Reduce the number of connected devices.</td>
</tr>
<tr>
<td>The picture is distorted during play, or video will not play</td>
<td>- You may be playing a TV programme recorded with poor reception or unfavorable weather conditions.</td>
</tr>
<tr>
<td>correctly.</td>
<td>- The picture may be distorted or a black screen may appear briefly between recorded titles in the</td>
</tr>
<tr>
<td></td>
<td>- following situations:</td>
</tr>
<tr>
<td></td>
<td>- between titles recorded with different recording modes.</td>
</tr>
<tr>
<td></td>
<td>- between scenes recorded with different aspect ratios.</td>
</tr>
<tr>
<td></td>
<td>- between scenes recorded with different resolutions.</td>
</tr>
<tr>
<td></td>
<td>- between playlist chapters.</td>
</tr>
<tr>
<td>Sound</td>
<td>- Check the connections and the “Digital Audio Output” settings. Check the input mode on the</td>
</tr>
<tr>
<td></td>
<td>- amplifier if you have connected one.</td>
</tr>
<tr>
<td></td>
<td>- Press [AUDIO] to select the audio.</td>
</tr>
<tr>
<td>No sound.</td>
<td>- Turn off V.S.S. in the following cases.</td>
</tr>
<tr>
<td>Low volume.</td>
<td>- When using discs that do not have surround sound effects such as Karaoke discs.</td>
</tr>
<tr>
<td>Cannot hear the desired audio type.</td>
<td>- When playing bilingual broadcast programmes.</td>
</tr>
<tr>
<td></td>
<td>- Audio may not be output due to how files were created. (DvX)</td>
</tr>
<tr>
<td></td>
<td>- Audio may not be heard when more than 4 devices are connected with HDMI cables.</td>
</tr>
<tr>
<td></td>
<td>- Reduce the number of connected devices.</td>
</tr>
<tr>
<td></td>
<td>- The sound effects will not work when the bitstream signal is output from the HDMI AV OUT</td>
</tr>
<tr>
<td></td>
<td>- terminal or the OPTICAL DIGITAL AUDIO OUT terminal.</td>
</tr>
<tr>
<td></td>
<td>- To output audio from a device connected with an HDMI cable, set “Digital Audio Output” to &quot;</td>
</tr>
<tr>
<td></td>
<td>- HDMI and Optical” in the Setup menu.</td>
</tr>
<tr>
<td></td>
<td>- Depending on the connected equipment, the sound may be distorted if this unit is connected</td>
</tr>
<tr>
<td></td>
<td>- with an HDMI cable.</td>
</tr>
<tr>
<td></td>
<td>- If recording to the HDD or a DVD-RAM when “Rec for High Speed Copy” is set to “On”, you can</td>
</tr>
<tr>
<td></td>
<td>- only record either the main or secondary audio of a bilingual broadcast.</td>
</tr>
<tr>
<td></td>
<td>- If you do not intend to copy the title to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R,</td>
</tr>
<tr>
<td></td>
<td>- +R DL or +RW disc set “Rec for High Speed Copy” in the Setup menu to “Off”.</td>
</tr>
<tr>
<td>Cannot switch audio.</td>
<td>- You cannot switch the audio in the following cases:</td>
</tr>
<tr>
<td></td>
<td>- When a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW disc is in the disc tray</td>
</tr>
<tr>
<td></td>
<td>- while DVD drive is selected.</td>
</tr>
<tr>
<td></td>
<td>- When the recording mode is XP and “Audio Mode for XP Recording” is set to “LP CM”.</td>
</tr>
<tr>
<td></td>
<td>- When “Rec for High Speed Copy” is set to “On”. (The default setting is “On”.)</td>
</tr>
<tr>
<td></td>
<td>- The amplifier is connected using an optical digital cable or an HDMI cable. You cannot switch</td>
</tr>
<tr>
<td></td>
<td>- the audio if “Dolby Digital” is set to “Bitstream”. Set “Dolby Digital” to “PCM” or connect</td>
</tr>
<tr>
<td></td>
<td>- using audio cables.</td>
</tr>
<tr>
<td></td>
<td>- There are discs for which audio cannot be changed because of how the disc was created.</td>
</tr>
<tr>
<td>Operation</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Cannot operate the television.</strong> The remote control doesn’t work.</td>
<td>20</td>
</tr>
<tr>
<td>- Change the manufacturer code. Some televisions cannot be operated even if you change the code.</td>
<td>20</td>
</tr>
<tr>
<td>- The remote control and main unit are using different codes. Change the code on the remote control.</td>
<td>21</td>
</tr>
<tr>
<td>&gt; Press and hold [OK] and the indicated number button at the same time for more than 5 seconds.</td>
<td></td>
</tr>
<tr>
<td>- The batteries are depleted. Replace them with new ones.</td>
<td>11</td>
</tr>
<tr>
<td>- You are not pointing the remote control at the main unit’s remote control signal sensor during operation.</td>
<td>—</td>
</tr>
<tr>
<td>- Coloured glass may obstruct the signal reception/transmission.</td>
<td>—</td>
</tr>
<tr>
<td>- Don’t place the signal sensor in direct sunlight or in areas that may be subject to sunlight exposure.</td>
<td>—</td>
</tr>
<tr>
<td>- It may be necessary to set the code on the remote control again after changing the batteries.</td>
<td>20-21</td>
</tr>
<tr>
<td>- It may be necessary to set the manufacturer code again after changing the batteries.</td>
<td>20</td>
</tr>
<tr>
<td>- The child lock function is activated.</td>
<td>59</td>
</tr>
<tr>
<td><strong>The unit is on but cannot be operated.</strong></td>
<td>22, 30</td>
</tr>
<tr>
<td>- Recording drive or playback drive has not been selected properly.</td>
<td>—</td>
</tr>
<tr>
<td>- Some operations may be prohibited by the disc.</td>
<td>—</td>
</tr>
<tr>
<td>- The unit is hot (“U59” appears on the display). Wait for “U59” to disappear.</td>
<td>—</td>
</tr>
<tr>
<td>- One of the unit’s safety devices may have been activated.</td>
<td>—</td>
</tr>
<tr>
<td>&gt; Reset the unit as follows:</td>
<td>—</td>
</tr>
<tr>
<td>1. Press [I]/[O] on the main unit to switch the unit to standby.</td>
<td>—</td>
</tr>
<tr>
<td>If the unit doesn’t switch to standby, press and hold [I]/[O] on the main unit for about 10 seconds. The unit is forcibly switched to standby.</td>
<td>—</td>
</tr>
<tr>
<td>Alternatively, disconnect the AC mains lead, wait one minute, then reconnect it.</td>
<td>—</td>
</tr>
<tr>
<td>2. Press [I]/[O] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer.</td>
<td>—</td>
</tr>
<tr>
<td><strong>HDD activation is slow.</strong></td>
<td>9</td>
</tr>
<tr>
<td>- The HDD is in power save mode.</td>
<td>—</td>
</tr>
<tr>
<td><strong>Cannot eject disc.</strong></td>
<td>59</td>
</tr>
<tr>
<td>- The unit may have a problem. While the unit is off, press and hold [I] and [CH +/-] on the main unit at the same time for about 5 seconds. Remove the disc and consult the dealer.</td>
<td>—</td>
</tr>
<tr>
<td>&gt; If the Child Lock function is activated, above operation does not work. Cancel the Child Lock function.</td>
<td>—</td>
</tr>
<tr>
<td><strong>Cannot tune channels.</strong></td>
<td>14–15</td>
</tr>
<tr>
<td>- Check the connections.</td>
<td>—</td>
</tr>
<tr>
<td><strong>Startup is slow.</strong></td>
<td>64</td>
</tr>
<tr>
<td>- Make sure that “Quick Start” is set to “On”.</td>
<td>—</td>
</tr>
<tr>
<td>- Startup takes time in the following situations:</td>
<td>—</td>
</tr>
<tr>
<td>- A disc other than a DVD-RAM is inserted.</td>
<td>—</td>
</tr>
<tr>
<td>- The clock is not set.</td>
<td>—</td>
</tr>
<tr>
<td>- Immediately after a power failure or the AC mains lead is connected.</td>
<td>—</td>
</tr>
<tr>
<td>- For a few minutes after 5:15 am due to system maintenance of this unit.</td>
<td>—</td>
</tr>
<tr>
<td>- When the unit is connected with an HDMI cable.</td>
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### Troubleshooting guide

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<th>Solution</th>
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<td><strong>Recording, timer recording and copying</strong></td>
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</table>
| Cannot record. Cannot copy. | - You haven’t inserted a disc or the disc you inserted cannot be recorded on. Insert a disc the unit can record onto.  
- The disc is unformatted. Format the disc RAM RWV H +R DL +RW.  
- The write-protect tab on the cartridge is set to PROTECT, or the disc is protected with DVD Management.  
- Some programmes have limitations on the number of times they can be recorded (CPRM).  
- You cannot record when there is not enough space or when the number of titles has reached its limit. Delete unwanted titles or use a new disc.  
- You cannot directly record to a DVD-R DL or +R DL disc on this unit. Record to the HDD and then copy to the disc.  
- In the following situations, you cannot copy. Delete unnecessary titles from the HDD and then copy.  
  - If there is not enough space available on the HDD (if you will copy titles from the HDD to a blank disc and fill the entire disc, HDD disc space equivalent to 4 hours of SP mode recording is necessary).  
  - If the number of recorded titles and the number of titles to be copied has exceeded 500.  
- You cannot record and copy on finalised discs. However, you can record and copy again if you format DVD-RW.  
- Due to peculiarities of DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW you may be unable to record on them if you either insert and remove the disc or switch the unit on and off while a disc is loaded, a total of fifty times.  
- DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW recorded on this unit may not be recordable on other Panasonic DVD Recorders.  
- This unit cannot record NTSC signals to discs that already have PAL signal recordings.  
  - However, both types of programmes can be recorded onto the HDD. Play of discs recorded with both PAL and NTSC on another unit is not guaranteed.  
  - Due to peculiarities of DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW you may be unable to record onto them if you either insert and remove the disc or switch the unit on and off while a disc is loaded, a total of fifty times.  
- You cannot copy to a DVD-R, +R DL and +RW discs with high-speed copy.  
- You cannot high speed copy to DVD-R titles longer than 6 hours when using other Panasonic DVD Recorders that are not compatible with EP (8 Hours) mode recording.  
- You will have to format the disc HDD RAM RWV H +RW or use a new disc. We cannot offer any guarantee regarding lost programmes or discs.  
- When recording to the HDD, set “Rec for High Speed Copy” to “On” in the Setup menu. (The default setting is “On”).  
- “Rec for High Speed Copy” set to “On”, and then copied to the HDD on this unit may not copy to +R, +R DL or +RW discs with high-speed copy.  
| Cannot record from external equipment. | - Check that the connection is correct.  
- Select the input channel for the equipment you have connected.  
| Cannot copy from external equipment. |  |
| **Timer recording does not work properly.** | - The timer programme is incorrect or different timer programme times overlap. Correct the programme.  
- The programme is not in timer recording standby. (The timer icon “•” in the timer recording list is not on.)  
- Set the clock.  
| **G-code® programming does not work properly.** | - Only for Australia and N.Z.  
| **Timer recording does not stop even when [ ] is pressed.** | - Make sure that the recording drive is selected. Press [DRIVE SELECT] to select the recording drive.  
- If you start recording immediately after turning on the unit while “Quick Start” is set to “On”, you cannot then stop recording for a few seconds.  
| **The timer programme remains even after recording finishes.** | - The timer programme remains if set to daily or weekly.  
| Cannot copy to a DVD-R, etc. disc using the high speed mode. | - When recording to the HDD, set “Rec for High Speed Copy” to “On” in the Setup menu. (The default setting is “On”).  
- If recorded in “EP” or “FR (recordings 5 hours or longer)” mode, you cannot perform high-speed copy.  
- Titles recorded on other Panasonic DVD Recorders with “Rec for High Speed Copy” set to “On”, and then copied to the HDD on this unit may not copy to +R, +R DL or +RW discs with high-speed copy.  
| When copying, it takes a long time even when high speed mode is selected. | - Use a disc that is compatible with high speed recording. Even if the disc is high speed recording compatible, the maximum speed may not be possible due to the condition of the disc.  
- It takes longer than normal to copy many titles.  
- You cannot high speed copy to DVD-R titles longer than 6 hours when using other Panasonic DVD Recorders that are not compatible with EP (8 Hours) mode recording.  
| An unusually loud sound is coming from the rotating DVD-R, etc. | - When recording or high speed copying to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW the sound of the disc rotating may be louder than normal, however, this is not a problem.  
| The DV automatic recording function does not work. | - If images cannot be recorded or if the recording is aborted, check the connections and DV equipment settings.  
- You cannot start recording until the images from the DV equipment appear on the television.  
- Recording may not be performed as desired if the time codes on the tape in the DV equipment are not successive.  
- Depending on the equipment, the DV automatic recording may not operate properly.  
- The audio/video recordings are recorded on other than a DV tape.  
| **Notes** | |
### Troubleshooting guide

<table>
<thead>
<tr>
<th>Play</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>**Play fails to start even when **[ ] (PLAY) <strong>is pressed.</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td><strong>Play starts but then stops immediately.</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>- Insert the disc correctly with the label facing up.</td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>- The disc is dirty.</td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>- You tried to play a blank disc or disc unplayable on this unit.</td>
<td><strong>10</strong></td>
</tr>
<tr>
<td>- You tried to play a +RW that needs to be finalised on the equipment used for recording.</td>
<td><strong>10</strong></td>
</tr>
<tr>
<td>- You may be able to copy a “One time only recording” title that was recorded to DVD-RAM using a different Panasonic DVD Recorder to this unit’s HDD, but play is not possible due to copyright protection.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- When recording to DVD-RAM using “EP (8 Hours)” mode, play may not be possible on DVD players that are compatible with DVD-RAM. In this case use “EP (6 Hours)” mode.</td>
<td><strong>61</strong></td>
</tr>
<tr>
<td>- You cannot play discs during DV automatic recording.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- If playing DivX VOD content, refer to the homepage where you purchased it. (DivX)</td>
<td><strong>35</strong></td>
</tr>
<tr>
<td><strong>Audio and video momentarily pause.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- This occurs between playlist chapters.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- This occurs between chapters and with partially deleted titles on finalised DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW that have been copied using the high speed mode.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- This occurs as scenes change during Quick View.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- <strong>RQT</strong> When playing a title recorded on both layers, the unit automatically switches between layers and plays the title in the same way as a normal programme. However, video and audio may momentarily cut out when the unit is switching layers.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>DVD-Video is not played.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- You have set a ratings level to limit DVD-Video play. Change this setting.</td>
<td><strong>61</strong></td>
</tr>
<tr>
<td>- You cannot play discs during DV automatic recording.</td>
<td><strong>61</strong></td>
</tr>
<tr>
<td><strong>Available disc space does not increase even after deleting a title.</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>- You cannot create a playlist.</td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>- You cannot select all the chapters at once in a title if the title also includes still pictures. Select them individually.</td>
<td><strong>30</strong></td>
</tr>
<tr>
<td><strong>Alternative soundtrack and subtitles cannot be selected.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- The languages are not recorded on the disc.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- You may not be able to use the on-screen menus to change the soundtrack and subtitles on some discs. Use the disc’s menus to make changes.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>No subtitles.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Subtitles are not recorded on the disc.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Turn the subtitles on. Set “Subtitle” on the on-screen menu to “On”.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Angle cannot be changed.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Angles can only be changed during scenes where different angles are recorded.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>You have forgotten your ratings password.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>You want to cancel the ratings level.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- The ratings level returns to the factory preset. While the disc tray is open, press [DRIVE SELECT] to select the DVD drive, then press and hold [  ] (REC) and [ ] (PLAY) on the main unit at the same time for 5 or more seconds (“INIT” will appear on the unit's display).</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Quick View does not work.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- This does not work when audio is other than Dolby Digital.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- This does not work when recording is in XP or FR mode.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>The resume play function does not work.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Memorized positions are cancelled when:</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- press [ ] several times.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- open the disc tray (excluding HDD).</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- turn off the power.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- If a recording or timer recording was executed.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>The Video CD picture does not display properly.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- When connecting to Multi-system TV, select “NTSC” in “TV System” in the Setup menu.</td>
<td><strong>66</strong></td>
</tr>
<tr>
<td>- When connecting to PAL TV, the lower part of the picture cannot be displayed correctly during search.</td>
<td><strong>66</strong></td>
</tr>
<tr>
<td><strong>Time Slip, Manual Skip, etc. does not work.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- These functions do not work with finalised discs.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Time Slip does not work when the unit’s “TV System” settings are different from the title recorded on the disc.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>It takes time before play starts.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- This is normal on DivX video. (DivX)</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Picture stops.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Picture may stop if the DivX files are greater than 2 GB. (DivX)</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Cannot see the beginning of the title played.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- (If connecting to a TV that supports VIERA Link with an HDMI cable)</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>When [ ] (PLAY) is pressed on this unit’s remote control, you may not be able to see the beginning of the title played until the picture is displayed on the TV. Using [ ] (PLAY), return to the beginning of the title.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Edit</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Available disc space does not increase even after deleting a title.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- Available disc space does not increase after deleting on DVD-R, DVD-R DL, +R or +R DL.</td>
<td><strong>46</strong></td>
</tr>
<tr>
<td>- Disc space increases only when the last recorded title is deleted on DVD-RW (DVD-Video format) and +RW. The disc space does not increase when any other titles are deleted.</td>
<td><strong>46</strong></td>
</tr>
<tr>
<td><strong>Cannot edit.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- You may not be able to edit on the HDD if there is no available space.</td>
<td><strong>46</strong></td>
</tr>
<tr>
<td>- Delete any unwanted titles to create empty space.</td>
<td><strong>46</strong></td>
</tr>
<tr>
<td><strong>Cannot format.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- The disc is dirty. Wipe with a damp cloth and then wipe dry.</td>
<td><strong>10</strong></td>
</tr>
<tr>
<td>- You tried formatting a disc that you may not be able to use in this unit.</td>
<td><strong>10</strong></td>
</tr>
<tr>
<td><strong>Cannot create chapters.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- The unit writes the chapter division information to the disc when you turn it off or remove the disc. The information is not written if there is an interruption to the power before this.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- These operations are not possible with still pictures.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- You cannot set points if they are too close to each other. You cannot set an end point before a start point.</td>
<td><strong>—</strong></td>
</tr>
<tr>
<td><strong>Cannot mark the start point or the end point during “Partial Delete” operation.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- When the chapter is too short to delete, use “Combine Chapters” to make the chapter longer.</td>
<td><strong>41</strong></td>
</tr>
<tr>
<td><strong>Cannot delete chapters.</strong></td>
<td><strong>—</strong></td>
</tr>
<tr>
<td>- You cannot select all the chapters at once in a title if the title also includes still pictures. Select them individually.</td>
<td><strong>—</strong></td>
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### Troubleshooting guide

#### Still pictures

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<td>Cannot edit or format a card. (EH67)</td>
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<td>The contents of the card cannot be read. (EH67)</td>
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<td>Copying, deleting and setting protection takes a long time. (EH67)</td>
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#### VIERA Link

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<td>VIERA Link doesn’t work.</td>
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#### To reset this unit

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<td>To reset the ratings level settings</td>
<td>—</td>
</tr>
<tr>
<td>To restore the unit if it freezes due to one of the safety devices being activated</td>
<td>—</td>
</tr>
</tbody>
</table>
Glossary

Bitstream
This is the digital form of multi-channel audio data (e.g., 5.1 channel) before it is decoded into its various channels.

CPRM (Content Protection for Recordable Media)
CPRM is technology used to protect broadcasts that are allowed to be recorded only once. Such broadcasts can be recorded only with CPRM compatible recorders and discs.

Decoder
A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

DivX
DivX is a popular media technology created by DivX, Inc. DivX media files contain highly compressed video with high visual quality that maintains a relatively small file size.

Dolby Digital
This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio. A large amount of audio information can be recorded on one disc using this method.

Dolby AC-3 (Digital Theater Systems)
This surround system is used in many movie theaters. There is good separation between the channels, so realistic sound effects are possible.

Dynamic range
Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs. Dynamic range compression means reducing the gap between the loudest and softest sounds. This means you can listen at low volumes but still hear dialogue clearly.

Film and video
DVD-Video discs are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

Field
Field 25 frames per second (PAL discs) or 30 frames per second (NTSC discs). Generally appropriate for motion picture films.

Finalise
A process that makes play of a recorded CD-R, CD-RW, DVD-R, etc. possible on equipment that can play such media.

Folder
This is a place on the hard disk, disc or SD Card where groups of data are stored together. In the case of this unit, it refers to the place where still pictures (JPEG) and MPEG2 are stored.

Formatting
Formatting is the process of making media such as DVD-RAM recordable on recording equipment.

Frame
Frames refer to the single images that constitute the video you see on your television. Each frame consists of two fields.

Field
Field 1080i
Progressive/Interlace
In general, DVD-Video are produced with the intention that they be viewed on a widescreen television (16:9 aspect ratio), so images often don’t fit regular (4:3 aspect ratio) televisions. Two styles of picture, “Pan & Scan” and “Letterbox”, deal with this problem.

Letterbox: Black bands appear at the top and bottom of the picture so the picture itself appears in an aspect ratio of 16:9.

Playback control (PBC)
If a Video CD has playback control, you can select scenes and information with menus.

Progressive/Interlace
The PAL video signal standard has 576 (or 625) interlaced (i) scan lines, whereas progressive scanning, called 576p (or 625p), uses twice the number of scan lines. For the NTSC standard, these are called 480i (or 525i) and 480p (or 525p) respectively.

Sampling frequency
Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

RGB
This refers to the three primary colours of light, red (R), green (G), and blue (B) and also the method of producing video that uses them.

RGB Input Terminals
Progressive output, you can enjoy the high-resolution video called 480p (or 525p) and 480i (or 525i) respectively.

Progressive
Progressive Image
Progressive scanning doubles the number of scan lines. For the NTSC standard, these are called 480p (or 525p) and 480i (or 525i) respectively.

Progressive
Pan & Scan
Pan & Scan: The sides are cut off so the picture fills the screen.

RGB Input Terminals
Progressive
Progressive Image
Progressive scanning doubles the number of scan lines. For the NTSC standard, these are called 480p (or 525p) and 480i (or 525i) respectively.

Progressive
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Pan & Scan: The sides are cut off so the picture fills the screen.

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Specifications

Recording system

- DVD-RAM: DVD Video Recording format
- DVD-R: DVD-Video format
- DVD-R DL (Dual Layer): DVD-Video format
- DVD-RW: DVD-Video format
  - +R
  - +R DL (Double Layer)
  - +RW

Recordable discs:

- DVD-RAM: 2X SPEED (Ver. 2.0)
- DVD-R: 2X SPEED (Ver. 2.1), 2X SPEED (Ver. 2.2)
- DVD-R DL: 2X SPEED (Ver. 3.0), 2X SPEED (Ver. 3.1)
- DVD-RW: 2X SPEED (Ver. 1.0), 2X SPEED (Ver. 1.1)
  - +R: 2X SPEED (Ver. 1.0), 2X SPEED (Ver. 1.1)
  - +R DL: 2X SPEED (Ver. 1.0), 2X SPEED (Ver. 1.1)
  - +RW: 2X SPEED (Ver. 1.1), 2X SPEED (Ver. 1.2)

Recording time

- Maximum 8 hours (using 4.7 GB disc)
- Maximum Approx. 284 hours with 160 GB HDD (EP 8 hours mode)
- Maximum Approx. 443 hours with 250 GB HDD (EP 8 hours mode)

Playable discs

- DVD-RAM: DVD Video Recording format
- DVD-R: DVD-Video format, DivX
- DVD-R DL (Dual Layer): DVD-Video format, DivX
- DVD-RW: DVD-Video format, DivX

Internal HDD capacity

- 160 GB
- 250 GB

Optical pick-up

- System with 1 lens, 2 integration units
- (662 nm wavelength for DVDs, 780 nm wavelength for CDs)
- No hazardous radiation is emitted with the safety protection

Audio

- Recording system: Dolby Digital 2ch, Linear PCM (XP mode)
  - Audio in: AV1/AV2 (21 pin), AV3/AV4 (pin jack)
  - Input level: Standard: 0.5 Vrms, Full scale: 2.0 Vrms at 1 kHz
  - Input impedance: More than 10 kΩ
  - Audio out: AV1/AV2 (21 pin), Audio Out (pin jack)
  - Output level: Standard: 0.5 Vrms, Full scale: 2.0 Vrms at 1 kHz
  - Output impedance: Less than 1 kΩ
  - Digital audio out: Optical terminal (PCM, Dolby Digital, DTS)

Video system

- PAL colour signal, 625 lines, 50 fields
- NTSC colour signal, 525 lines, 60 fields

Recording system

- MPEG2 (Hybrid VBR)
- PAL colour signal, 625 lines, 50 fields
- NTSC colour signal, 525 lines, 60 fields

Television system

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RF converter output: Not provided

SD Card

- Slot: SD Memory Card slot: 1 pc
- Compatible media: SD Memory Card, SDHC Memory Card
- Format: (In case of SD Memory Card/MultiMediaCard)
  - FAT 32

Still picture (JPEG)

- Image file format: JPEG conforming DCF (Design rule for Camera File system), sub sampling: 4:2:2 or 4:2:0
- Number of pixels: Between 34 × 34 and 6144 × 4096
- Thawing time: Approx. 1.9 sec (8 M pixels, JPEG)

Video (SD Video)

- Codec: MPEG 2 (SD-Video Entertainment Video Profile)
- File Format: SD-Video format conforming Video Recording conversion and transfer is possible from card to HDD or DVD-RAM disc.
- After Video Recording conversion and transfer to HDD or DVD-RAM disc, the playback is possible.

Others

- Region code:
  - Australia
  - DVB-T
  - Others

Power consumption

- Approx. 16 W (Quick Start mode)
- Approx. 17 W (Quick Start mode)
- Approx. 2 W (Power Save mode)

Power consumption in standby mode:

- Approx. 16 W (Quick Start mode)
- Approx. 17 W (Quick Start mode)

Notes

- Specifications are subject to change without notice.
- ± It is compatible to a DVD-Video format after finalised.
- #1 Includes miniSD cards. (A miniSD adaptor needs to be inserted.)
- ± Class is not supported.
- § Long file name is unsupported.
- #2 Useable capacity will be less (SD Card).
- #3 This unit supports "HDAVI Control 2" function.

Specifications

- Optical pickup: System with 1 lens, 2 integration units (662 nm wavelength for DVDs, 780 nm wavelength for CDs)
- LASER specification
  - Class 1 LASER Product (Pickup)
  - Wave length: (CD) 780 nm wave length, (DVD) 662 nm wave length
- Power supply: AC 220 to 240 V, 50 Hz
- Operating humidity range: 10 % to 80 % RH (no condensation)
- Dimensions (W×D×H): 329 mm x 59 mm x 409 mm
- Approx. 4.2 kg
Safety precautions

Placement
Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit’s service life.
Do not place heavy items on the unit.

Voltage
Do not use high voltage power sources. This can overheat the unit and cause a fire.
Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

AC mains lead protection
Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead. Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.
Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter
Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.
Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.
Do not spray insecticides onto or into the unit. They may contain flammable gases which can ignite if sprayed into the unit.

Service
Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service centre. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.
Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.
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Matsushita Electric Industrial Co., Ltd.  
Web Site: [http://panasonic.net](http://panasonic.net)