Panasonic®

Operating Instructions
DVD Recorder
Model No. **DMR-XW480**
DMR-XW380

DIGA
High Definition

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.

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

RAM COMPATIBLE RECORDER   DVD VIDEO RAM   DVD RW/R   COMPACT disc DIGITAL AUDIO   DivX HD

gracenote.   AVCHD™   dlna CERTIFIED™

DVB Digital Video Broadcasting   HDMI   VIERA Link   VIERA CAST™   SDXC™

DVB and the DVB logos are trademarks of the DVB Project.

■ **Region management information**

This unit plays DVD-Video marked with labels containing the region number **"4"** or **"ALL"**.

Example:

4   ALL   2 3 4

Web Site: http://panasonic.net

GL

VQT2J62

(Inside of product)

Included accessories

Please check and identify the supplied accessories. (Product numbers correct as of February 2010. These may be subject to change.)

1 **Remote control**
   (N2QAYB000479)
2 **Batteries for remote control**
1 **AC mains lead**
1 **RF coaxial cable**
1 **Audio/Video cable**

The batteries information

Insert so the poles (+ and −) match those in the remote control.
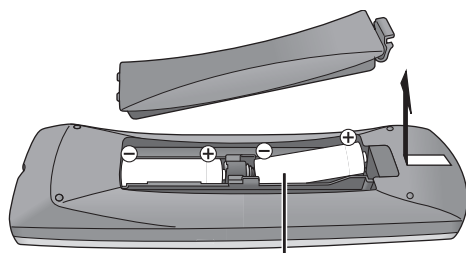
R6/LR6, AA

- Use alkaline or manganese batteries.
- Do not mix old and new batteries or different types at the same time.
- Do not heat or expose to flame.
- Do not leave the battery(ies) in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.
- 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.

Mishandling 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.

Media handling

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

DO	*DO NOT*
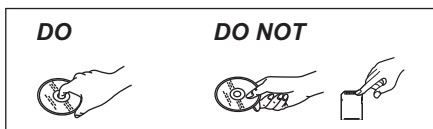
■ If there is dirt or condensation on the disc
Wipe with a damp cloth and then wipe dry.

DO	*DO NOT*

■ Handling precautions
- Do not attach labels or stickers to discs.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use ballpoint pens or other hard writing implements, when writing on the label side of the disc.
- Do not 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.
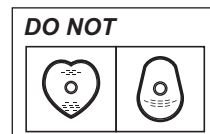
DO NOT

- 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.

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About descriptions in these operating instructions
● These operating instructions are applicable to models DMR-
XW480 and DMR-XW380. The illustrations in these Operating
Instructions show images of DMR-XW480 unless otherwise
indicated.
  XW480 : indicates features applicable to DMR-XW480 only.
  XW380 : indicates features applicable to DMR-XW380 only.
● Pages to be referred to are indicated as "⇨ ○○".

HDD and media information

Discs

HDD and discs you can use for recording and play

(◯: Possible, –: Impossible)

Disc type	Standard symbol	Data that can be recorded	Rewritable	Note
Hard disk drive (HDD)	HDD	Video (Including AVCHD)/JPEG/ Music copied from music CD/MP3	◯	
DVD-RAM	RAM	Video (not including AVCHD)/ JPEG	◯	
DVD-R	-R	Video (Including AVCHD)	–	
DVD-R DL	-R DL		–	
DVD-RW	-RW(V)	Video (Not including AVCHD)	◯	
+R	+R		–	
+R DL	+R DL		–	
+RW	+RW		◯	● 8X Speed +RW disc is not supported.

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● The DVD-R, DVD-R DL, DVD-RW, +R, and +R DL after the finalisation are referred to as "DVD-V" in these operating instructions.

■ 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).

Play-only discs

Disc type	Standard symbol	Contents
DVD-Video DVD VIDEO DVD VIDEO	DVD-V	Movie and music
DVD-RW **(DVD Video Recording format)** DVD RW	-RW(VR)	DVD-RW video recorded on another DVD recorder ● By formatting (⇨ 72) the disc, you can record onto it in DVD-Video format. ● It may be necessary to finalise the disc on the equipment used for recording (⇨ 73).
DVD-R[*1] **DVD-R DL**[*1] DVD R R4.7 DVD R R DL	-R -R DL	DivX®, JPEG, MP3
DVD-RAM, DVD-R[*1]**,** **DVD-R DL**[*1]**, DVD-RW**[*1]**, +R**[*1]**,** **+R DL**[*1]**, +RW**	RAM -R -R DL -RW(V) +R +R DL +RW	High Definition video recorded by Panasonic's video camera, etc.
CD **(including CD-R/RW**[*2]**)** COMPACT disc DIGITAL AUDIO	CD	Music
CD **(including CD-R/RW**[*2]**)**	CD	DivX®, JPEG, MP3

[*1] It may be necessary to finalise on the equipment used for recording.

[*2] Close the session after recording.

● 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.

HDD and media information

Notes for the disc

■ Cartridge-protection
For a DVD-RAM with a cartridge
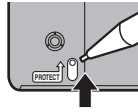
■ Play on other players
`-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`
Finalisation is needed. (⇨ 73)
`+RW`
If the disc failed to play on other equipment, we recommend you create top menu (⇨ 73).

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

■ Discs that cannot be played
- Blu-ray Disc (BD-Video, BD-RE, BD-R)
- 2.6 and 5.2 GB DVD-RAM, 12 cm
- DVD-Audio
- HD DVD
- Super Video CD, Super Audio CD, Video CD
- +R (8 cm), CD-ROM, Photo CD, PD, etc.

■ Region management information

DVD-Video:
This unit plays DVD-Video marked with labels containing the region number **"4"** or **"ALL"**.

Example:

[)(

- Discs recorded on equipment other than this unit may not be used for recording on this unit.

SD cards

Standard symbol	Contents
SD	JPEG AVCHD MPEG2 (Copy only)

Compatible SD card
– SD Memory Card (from 8 MB to 2 GB)
  (Including miniSD Card and microSD Card)
– SDHC Memory Card (from 4 GB to 32 GB)
  (Including miniSDHC Card and microSDHC Card)
– SDXC Memory Card (48 GB, 64 GB)
  (Including microSDXC Card)
● This unit is compatible with SD Memory Cards that meet
  SD Card Specifications FAT12 and FAT16 formats, as well
  as SDHC Memory Cards in FAT32 format and SDXC
  Memory Cards in exFAT format.

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● 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 (⇨ 72).
● Keep the Memory Card out of reach of children to prevent swallowing.
● SDHC Memory Cards and SDXC Memory Cards can be used in
  equipment that is compatible with the appropriate card or cards. (SDXC
  Memory Cards can also be used in equipment compatible with SDXC
  Memory Cards)
  **Using either of these cards in a non-compatible PC or non-
  compatible equipment may result in formatting etc. and the loss of
  recorded content.**

■ Setting the protection
Switch the write-protect switch to the "LOCK" position.

■ Using miniSD card or microSD card
miniSD Cards, microSD Cards, miniSDHC Cards,
microSDHC Cards and microSDXC Cards can be used, but
must be used with an adaptor card. These are usually
supplied with such cards, or otherwise customer provided.
  e.g.,

USB memories

Standard symbol	Contents
USB	DivX (Play only)※ JPEG MP3 AVCHD (Copy only) MPEG2 (Copy only)

※ DivX VOD contents recorded on USB memories cannot
  be played back. (⇨ 39)

Compatible USB memories
● USB memories that support USB 1.0/1.1 and USB 2.0 Full
  Speed/High Speed.
● USB memories of up to 128 GB can be used.
● FAT16 and FAT32 file systems are supported.

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● This unit's USB port does not support bus-powered USB device.
● Despite meeting the conditions mentioned above, there may be USB
  memories that cannot be used for this unit.
● This unit supports connecting a USB memory, digital camera and video
  camera produced by Panasonic, etc. It is not warranted that all USB
  devices will meet this unit.

Control reference guide

Remote control

Instructions for operations are generally described using the remote control.
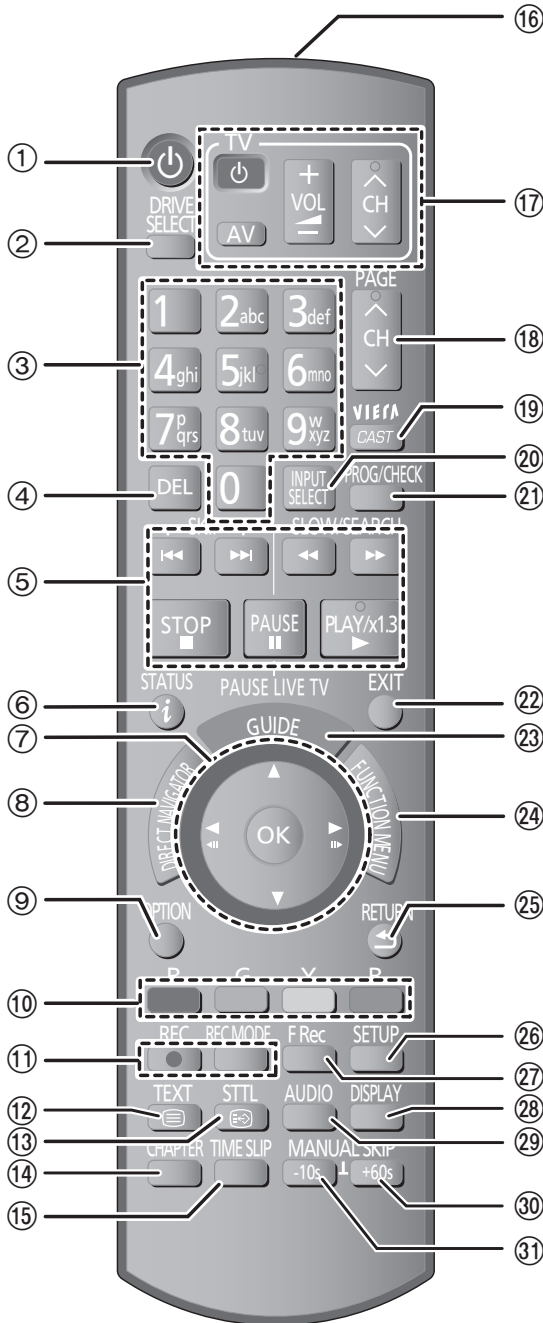
① Turn the unit on or off (⇨ 16, 18)
② Select drive (HDD, DVD, SD or USB) (⇨ 16)
③ Select channels and title numbers, etc./Enter numbers or characters (The character buttons may be used when operating VIERA CAST contents.)
④ To delete unwanted recorded titles, timer programmes, still pictures or music (⇨ 40)
⑤ Basic operations for recording and play
⑥ Show digital channel information (⇨ 21)/Programme information within TV Guide screen (⇨ 22)/Show status messages (⇨ 36)/Show Information (⇨ 38)
⑦ Selection/OK (⇨ 17), Frame-by-frame (⇨ 36)
⑧ Show DIRECT NAVIGATOR, Top menu (⇨ 33, 37)
⑨ Show OPTION menu (⇨ 41, 52, 59)
⑩ Colour buttons
Use in accordance with instruction on the screen.
⑪ Recording functions
⑫ Show teletext (⇨ 21)
⑬ Show subtitles (⇨ 21)
⑭ Create chapter (⇨ 44)
⑮ Skip the specified time (⇨ 36)
⑯ Transmit the remote control signal
⑰ Television operation area (⇨ 85)
⑱ Channel select (⇨ 20)/
Change pages in the TV Guide system etc. (⇨ 22)
⑲ Show VIERA CAST (⇨ 68)
⑳ Input select (⇨ 20, 24, 60)
㉑ Show Timer Recording screen (⇨ 30)
㉒ Exit the menu screen
㉓ Show the TV Guide screen (⇨ 22)
㉔ Show FUNCTION MENU window (⇨ 17)
㉕ Return to previous screen
㉖ Show Setup menu (⇨ 74)
㉗ Flexible Recording (⇨ 26)
㉘ Show Playback menu (⇨ 70)
㉙ Select audio (⇨ 21, 36)
㉚ Skip approx. 1 minute forward (⇨ 35)
㉛ Skip approx. 10 seconds backward (⇨ 35)

Main unit

Pull to flip down the front panel.

■ Remote Control signal sensor

20°
30°   30°
20°
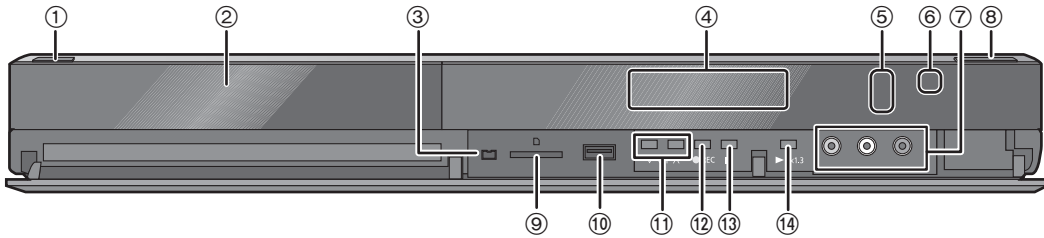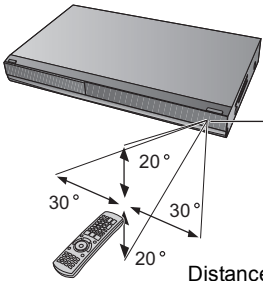
Distance: Within approx. 7 m in front of the unit

① Standby/on switch (⏻/I) (⇨ 16, 18)
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 (⇨ 16)
③ Connection for digital video (DV) camcorder (⇨ 60)
④ Display (⇨ below)
⑤ Recording indicator
⑥ Remote control signal sensor (⇨ above)

⑦ Connection for VCR, Panasonic's video camera, etc. (⇨ 60)
⑧ Open/close disc tray (⇨ 16)
⑨ SD card slot (⇨ 16)
⑩ USB port (⇨ 16)
⑪ Channel select
⑫ Start recording/One Touch Recording (⇨ 26)
⑬ Stop
⑭ Start play

Rear panel terminals (⇨ 12, 13, 14, 15)

The unit's display

① SD card slot indicator
② Copying indicator
③ Disc indicator
④ Drive (HDD, DVD or SD) indicator
⑤ Remote control signal indicator
⑥ Main display section indicator
Current time/playback counter, various messages

⑦ Playback indicator
⑧ USB port indicator
⑨ Timer recording indicator
This indicator lights up when the timer recording standby is activated.

Connection

Recommended connections

● Before connection, turn off all equipment and read the appropriate operating instructions.

When connected to an HDMI compatible unit, you can enjoy high quality, digital video and audio.
● The HDMI connection supports VIERA Link "HDAVI Control" (⇨ 64) when used with a compatible Panasonic TV.

To household mains socket
(AC 220 to 240 V, 50 Hz)

To the aerial

Connect only after all other connections are complete.

AC mains lead
(included)

Aerial cable

Cooling fan

This unit's rear panel

Other television connections (⇨ 14)

HDMI cable (⇨ below)

RF coaxial cable
(included)

HDMI IN

VHF/UHF RF IN

Television's rear panel
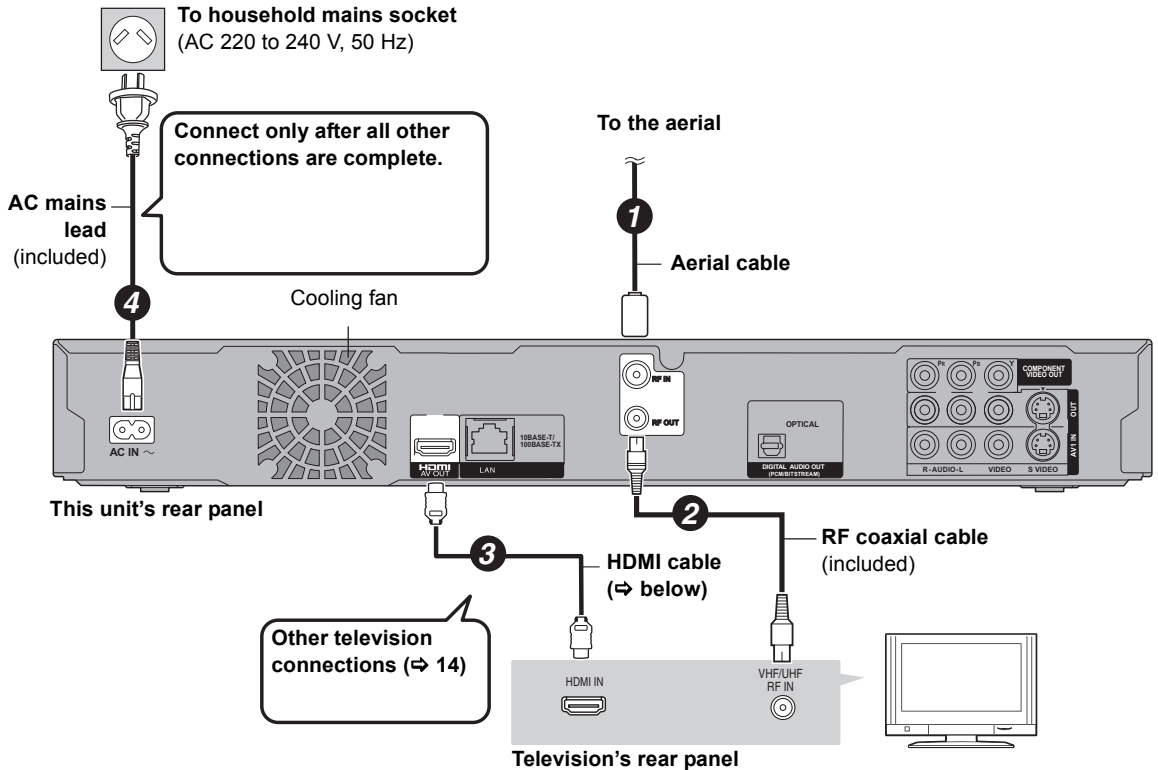
Required setting:
Set "HDMI Video Mode" and "HDMI Audio Output" to "On" (⇨ 80, 81).
(The default setting is "On".)

About HDMI
● Video sources converted to 1920×1080 resolution, while of high quality, will exhibit somewhat lower subjective image resolution than true, native 1080p full-HD sources. See dealer for details.
● Please use High Speed HDMI Cables that have the HDMI logo (as shown on the cover).
● When outputting 1080p signal, please use HDMI Cables 5.0 meters or less.
● Recommended Panasonic's HDMI cable part number:
RP-CDHS15 (1.5 m), RP-CDHS30 (3.0 m), RP-CDHS50 (5.0 m), etc.

● You cannot connect this unit to DVI devices that are incompatible with HDCP.
Depending on the unit that are compatible with HDCP, images may not display properly or at all when connecting with a DVI/HDMI switching cable. (Audio cannot be output.)
● If you are connecting to a TV that is only compatible with 2 channel audio output, audio with 3 channels or more will be down mixed (⇨ 106) and output as 2 channels, even if connecting with an HDMI cable. (Some discs cannot be down mixed.)

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. 1.1 W ("Power Save in Standby" is activated)]

Connect the unit directly to the television

DO NOT

Television
↑
VCR
↑
This unit

If you connect the unit through an AV selector or video cassette recorder to the television, video signal will be affected by copyright protection systems and the picture may not be shown correctly.

●**When connecting to a television with a built-in VCR**
Connect to the input terminals on the television side if there are both television and VCR input terminals.

When connecting the Set Top Box

●Connect to terminals of the same colour.

■ **Connecting with AUDIO and S VIDEO terminals**

■ **Connecting with AUDIO/VIDEO terminals**

This unit's rear panel

This unit's rear panel

S Video cable

Audio cable

**Set Top Box
(Satellite receiver, CATV, etc.)**
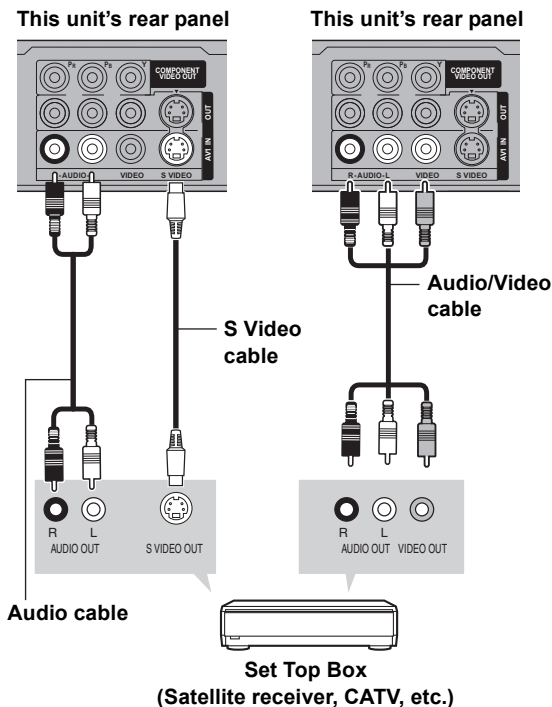
Network connection

Following function will be available when this unit is connected to the network.
●DLNA function (⇨ 66)
●Enjoying VIERA CAST (⇨ 68)
●Automatically acquire the title of the CD (⇨ 56)
●Update the software (firmware) of this unit (⇨ 84)

This unit's rear panel

LAN cable

Broadband router, etc

LAN cable

LAN cable

Telecommunications equipment (modem, etc)

DLNA compatible equipment

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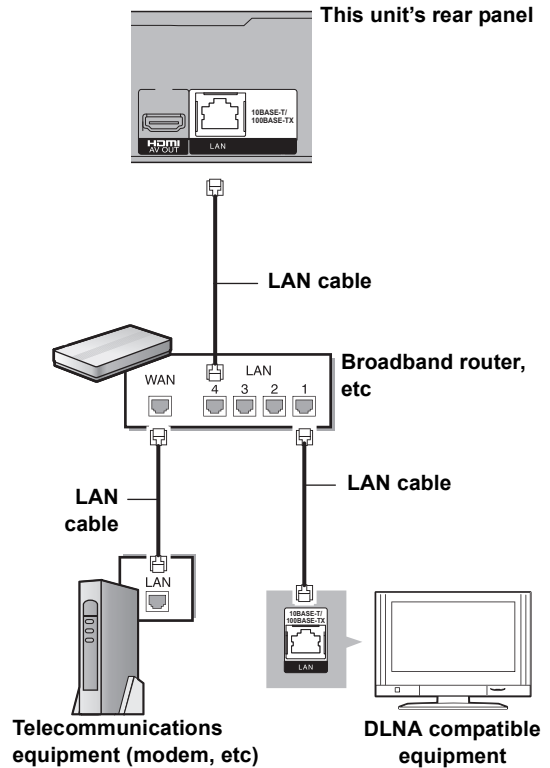
● Refer to the operating instructions for the connected device.
● Use only category 5 straight LAN cables (STP) when connecting to peripheral devices.
● When operating the VIERA CAST, use high-speed internet service no less than 1.5 Mbps for SD (Standard Definition) and 6 Mbps for HD (High Definition) picture quality by your local broadband company.
● Inserting any cable other than a LAN cable in the LAN terminal can damage the unit.
● The DLNA compatible device that is to be connected to the unit should be connected to the same hub or broadband router as the unit.

Getting started

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Connection

Other television connections

AUDIO/VIDEO terminals

● Connect to terminals of the same colour.

Television's rear panel

AUDIO IN   VIDEO IN
R   L

Audio/Video cable
(included)

This unit's rear panel

Pᵣ Pᵦ COMPONENT VIDEO OUT
OUT
AV IN
R—AUDIO—L   VIDEO   S VIDEO

AUDIO/VIDEO and S VIDEO terminals

● Connect to terminals of the same colour.

Television's rear panel

AUDIO IN   S VIDEO
R   L   IN

Audio/ Video cable
(included)

This unit's rear panel

Pᵣ Pᵦ COMPONENT VIDEO OUT
AV IN   OUT
VIDEO   S

S Video cable

COMPONENT VIDEO terminals

COMPONENT VIDEO terminals can be used for either interlace or progressive output (⇨ 108) and provide a purer picture than the VIDEO OUT terminal.
● Connect to terminals of the same colour.

Television's rear panel

COMPONENT VIDEO IN
Pᵣ   Pᵦ   Y

Component video cable

This unit's rear panel

Pᵣ Pᵦ COMPONENT VIDEO OUT
OUT
AV IN
R—AUDIO—L   VIDEO   S VIDEO
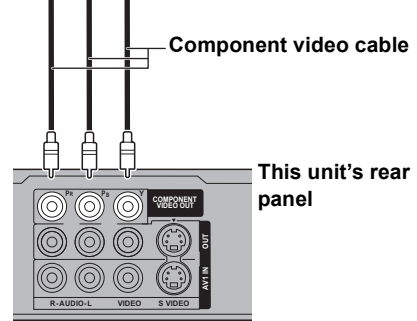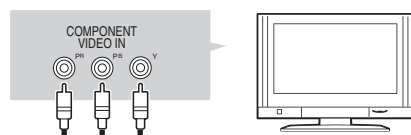
Required setting:
"Component Resolution" setting (⇨ 81)

Amplifier connections

HDMI AV OUT terminal

Television's rear panel

HDMI IN

HDMI cable

Amplifier's rear panel

HDMI OUT   **HDMI IN**

HDMI cable

100BASE-T/
100BASE-TX

HDMI
AV OUT   LAN

This unit's rear panel

DIGITAL AUDIO OUT terminal

Amplifier's rear panel

OPTICAL IN

Optical digital audio cable

This unit's rear panel
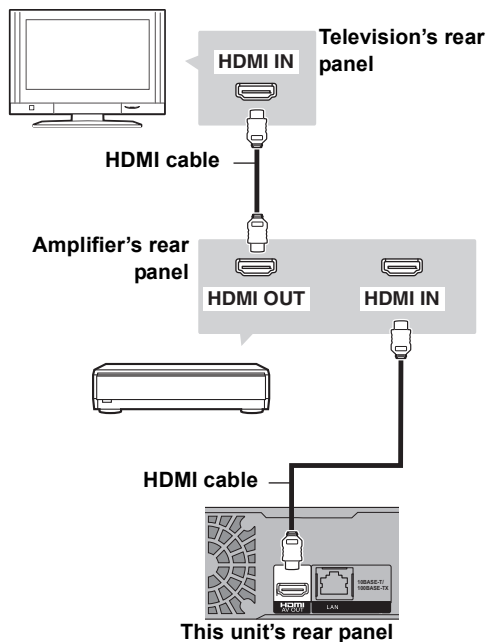
OPTICAL

DIGITAL AUDIO OUT
(PCM/BITSTREAM)
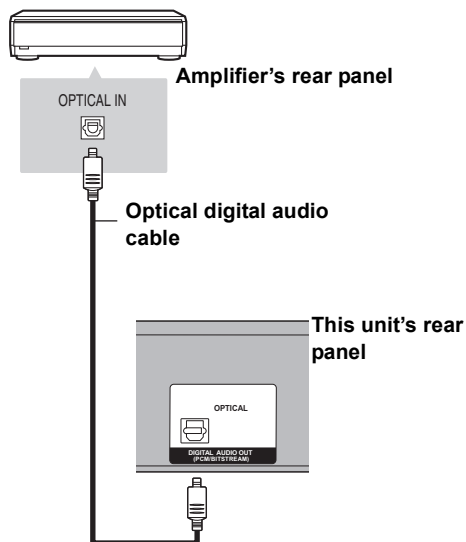
- When this unit is connected to a television with an HDMI cable, set "HDMI Audio Output" to "Off" in the Setup menu (⇨ 81). In this case audio is only output from the amplifier not the television.
- When you use the optical digital audio cable, insert the tip correctly into the terminal.

Common Operations
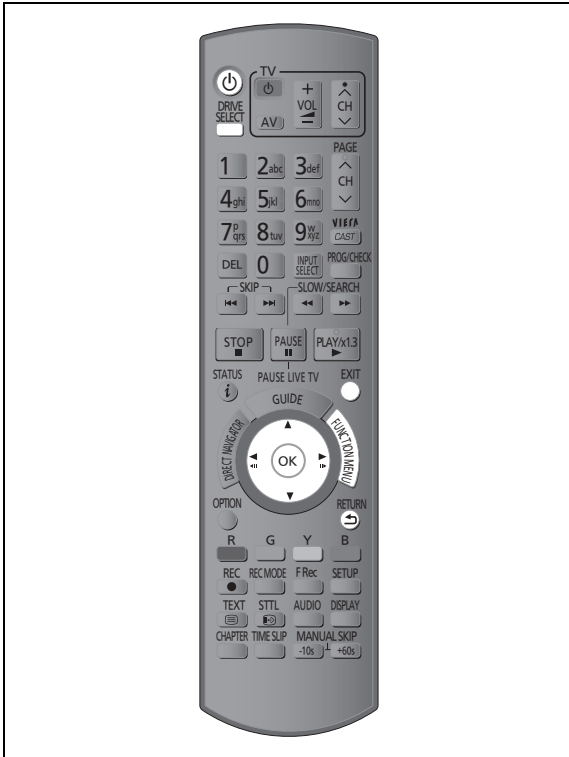
Regarding Preparation

Turning on this unit

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

② **Press [⏻] on the remote control or [⏻/I] on this unit.**

⏻/I

The Easy setting will start at the initial power on after purchasing this unit. (⇨ 18)

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● Repeat Step 2 when turning off this unit.
● If the Easy setting does not start after the initial power on, turn the power of this unit Off/On once.

Inserting or removing a media

● **When indicator on this unit's display blinks, do not turn off the unit or remove the media. Such action may result in loss of the media's contents.**

Press [▲ OPEN/CLOSE] on the main unit to open the tray and insert a disc.
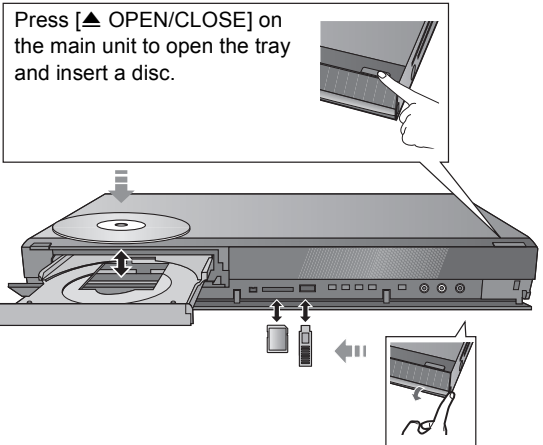
● When inserting a media, ensure that it is facing the right way up.
● When removing the SD card, press on the center of the card and pull it straight out.
● If you connect a Panasonic product with a USB connection cable, setup screen may be displayed on connected equipment. For details, refer to the instructions for the connected equipment.

■ Select Drive
Press [DRIVE SELECT] to select the media drive that you operate.

■ Release disc protection
[RAM]
If the disc is protected when writing to the disc, release the protection (⇨ 72, Setting the protection).

Basic operation

This unit is basically operated via the following method.

To select and enter

Select → Enter
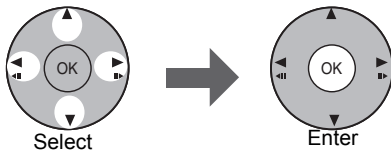
To return to the previous screen:	Press RETURN
To exit the screen:	Press EXIT

Display Navigation

Operating method can also be confirmed on the screen. Operable functions and buttons used are displayed on each screen.
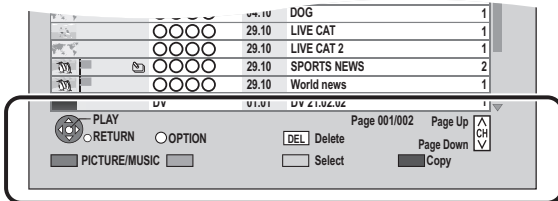
Menu screen

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

e.g., **USB**
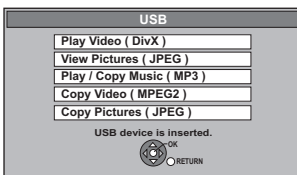
If the menu screen is not displayed, display it by performing the following operation.

1 Press [FUNCTION MENU].

2 Select the media to operate in "Drive Select" (⇨ right).

3 Select the item to perform.

FUNCTION MENU screen

You can easily access the desired functions via the FUNCTION MENU.

1 Press [FUNCTION MENU].

2 Select an item, then press [OK].

●Repeat step 2 if necessary.
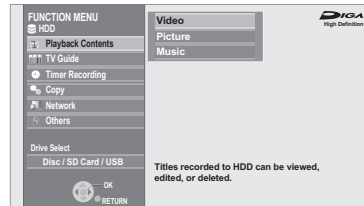
Playback Contents*

Video (⇨ 34)

Picture (⇨ 50)

Music (⇨ 57)

TV Guide (⇨ 22)

Timer Recording (⇨ 28)

Copy (⇨ 45)

Network (⇨ 68)

Others*

Flexible Recording (⇨ 26)

DV Automatic Recording (⇨ 61)

Setup (⇨ 74)

Drive Select*

Disc / SD Card / USB

* This is a display for when drive select is set to HDD. Selectable items will change depending on the type and status of the media.

●There are operations that cannot be performed when recording or when there is no media inserted. Those items are disabled for selection in such cases.

Setting

Easy setting

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

2 **Press [⏻] to turn the unit on. (⇨ 16)**

When the Download from TV screen is displayed, the setting information on the TV is acquired by this unit.

●**If the region selection screen appears**
Select your region, then press [OK].

●**Auto-Tuning starts.**
This takes 3 minutes.

```
Digital TV Auto Tuning
Scan                    CH 6            69
This will take about 3 minutes.
RF Ch   Channel Name        Type    Quality




Digital TV: 0
            Searching
   RETURN
```
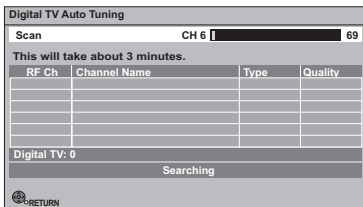
After Auto-Tuning is complete, the time information can be obtained.

●The acquisition may take some time depending on the setting information.

3 **Set "Power Save" to "On", "On Timer" or "Off", then press [OK].**

```
Power Save in Standby
                    Power Save
                       On
   From            To
    0 :00           6 :00
   Standby power consumption is saved by disabling
   Quick Start function.
   Unit's Display is set to "Automatic".
     OK
     RETURN
```

On:	It will go into the Power Save in Standby mode.
On Timer:	Set the start and stop time and then press [OK]. ●"Power Save in Standby" is activated when the set time comes.
Off:	It is possible to start quickly from the standby mode. (Quick Start mode)

When "Easy Setting has been completed." appears, Easy setting is complete.

To stop partway
Press [RETURN ⤴].

To restart set up
1 While stopped
  Press [SETUP].
2 Select "Auto Setup" in "Digital TV Tuning", then press [OK].

➢ **If the TV aspect setting screen appears (⇨ 80, TV Aspect)**

➢ **If the clock setting screen appears (⇨ 82, Clock)**

➢ **To confirm that stations have been tuned correctly (⇨ 20, Using Channel List)**

Network Easy Settings

After completing "Easy setting", you can continue to perform "Network Easy Settings".

Follow the on-screen instructions and make the settings.

```
Network Easy Settings

    LAN setup and testing of home network and
    internet connections are required for internet
    functions. Broadband Internet connection is
    necessary for network features.
    Please confirm that a LAN cable is connected.
    Please refer to the operating instructions.

    Press OK to start Network Easy Settings.
```
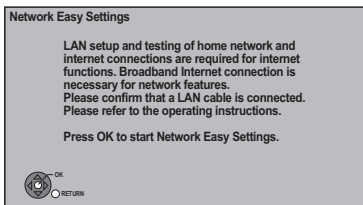
■ When you experience problems with settings

● Network Easy Settings (Connection Test)

Display		Check the following
1. LAN cable connection:	"Fail"	● Connection of the LAN cables (⇨ 13)
2. IP address setting:	"Fail"	
3. Connection to gateway:	"Fail"	
1. LAN cable connection:	"Pass"	● Connection and settings of the hub and router ● Settings of "IP Address / DNS Settings" (⇨ 81)
2. IP address setting:	"Fail" or "Home network available"	
3. Connection to gateway:	"Fail"	
1. LAN cable connection:	"Pass"	
2. IP address setting:	"Pass"	
3. Connection to gateway:	"Fail"	

● Network Easy Settings (Internet Connection Test)

Display	Check the following
Cannot find the server. (B019)	● Network connections and settings ● Settings of "IP Address / DNS Settings" (⇨ 81)
No connection could be made to the server. (B020)	● The server may be busy or the service may have been suspended. Please wait a few moments, and then try again. ● Settings of "Proxy Server Settings" (⇨ 81)

When television picture appears, set up is complete.

To stop partway
Press [RETURN ⤺].

To restart Network Easy Settings
1 While stopped
  Press [SETUP].
2 Select "Network Easy Settings" in "Network", then press [OK].

To redo settings individually
1 While stopped
  Press [SETUP].
2 Select "Network Settings" in "Network", then press [OK].
3 Select "IP Address / DNS Settings" (⇨ 81) or "Proxy Server Settings" (⇨ 81), then press [OK].

📖

● Refer to the operating instructions of the hub or router.

Watching digital broadcasts

📖

- The length of time the digital channel information is displayed can be changed. (⇒ 80, On-Screen Information)
- This unit may be able to receive free cable television but it cannot receive paid services.
- This unit does not have an analogue broadcast tuner.

Using Channel List

After performing step ⎡1⎤ (⇒ left)

1 **Press [OK].**

```
All Digital Channels
  1  OOOO
  2  OOOO
  3  OOOO
  4  OOOO              ──── Station names
  5  OOOO
  6  OOOO
  7  OOOO
     Select
     ◎ RETURN
  ▭      ▭      ▭      ▭
```

2 **Select the station, then press [OK].**

⎡1⎤ **Press [INPUT SELECT] a few times and select "TV".**

```
Input Selection
AV1
AV2
DV
TV
     Select
Change ◎
       RETURN
```

● It will switch when the display disappears.

⎡2⎤ **Press [∧ ∨ CH] to select the channel.**

Everytime you change the station, digital channel information appears automatically.

Unit's display;

● You can also select the channel with the numbered buttons.

Digital channel information

Press [STATUS ⓘ].

```
❶
1 ○○○○                    10:30  All Digital Channels
NEWS                            Select favourites ☐
9:00 - 11:00        ◀ Now ▶         Set timer  ☐
Rating: G      Dolby D    [⊡]      [≣]   I/II
                          ❷       ❸    ❹
```

❶ Current Favourites
❷ Subtitle
❸ Teletext
❹ Multiple audio

To show detailed information about the programme
Press [STATUS ⓘ] again.

To hide the information screen
Press [STATUS ⓘ] once or twice.

To change Favourites
Press the "Blue" button.
● Selection of channel is made easy by creating a Favourites of the channels you watch often. (⇨ 74, Favourites Edit)

To switch information of the current programme and the next programme
Press [◀, ▶].

To switch information of the other channel and select the programme
Press [▲, ▼], then press [OK].

➢ **Doing timer recording of the programmes displayed on the digital channel information. (⇨ 31)**

Operations whilst watching a DVB broadcast

To show subtitle

Press [STTL ⊞].
● Press again to hide the subtitle.

Switching audio of the TV broadcast

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

📖
● You can not change the audio channel (L, R) in following cases.
  – When "Rec for High Speed Copy" is set to "On". (⇨ 77)
  – When the recording mode is XP and "Audio Type for XP Recording" is set to "LPCM". (⇨ 79)

To show Teletext

When "≣" appears in digital channel information (⇨ left)

① **Press [TEXT≣].**
② **Press [▲, ▼], the numbered buttons, or the colour buttons to select the page.**

● Follow the instruction on the screen to select the page.

To exit the teletext screen
Press [TEXT≣].

📖
● The teletext function depends on respective stations.

Using TV Guide system

Press [GUIDE].

FRI 01.01	Landscape	All Types	FRI 01.01.2010 14:54 All Digital Channels

3 〇〇〇〇
23:00-23:45 Vacation

Time:	23:00	23:30	0:00	0:30	1:00
1 〇〇〇〇	Skilful workman			Penguin	
2 〇〇〇〇	Kitten		House dog		Wea
3 〇〇〇〇	Vacation	Hunting			
4 〇〇〇〇	Pampas grass			News	
5 〇〇〇〇	News		Com Shopping		
6 〇〇〇〇	Venus			Moon	
7 〇〇〇〇	Construction				

Select Channel
OK
Select Programme
RETURN
Info
OPTION
GUIDE Portrait/Landscape
+24 hours
Prog. Type
Favourites
Page Up
Page Down

Page up/down
Press [∧ ∨ CH].

To view a programme list for another day
Press the "Red" button (Previous) or the "Green" button
(Next).

Select the programme to view

① **Select the programme, then press [OK].**

Menu
View
Timer Rec Set
Timer Rec Edit
Timer Rec Cancel
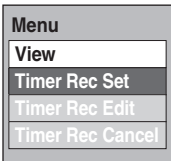
② **Select "View", then press [OK].**

To see programme information
(Programmes with the ⓘ symbol)

Press [STATUS ⓘ].
Additional information is available for these programmes.

To show other pages
Press [CH ∧] (Previous) or [∨ CH] (Next).

Switch between Landscape view and Portrait view

While displaying TV Guide screen
Press [GUIDE].

Landscape view

FRI 01.01	Landscape	All Types	FRI 01.01.2010 14:54 All Digital Channels

3 〇〇〇〇
23:00-23:45 Vacation

Time:	23:00	23:30	0:00	0:30	1:00
1 〇〇〇〇	Skilful workman			Penguin	
2 〇〇〇〇	Kitten		House dog		Wea
3 〇〇〇〇	Vacation	Hunting			
4 〇〇〇〇	Pampas grass			News	
5 〇〇〇〇	News		Com Shopping		
6 〇〇〇〇	Venus			Moon	
7 〇〇〇〇	Construction				

Select Channel
OK
Select Programme
RETURN
Info
OPTION
+24 hours
Page Up

FRI 01.01	Portrait	All Types	FRI 01.01.2010 14:54 All Digital Channels

◄ 2 〇〇〇〇 3 〇〇〇〇 4 〇〇〇〇 5 〇〇〇〇 6 〇〇〇〇 ►

23:00-23:45	Vacation ⓘ
23:45-2:30	Hunting
2:30-3:00	Hootball
3:00-5:45	Baseball
5:45-6:30	Ballet
6:30-7:00	Hourse riding
7:00-10:00	Curling
10:00-10:45	Arm wrestling

Select Programme
OK
Select Channel
RETURN
Info
OPTION
GUIDE Portrait/Landscape
+24 hours
Prog. Type
Favourites
Page Down

Portrait view

To search from the desired programme type or Favourites

① **Press the "Yellow" button (programme type) or the "Blue" button (Favourites).**
② **Select the item, then press [OK].**

Landscape view	The unit displays programmes in grey that do not belong to the selected programme type.
Portrait view	Only the selected programme types are displayed.

To return to the previous TV Guide list
Select "All Types" of the programme type or "All Digital
Channels" of the Favourites in step ②.

📖

● Favourites and programme types may not be assigned correctly
depending on the programme information.
● Some broadcast may not send programme information.

➢ **Set the timer recording (⇨ 28)**

Pause Live TV

You can pause the TV programme you are watching using this unit's tuner and resume later by temporarily saving it on the HDD.

≥ You can operate the "Pause Live TV" function using TV remote control if you connect this unit to TV that has "HDAVI Control 3" or later function with an HDMI cable.

1 When you want to pause the TV programme while watching TV

Press [❚❚].

```
                          HDD
                         PAUSE
                      PAUSE LIVE TV
```

2 When you want to resume

Press [▶] (PLAY/×1.3).

≥ You can perform search or Quick View, etc. during Pause Live TV.

To stop Pause Live TV
1 Press [■].
2 Select "Yes", then press [OK].

To display status message
Press [STATUS ⓘ]

Current time

The time when the picture currently displayed on the television was broadcasted

```
18:53:50 11.11.2009
Live  18:53.50            Play  18:40.12
```

📖
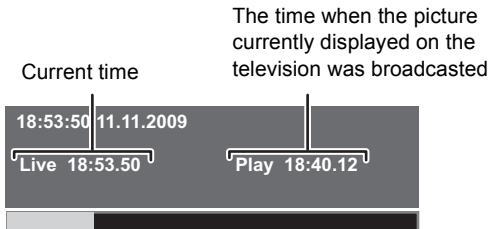
● Temporary save is stopped in following cases.
  – When save time exceeds 8 hours (This may vary depending on the HDD free space.)
  – When save time exceeds 1 hour with no HDD free space
  – When 2 programmes are recorded simultaneously
  – When a timer recording from external input started. (Pause Live TV from external equipment)
● The Pause Live TV function does not work
  – The clock is not set.
  – While 2 programmes simultaneous recording
  – While watching a programme being recorded
  – When a radio programme is selected

Recording digital broadcasts

HDD

1 **Press [INPUT SELECT] a few times and select "TV".**

2 **Press [∧ ∨ CH] to select the channel.**

You can also select the channel with the numbered buttons.

3 **Press [REC MODE] to select the recording mode.**

e.g.,

Recording Mode	
Recording Mode	**Remain**
DR	**17:44**
HG	20:35
HX	30:52
HE	46:25
HL	62:11
HM	89:42
XP	27:49
SP	55:39
LP	111:19
EP	222:00

It can be recorded with the same quality of the broadcast.

● Recording modes (⇨ 27, 100)

4 **Press [● REC] to start recording.**

"REC1" or "REC2" will light

REC1

Unit's display
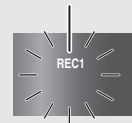
5 **To stop recording Press [■].**

If the following screen appears

Stop Recording

Recording [○○○○]

Recording of the above channel is in progress.
To stop recording, select "Yes" or press STOP.
Stop this recording ?

Yes	No

OK
RETURN
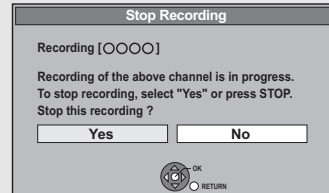
Select "Yes", then press [OK].

- When recording in DR mode, all subtitles and multiple audio are recorded if a programme to record has subtitle or multiple audio. It can be switched while playing back the title.
- When recording in HG, HX, HE, HL, HM, XP, SP, LP or EP modes, subtitles cannot be recorded. Multiple audio will be recorded with the contents selected when the recording starts, and the switching cannot be done after the recording.
- Press [AUDIO] to select audio mode before recording.

Operation during Recording

Check the recording programme

Press [STATUS ⓘ].

e.g., while 2 programmes simultaneous recording

```
HDD
REC1
1
○○○○
```
Recording programme displayed on the TV screen

```
5○○○○ REC2
```
Recording programme not displayed on the TV screen
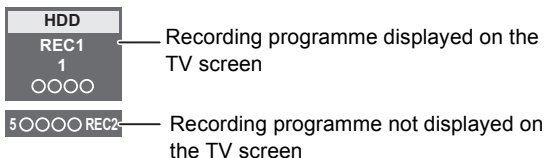
Switch the Channel

Press [∧ ∨ CH].

Display the recording programme on the TV screen

It is necessary to display the recording programme onto the TV screen to perform operations such as pause.

- If the input was switched: Press [INPUT SELECT].
- If the channel was switched: Press [∧ ∨ CH].
- If the drive was switched: Press [DRIVE SELECT].

Chasing playback

Playback from the beginning of the title in the HDD, while the title is being recorded to the HDD.

① **Press [DIRECT NAVIGATOR] during recording.**

```
DIRECT NAVIGATOR          Grouped Titles                 VIDEO
□ HDD              Time Remaining 45:54 (DR)
  All      Not Viewed   Movies    Drama    Sport   Video (AVCHD)
         Channel   Date    Title Name                          Titles
         ○○○○    04.10   Birds                                 1
         ○○○○    04.10   World news                            1
         ○○○○    29.10   Football                              1
         ○○○○    29.10   Dogs and Cats                         1
             ●           Start Time 22:46  Rec time 0:01(DR)
                         Genre: Drama                          ⓘ

                                         Page 003/003      Page Up ∧
○ PLAY                                                     Page Down ∨
  RETURN      ○ OPTION      DEL Delete
    PICTURE / MUSIC                       Select
```
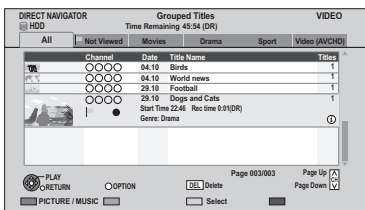
"●" is displayed on the recording programme.

② **Press [▲, ▼] to select a title, then press [OK].**

To stop recording

It is necessary to display the programme you want to stop on the TV screen. (⇨ left)

Press [■].

To pause recording

It is necessary to display the programme you want to pause on the TV screen. (⇨ left)

Press [❙❙].
- Press again to restart recording.
  You can also press [● REC] to restart.
  (Title is not split into separate titles.)
- If paused while recording in DR mode, the paused part may become a still picture for a moment during playback of that programme.

Perform 2 programmes simultaneous recording

Record other programme with steps ① – ④ on page 24.
"REC1" and "REC2" will light

```
REC1
REC2
```
Unit's display
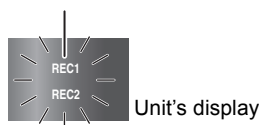
- You can simultaneously record only when the recording media are HDD and HDD.
- One of the 2 programmes needs to be recorded with DR mode.

📖

- 2 programmes simultaneous recording is not possible in following conditions:
  – While recording from DV input, or executing "Flexible Recording via AV input"
  – While high speed copying
- Channel switch/input switch while performing 2 programmes simultaneous recording will switch between the 2 recording programmes.

Recording digital broadcasts

One Touch Recording
(To specify a time to stop recording)

During recording
Press [● REC] on the main unit to select the recording time.
● You can select the time from 30 minutes to 4 hours.

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

📖

● When "Automatic Standby after OTR" is set to "On" in the Setup menu, this unit is turned to standby mode when this unit is not operated for approximately 5 minutes after completing One Touch Recording. (⇨ 82)

Flexible Recording
(Recording that fits the remaining disc space)

[HDD]

The title is recorded to the size of a new DVD (4.7 GB) by automatically selecting optimal quality between XP and EP (8 hours).

1 **While stopped**
Press [F Rec].

```
Flexible Recording
Please set recording time. Record in FR mode.
Maximum recording time
         8 hour 00 min.
Set recording time
  0 Hour   00 Min.   Start   Cancel

   OK
  RETURN
```

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

2 Select "Hour" and "Min.", then press [▲, ▼] to set the recording time.

3 **When you want to start recording**
Select "Start", then press [OK].
● Recording starts

To stop recording partway
Press [■].

To show the remaining time
Press [STATUS ⓘ].

Recording

26
VQT2J62

Recording modes and recording contents

	Quality	Multiple audio	Subtitles	Surround audio
DR	Same as broadcasted	Record all multiple audio	Can be recorded	Surround audio as the broadcast
HG, HX, HE, HL, HM	HD quality produced by conversion of broadcast data[※1]	Record only one audio	Cannot be recorded[※2]	Surround Audio produced by conversion of broadcast audio format
XP, SP, LP, EP, FR (⇨ below)	SD quality only			Stereo audio

[※1] The SD quality programme is not converted to HD quality.
[※2] Subtitles can be recorded when it is recorded in DR mode and DR File Conversion (⇨ 43), etc. is performed.
(The subtitles cannot be switched on or off during playback.)
To record programmes with the subtitles, it is recommended to record in DR mode.

➢ **Recording modes and approximate recording times (⇨ 100)**

■ FR (Flexible Recording Mode)
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.

■ Regarding recording time remaining
● **DR mode**
Remaining time in the DR mode is calculated with a bit rate of approx. 8 Mbps. But the bit rate differs depending on the broadcast, so the displayed remaining time might be different from the actual remaining time.

● **Other recording modes**
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.

Recording

Timer recording

Timer recording of the broadcast
Recording disc: HDD
Recording mode: DR, HG, HX, HE, HL, HM, XP, SP, LP, EP

● When timer recording from the external equipment, use manually programming timer recording. (⇨ 30)

1 Press [GUIDE].
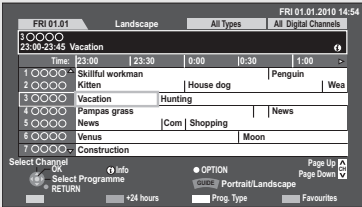
2 Select the future programme, then press [OK].

● Following screen is displayed when the programme currently broadcasting is selected.

Menu
View
Timer Rec Set
Timer Rec Edit
Timer Rec Cancel
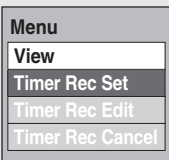
Select "Timer Rec Set", then press [OK].
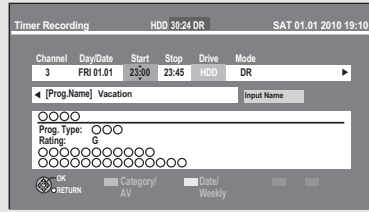
● Confirm the programme (start and end time) by using a TV magazine, etc. and make corrections if necessary using [▲, ▼, ◄, ►] (⇨ 30, step 3).

3 Select recording mode (⇨ 27, 100), then press [OK].

The timer programme is stored and the timer icon (red) is displayed.
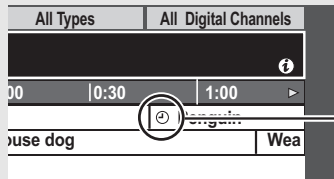
Timer icon (red)

To cancel a timer recording on the TV Guide screen
1 Select the programme in the TV Guide, then press [OK].
2 Select "Yes", then press [OK]. ("⏲" in the TV Guide disappears.)

To modify the timer recording on the TV Guide screen
1 Select the programme in the TV Guide, then press [OPTION].

Menu
View
Timer Rec Set
Timer Rec Edit
Timer Rec Cancel
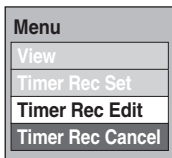
2 Select "Timer Rec Edit", then press [OK].
 (⇨ 30, step 3)

📖

● TV Guide system provides programme information only from the broadcasts station displayed on the television like a TV programme magazine.
● When recording in HG, HX, HE, HL, HM, XP, SP, LP or EP modes, subtitles cannot be recorded. Multiple audio will be recorded with the contents selected when the recording starts, and the switching cannot be done after the recording.
Select the audio to be recorded with "Audio Type for Digital Broadcast" in the Setup menu prior to the recording. (⇨ 79)
● You can set the start and finish time to make the timer recording work successfully. (⇨ 77, Timer Record Start Buffer, Timer Record Stop Buffer)
● You can enter up to 32 programmes up to a month in advance. (Each daily or weekly programme is counted as one programme.)
● TV Guide does not work if the clock is not set correctly.
● The receipt of the TV Guide system data is only possible via the aerial input of this unit. The receipt of the TV Guide data via externally connected Set Top Box is not possible.
● Some broadcast may not send programme information. Set the timer recording manually (⇨ 30).

Recording

Timer recording

Manually programming timer recording

Timer recording of the broadcast
Recording disc: HDD
Recording mode: DR, HG, HX, HE, HL, HM, XP, SP, LP, EP

Timer recording from the external equipment
Recording disc: HDD
Recording mode: XP, SP, LP, EP, FR

1 Press [PROG/CHECK].
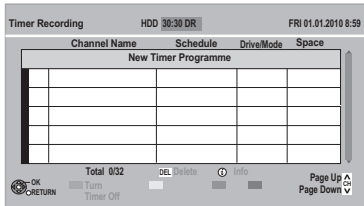
2 Select "New Timer Programme", then press [OK].

3 Select the items and change the items with [▲, ▼].
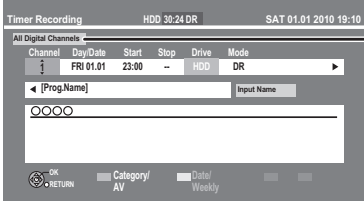
Category/AV

● **Channel**
You can press the "Red" button to change Category/AV.
● **Day/Date**
You can select "Date" or "Weekly" by pressing the "Green" button.
● **Start/Stop**
Press and hold [▲, ▼] to alter the Start (Start time) and Stop (Finish time) in 15-minute increments.
● **Mode (⇨ 27, 100)**
● **Renew (Auto Renewal Recording)**
The unit will record the new programme over the old one, when weekly recording or daily recording is selected.
● **Input Name**
Press [OK]. (⇨ 69, Entering text)

4 Press [OK].

The timer programme is stored and the timer icon (red) is displayed.

Timer icon (red)
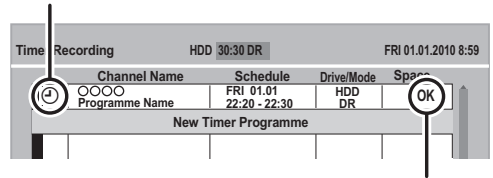
Check for available space on HDD, when the "!" is displayed. (⇨ 32)

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

Timer recording from digital channel information

1 While watching broadcast

Press [STATUS ⓘ].

2 Display the programme to record in the digital channel information (⇨ 21).

3 Press the "Yellow" button.

4 Go to step ③ on page 28, "Timer recording".

● You cannot change "Channel" and "Day/Date".

To cancel recording when timer recording has already begun

Press [INPUT SELECT] or [∧ ∨ CH] to display the programme that you want to stop recording on the TV screen while 2 programmes are simultaneously recording.

1 Press [■].

e.g.,

Stop Recording
Recording [○○○○]
Timer recording of this programme in progress. Stop this timer recording ?
Yes | No
OK / RETURN
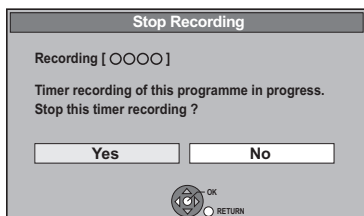
2 Select "Yes", then press [OK].

If you stop a timer recording, it will be cancelled. However, if you have already set a weekly, daily timer recording, the recording will start at the next scheduled time.

Notes on timer recording

● Depending on the state of the unit, playback may stop when recording begins.
● Timer recordings do not begin while copying in normal speed mode.
● If you should turn the unit off during the timer recording, the recording is continued.
● When you programme successive timer recordings to start, last 1 minute of those programme will not be recorded.

Programme   Programme

Not recorded
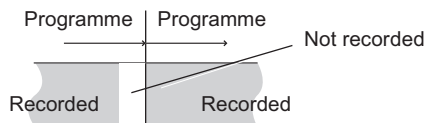
Recorded   Recorded

First 1 minute of the following programme is not recorded.
Starting of the timer recording while executing other operation (⇨ 95)

Recording

Confirm and edit the timer programme

Press [PROG/CHECK].
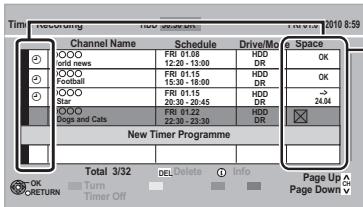
— **Icons**

⏱	Red: Timer recording standby is activated. Grey: Timer recording standby is deactivated.
●	Currently recording programme.
🕐	Part or all of the programme will not be recorded since the programme is overlapping.
🛑	The disc was full.
▨	Copy-protected programme, it was not recorded.
⊠	The programme did not complete recording because of some reason.
⟲	Auto Renewal Recording is set (⇨ 30).
OK:	Displayed if the recording can fit in the remaining space.
→ **(Date):**	Daily or weekly timer programme is set. (up to a maximum of one month from the present time)
! :	It may not be possible to record because: ● there is not enough space left. ● the number of possible titles has reached its maximum. (⇨ 100) ● programmes are deactivated.

To see programme information

Press [STATUS ⓘ].
Additional information is available for these programmes.

Deactivate a programme

Select the programme, then press the "Red" button.
● The timer icon "⏱" (⇨ left) will change from red to grey.
● Press the "Red" button again to activate timer recording standby. (The timer icon "⏱" will change to red.)

Change a programme

Select the programme, then press [OK].
(⇨ 28, step ②)

Delete a programme

Select the programme, then press [DEL].

To exit the timer recording list
Press [PROG/CHECK].

📖

● Failed programmes are deleted from the timer recording list at 4 a.m. two days later.

Playing DVD-Video

DVD-V

① **Insert a disc.**
  ● Play starts from the point specified by the disc.

② **Select the item, then press [OK].**
  ● Some items can also be selected using the numbered buttons.
  ● Playback starts.

➢ **Operation during play (⇨ 35)**

To display Top menu
1 Press [OPTION].
2 Select "Top Menu", then press [OK].
● If the Top menu is not displayed
  Press [DIRECT NAVIGATOR].

Playing recorded video contents

HDD RAM -R -R DL -RW(V) +R +R DL
+RW -RW(VR) SD USB

1 ■ HDD:
Press [DIRECT NAVIGATOR].
e.g., HDD DIRECT NAVIGATOR (VIDEO)
screen

DIRECT NAVIGATOR		Grouped Titles			VIDEO
HDD		Time Remaining 45:54 (DR)			
All	Not Viewed	Movies	Drama	Sport	Video (AVCHD)

	Channel	Date	Title Name		Titles
	○○○○	29.10	Dogs and Cats		1
			Start Time 22:46 Rec time 0:01(DR)		
			Genre: Drama		ⓘ
	○○○○	04.10	Birds		1
	○○○○	04.10	World news		1
	○○○○	29.10	Football		1

		Page 003/003	Page Up
○ PLAY			
○ RETURN	○ OPTION	DEL Delete	Page Down
PICTURE / MUSIC		Select	Copy
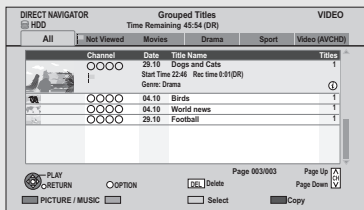
■ **Except HDD:**
Insert the media, then select the item in the menu screen (⇨ 17), then press [OK].

DivX:

● It will go to step ② automatically if only DivX content is recorded on the disc.

AVCHD:

● If the Top Menu screen or DIRECT NAVIGATOR screen is not displayed, press [▶] (PLAY/×1.3).

---

2 **Select the title, then press [OK].**

● **Resume play function**
If the following screen appears

Playback

Where do you want to start playback from ?

| Last Stopped | Beginning |

OK
RETURN

You can choose to start the playback from the point you have last stopped, or from the beginning.

➢ **Operation of DIRECT NAVIGATOR (VIDEO) (⇨ 37)**
➢ **Regarding DivX (⇨ 39)**

📖

● Multiple titles may not playback continuously depending on the disc. Press [DIRECT NAVIGATOR], and playback by selecting the title.
● Playback of DivX is not possible during recording.

If the menu screen is not displayed

1 Press [FUNCTION MENU].
2 Select "Playback Contents", then press [OK].
3 Select the item, then press [OK].

To playback of the playlist created on other equipment

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

Operation during play

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

Stop

Press [■].

The stopped position is memorized.

Resume play function

Press [▶] (PLAY/×1.3) to restart from this position.

- The resume play function does not work depending on the disc.

Stopped position

HDD : Stopped position for each title is memorized.

Discs: Only previous stopped position is memorized. The position is cleared if the tray is opened or the unit is turned off.

Search

Press [◀◀] or [▶▶].

- The speed increases up to 5 steps. (+R +R DL +RW Up to 3 steps)
- Press [▶] (PLAY/×1.3) to restart play.
- Audio is heard during first level search forward. DivX: Audio is not heard during all levels search.

Manual Skip

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

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

- Each time you press, play skips forward or backward.
- DivX: This function is not effective.

Quick View

Press and hold [▶] (PLAY/×1.3).

Play speed is quicker than normal.

- Press again to return to normal speed.
- -RW(VR), DivX: This function is not effective.
- -RW(V) It will not work even if it is finalised.

Pause

Press [❚❚].

Press [❚❚] again or [▶] (PLAY/×1.3) to restart play.

Slow-motion

While paused, press [◀◀] or [▶▶].

The speed increases up to 5 steps.

- Press [▶] (PLAY/×1.3) to restart play.
- DivX: This function is not effective.
- AVCHD: Forward direction [▶▶] only.

Playing back video

Playing recorded video contents

Frame-by-frame

While paused, press [◄] (◄II) or [►] (II►).
Each press shows the next frame.

- Press and hold to change in succession forward or backward.
- Press [►] (PLAY/×1.3) to restart play.
- DivX: This function is not effective.
- AVCHD: Forward direction [►] (II►) only.

Skip

During play or while paused, press [I◄◄] or [►►I].
Skip to the title or chapter you want to play.

- It will skip to the beginning of chapters (⇨ 44) if the title contains chapters.
- HDD It will not skip the title. But the title in the grouped titles during the "Grouped Playback" (⇨ 38) will be skipped.

Skipping the specified time (Time Slip)

①**Press [TIME SLIP].**
②**Select the time, then press [OK].**
Play skips the specified time.

- Press and hold [▲, ▼] to change the time by 10-minute.)

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

-5min.

- DVD-V, DivX and AVCHD: This function is not effective.

Status messages

Press [STATUS ⓘ].

e.g.,

18:53:50 01.01.2010
HDD 45:53 DR
T1 0:05.14 XP   T2 0:10.10 DR
                 T3 0:00.10 DR

0:30.00
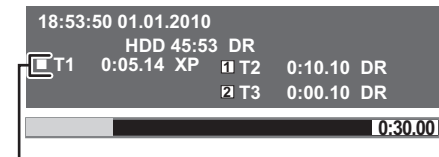
Title number and elapsed time during play and recording mode

Changing audio

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

Display the subtitle

- HDD
  Press [STTL ▦].

- DVD-V, DivX and AVCHD:
  Display with "Subtitles" in the Disc menu (⇨ 70).

Using the DIRECT NAVIGATOR (VIDEO)

You can quickly find the recorded titles and easily play them by using DIRECT NAVIGATOR (VIDEO) screen.

Press [DIRECT NAVIGATOR].

e.g., HDD

Display status (Grouped Titles or All Titles) (⇨ 38)

Genre Label (HDD only)

Label∗

```
DIRECT NAVIGATOR          Grouped Titles          VIDEO
HDD          Time Remaining 45:54 (DR)
   All      Not Viewed   Movies    Drama    Sport   Video (AVCHD)
           Channel    Date   Title Name                       Titles
           OOOO    29.10  Dogs and Cats                       1
                   Start Time 22:46  Rec time 0:01(DR)
                   Genre: Drama                                 ⓘ
           OOOO    04.10  Birds                                 1
           OOOO    04.10  World news                            1
           OOOO    29.10  Football                              3

                                      Page 003/003      Page Up
   PLAY                                                  Page Down
   RETURN      OPTION         DEL Delete
   PICTURE MUSIC                     Select          Copy
```

Icons (⇨ right)

Selected title

Thumbnail (HDD only)

∗ Label will only display "All" when using media other than HDD.

Screen icons

●	Currently recording.
🔒	Title protected.
▱	Title was not recorded due to recording protection
×	Title cannot be played (When copying a title to the HDD, or when data is damaged etc.)
✎	Group titles (HDD only)
▌	Title has not yet been played (HDD only)
NTSC PAL	Title is recorded using a different encoding system from that of the TV system on the unit. Alter the "TV System" setting on this unit to suit (⇨ 80).
ᙍ	Radio programme
G	Title is restricted by Child Lock (Parental Rating) (⇨ 76). ● You can check the Rating in Information (⇨ 38)

Regarding Label

HDD

Titles recorded to HDD will be categorized automatically.

Press [◄, ►] to select the label.

Genre Label: Titles sorted in categories according to
(News, Movie, etc.) the information of the recorded programme
● Some titles may not be sorted correctly.

Video (AVCHD): High Definition video acquired from the disc, SD card or USB device

Switching the screens

■ HDD

① **Press the "Red" button.**

② **Select "PICTURE" or "MUSIC", then press [OK].**

■ RAM

Press the "Red" button.
The screen switches from "VIDEO" to "PICTURE".

Playing back video

DIRECT NAVIGATOR (VIDEO) operation

Switching of the Navigator

`HDD`
① **Press [OPTION].**
② **Select "Grouped Titles" or "All Titles", then press [OK].**

● **Grouped Titles screen**
Two or more titles recorded in the Daily/weekly timer recording mode are bundled and displayed as one item.

Select the item marked with 🖱, then press [OK] to display the bundled titles.

● **All Titles screen**
Displays all titles.

To change the Genre Label

`HDD`
Genre displayed in the Genre Label can be changed.
Select the Genre Label, then press the "Green" button.

● "All", "Not Viewed" and "Video (AVCHD)" cannot be changed.

Information

Information is shown
Select the title, then press [STATUS ⓘ].

Grouped Playback

`HDD`
Play the titles continuously
Select the group, then press [▶] (PLAY/ ×1.3).

To edit the group of titles

`HDD`
① **Select the title or the group, then press the "Yellow" button.**

A check mark is displayed. Repeat this step until you select all necessary titles.
● Press the "Yellow" button again to cancel.
② **Press [OPTION].**
③ **Select the item, then press [OK].**

Create Group:	Selected titles are bundled to form a group. **Select "Create", then press [OK].**
Release Grouping:	All the titles in the group are released. **Select "Release", then press [OK].**
Remove:	Selected titles are removed from the group. **Select "Remove", then press [OK].**

To change the group name

`HDD`
① **Select the group, then press [OPTION].**
② **Select "Edit", then press [OK].**
③ **Select "Enter Title Name", then press [OK].**
④ **Enter the name. (⇨ 69, Entering text)**
● Even if the group name is changed, the title names in the group will not be changed.

To copy the titles

`HDD` → `RAM` `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`
`RAM` → `HDD`

① ■ **To copy single title**
When recordable disc is inserted
Select the title you want to copy.

■ **To copy multiple titles**
When recordable disc is inserted
Press the "Yellow" button to select the titles you want to copy.
A check mark is displayed. Repeat this step until you select all necessary titles.
● Press the "Yellow" button again to cancel.

② **Press the "Blue" button.**

③ **Go to step ⑦ on page 45, "Copying titles".**

📖

● These functions for group are only available for videos and not available for music and still pictures.

Playing back video

Regarding DivX

ABOUT DIVX VIDEO:

DivX® is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video. Visit www.divx.com for more information and software tools to convert your files into DivX video.

Using the tree screen to find a folder

① **While the file list is displayed**
   Press [OPTION].

② **Select "Select Folder", then press [OK].**
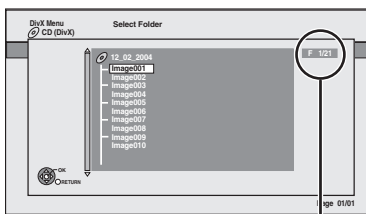
F: Selected folder no./Total folder no. including DivX title.

You cannot select folders that contain no compatible files.

③ **Select a folder, then press [OK].**

The file list for the folder appears.

Regarding DivX VOD content

-R -R DL CD

ABOUT DIVX VIDEO-ON-DEMAND:

This DivX Certified® device must be registered in order to play DivX Video-on-Demand (VOD) content.
To generate the registration code, locate the DivX VOD section in the device setup menu.
Go to vod.divx.com with this code to complete the registration process and learn more about DivX VOD.

■ Display the unit's registration code.

(⇨ 83, "DivX Registration")
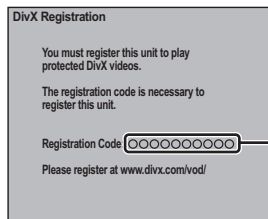
DivX Registration screen before registration

10 alphanumeric characters

- ≥After playing DivX VOD content for first time, the registration code is not displayed.
- ≥If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content.

Cancel the unit's registration
(⇨ 83, "DivX Registration")
Select "Yes" in "DivX Registration".
Use the deregistration code to cancel the registration in www.divx.com.

Regarding DivX VOD content that can only be played a set number of times
Some DivX VOD contents can only be played a set number of times. When you play this content, the number of times already played and initially playable number of times is displayed.

- ≥The remaining number of plays decreases each time a programme is played. However, when playing from the point where play was previously stopped, the remaining number of plays does not decrease due to the resume play function.

Playing back video

Deleting recorded video contents

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

HDD RAM -R -R DL -RW(V) +R +R DL +RW
(You cannot delete items on finalised discs.)
● **A title cannot be restored once it is deleted.** Make certain before proceeding.

1 **While stopped**
Press [DIRECT NAVIGATOR].
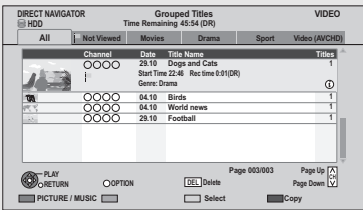
```
DIRECT NAVIGATOR          Grouped Titles                   VIDEO
 HDD                   Time Remaining 45:54 (DR)
   All    Not Viewed   Movies      Drama      Sport   Video (AVCHD)
           Channel     Date    Title Name                    Titles
           0000        29.10   Dogs and Cats                    1
                               Start Time 22:46  Rec time 0:01(DR)
                               Genre: Drama                      ⓘ
           0000        04.10   Birds                            1
           0000        04.10   World news                       1
           0000        29.10   Football                         1

                                          Page 003/003   Page Up ∧
    PLAY                                                 Page Down ∨
    RETURN    OPTION          DEL  Delete
    PICTURE / MUSIC                    Select        Copy
```

2 **Select the title, then press the "Yellow" button.**
A check mark is displayed. Repeat this step until you select all items you wish to delete.
● Press the "Yellow" button again to cancel.

3 **Press [DEL].**

4 **Select "Delete", then press [OK].**

Deleting during play

① **While playing**
   Press [DEL].
② **Select "Delete", then press [OK].**

■ Available disc space after deleting

● HDD RAM The space deleted becomes available for recording.

● -RW(V) +RW Available recording space increases only when the last recorded title is deleted.

Later recorded titles

| Title | Deleted | ...... | Last title recorded | Available disc space |
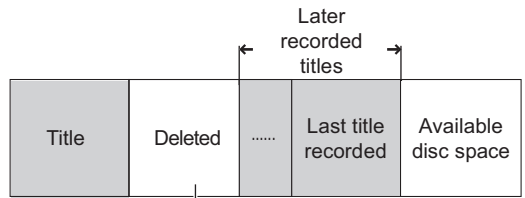
This space becomes available for recording after all the later recorded titles are deleted.

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

Editing video

Editing recorded video contents

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

Editing titles

`HDD` `RAM` `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`

● You cannot edit finalised discs.

1 Press [DIRECT NAVIGATOR].

2 Select the title.

e.g., `HDD`

| DIRECT NAVIGATOR | Grouped Titles | | | | VIDEO |
| HDD | Time Remaining 45:54 (DR) | | | | |

| All | Not Viewed | Movies | Drama | Sport | Video (AVCHD) |

	Channel	Date	Title Name		Titles
	0000	29.10	Dogs and Cats		1
			Start Time 22:46 Rec time 0:01(DR)		
			Genre: Drama		①
	0000	04.10	Birds		1
	0000	04.10	World news		1
	0000	29.10	Football		1

PLAY / RETURN · OPTION · DEL Delete · Select · Copy · Page 003/003 Page Up Page Down
PICTURE / MUSIC
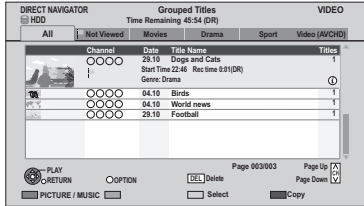
● **Multiple editing**
Press the "Yellow" button.
A check mark is displayed. Repeat this step until you select all necessary titles.
● Press the "Yellow" button again to cancel.

3 Press [OPTION].

4 Select the item, then press [OK].

Playback	Enter Title Name
Delete Title	Set up Protection
Information	Cancel Protection
Edit	Partial Delete
Chapter View	Divide Title
Create Group	Change Thumbnail
Release Grouping	Change Genre
All Titles	DR File Conversion
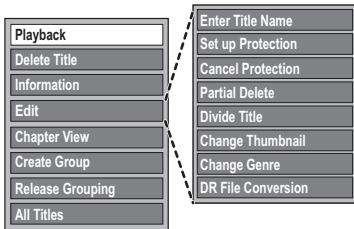
Deleting

① **Select "Delete Title", then press [OK].**
② **Select "Delete", then press [OK].**

Entering title name

Select "Enter Title Name" in "Edit", then press [OK].

(⇨ 69, Entering text)

Changing protection

`HDD` `RAM` `+R` `+R DL` `+RW`

| DIRECT NAVIGATOR | Gr |
| HDD | Time Remai |

| All | Not Viewed | Movies |

	Channel	Date
	0000	29.10
	🔒	Start Tim
		Genre: D
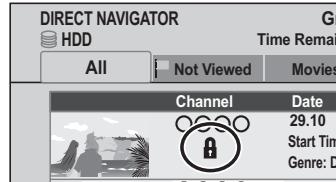
If set, this will protect the title from accidental deletion.

① **Select "Set up Protection" or "Cancel Protection" in "Edit", then press [OK].**
② **Select "Yes", then press [OK].**

🔒 appears when setting the protection.

Partial deleting

`HDD` `RAM`

Monster	⏸		Start
			End
			Next
			Continue
			0:43.21
	Start	End	Please set the start point with playback operation and skip.
	--:--:--	--:--:--	
OK RETURN			
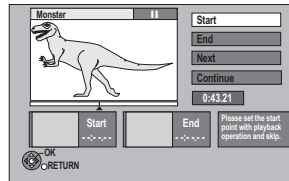
① **Select "Partial Delete" in "Edit", then press [OK].**

② **Press [OK] at the start point and end point to delete.**
● Press [▶] (PLAY/×1.3) to start the playback when the title is paused.

③ **Select "Continue", then press [OK].**
● Select "Next", then press [OK] to delete other sections. Up to 20 sections can be set. (⇨ go to step ②)

④ **Select "Delete", then press [OK].**
● Chapter Mark is generated in the scene that was partially deleted.

⑤ **Press [RETURN ⏎].**

📖

● You can find the desired point by using search or Time slip function, etc.
● You cannot set points if they are too close to each other. You cannot set an end point before a start point.

Editing recorded video contents

Dividing title

`HDD` `RAM`

Monster PLAY ▶
Divide
Preview
Continue
0:00.22
Divide
▲
OK
RETURN
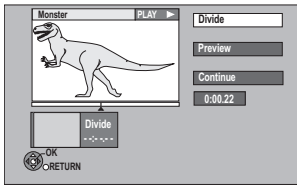
① **Select "Divide Title" in "Edit", then press [OK].**

② **Press [OK] at the point you want to divide the title.**

③ **Select "Continue", then press [OK].**

④ **Select "Divide", then press [OK].**
- **To confirm the division point**
  Select "Preview", then press [OK]. (The unit plays 10 seconds before and after the division point.)
- **To change the division point**
  Restart play and select "Divide", then press [OK] at the division point.

📖

- Video and audio just before and after the division point may momentarily cut out.
- `HDD` Divided titles form a group of titles.
- You can find the desired point by using search or Time slip function, etc.

Changing thumbnail

`HDD` `RAM` `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`

Monster ‖
Change
Finish
0:00.00
Change
Start play and select the image of a thumbnail.
▲
OK
RETURN
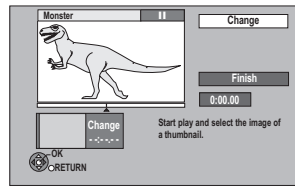
① **Select "Change Thumbnail" in "Edit", then press [OK].**

② **Press [▶] (PLAY/✕1.3) to start play.**

③ **Press [OK] at the point to use as a thumbnail.**

- **To change the thumbnail**
  Restart play and select "Change", then press [OK] at the point to change.

④ **Select "Finish", then press [OK].**

📖

- `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW` It is possible to change the image displayed on the top menu after finalising or Creating Top Menu.
- You can find the desired point by using search or Time slip function, etc.

Changing genre of title

`HDD`
Genre information in the title can be edited.

Change Genre
Select the item for genre change.
Genre 1   News
Genre 2   (No Genre)
Genre 3   (No Genre)
Set   Cancel
OK
RETURN
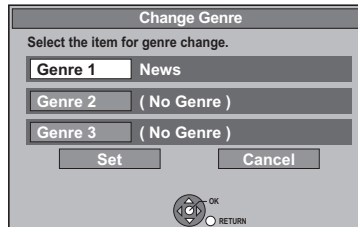
① **Select "Change Genre" in "Edit", then press [OK].**

② **Select the item to change a genre, then press [OK].**

③ **Select the genre, then press [OK].**

④ **Select "Set", then press [OK].**

Editing video

DR File Conversion

HDD

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

① **Select "DR File Conversion" in "Edit", then press [OK].**

② **Select the recording mode, then press [▼].**

③ **Select whether to record the subtitle or not, then press [▼].**

```
          DR File Conversion
Convert the selected title by changing its recording mode.
Please select recording mode and other options, then press OK.

 Recording Mode      ◄        HL -- Longer Play        ►
 Subtitles                            Off
 Timing                         During standby

                          OK
                          RETURN
```
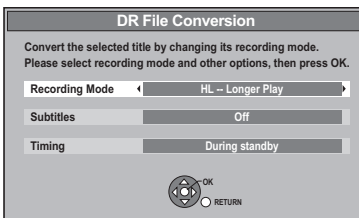
"Automatic"   Subtitles will be recorded for titles with subtitles.
               You cannot switch the subtitle on or off during the playback.

"Off"   Subtitle will not be recorded.

④ **Select when to start the conversion, then press [OK].**

"Now"   Conversion begins immediately after step ⑥.
                  Recording and playback are not available during conversion. Note also that Timer recording will not be performed during conversion.

"During standby" Conversion will be performed after the unit is turned off in a time slot for which no timer recording is set.

⑤ **Select whether to delete the original title or not, then press [OK].**

"Convert & Delete"   The original title will be deleted to save HDD capacity after conversion.

"Convert Only"   The original title remains after conversion.

⑥ ■ **To begin the "Now" conversion:**
   Select "Start", then press [OK].

   ● **To cancel a "Now" conversion**
     Press and hold [RETURN ⤴] for more than 3 seconds.

■ **To begin the "During standby" conversion:**
  Press [OK].

  ● Conversion begins soon after the unit is turned off. "COPY" on the unit's display remains lighted during conversion.

```
DIRECT NAVIGATOR        Grouped Titles                    VIDEO
HDD                 Time Remaining 45:54 (DR)
  All    Not Viewed    Movies    Drama    Sport    Video (AVCHD)
        Channel    Date   Title Name                          Titles
        OOOO   29.10  Dogs and Cats                       1
        OOOO   Start Time 22:30  Rec time 1:0 [DR→HL]
               Genre: Drama                                   ⓘ
        OOOO   04.10  Birds                                1
        OOOO   04.10  World news                           1
        OOOO   29.10  Football                             1

     PLAY                          Page 03/003    Page Up
     RETURN      OPTION      DEL Delete           Page Down
  PICTURE / MUSIC                    Select         Copy
```
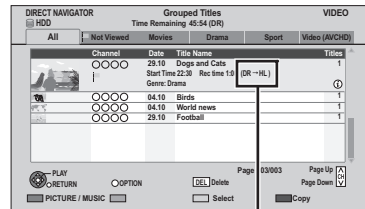
When "DR → OO (Recording mode for conversion)" is displayed, the conversion has not finished.

  ● **To cancel a "During standby" conversion**
    After performing steps 1–3 (⇨ 41)
    1 Select "DR File Conversion" in "Edit", then press [OK].
    2 Select "Yes", then press [OK].

📖

● To use "DR File Conversion", the HDD needs enough storage capacity.
● The size might increase when the recording mode is converted depending on the title, such as with radio programmes.
● DR File Conversion is stopped when the power is turned on while converting with power turned off. Conversion will start from the beginning again once the power is turned off.
● When converted, the audio content (audio type and audio channel number) will be selected according to the following settings:
  – "Audio Type for Digital Broadcast" (⇨ 79)
  – "Audio for HG / HX / HE / HL / HM Recording" (⇨ 79)
● In titles with the Auto Renewal Recording function (⇨ 30) set, a programme may be unintentionally converted while in "During standby".

Editing video

Editing recorded video contents

Create/Playback/Edit of the Chapter

HDD RAM
-R -R DL -RW(V) -RW(VR) +R +R DL +RW Only playback.

Regarding Chapters

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

Title

| Chapter | Chapter | Chapter | Chapter |

Chapter Mark
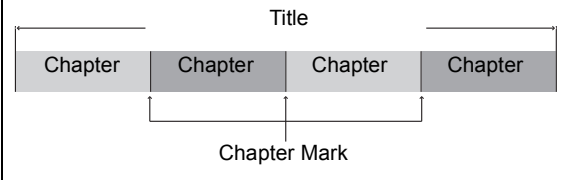
≥The maximum number of chapters on a disc:
(Depends on the state of recording.)
HDD : Approx. 1000 per title
RAM : Approx. 1000 per disc

📖
● HDD You will not be able to perform the Resume play function (⇨ 35) or the "Change Thumbnail" (⇨ 42) with a title with the maximum number of chapters.

Create Chapter Mark

During the playback or pause
Press [CHAPTER].

Chapter has been created.
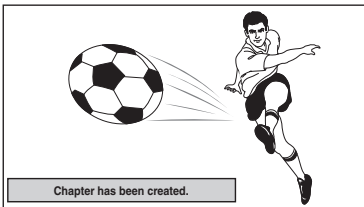
■ To delete the Chapter Mark
1 While paused
Press [◄◄, ►►I] and skip to the location you want to delete.
2 Press [CHAPTER].
3 Select "Yes", then press [OK].

Editing and playing chapters

1 **Press [DIRECT NAVIGATOR].**

2 **Select the title, then press [OPTION].**

3 **Select "Chapter View", then press [OK].**

SOCCER   Play ►
Press OK to start playing from
the selected chapter.
Selected chapter can be edited
via OPTION.
Press RETURN to go back to
previous menu.

0:12.29

001
0:00.00
OK
RETURN OPTION DEL Delete
Page 001/001
Edit Chapter Mark   Select
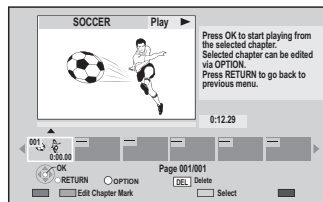
Chapter View screen

● **Edit Chapter Mark**
Select the point where you want to start a new chapter while viewing the title.

① **Press the "Green" button.**
② **Press [OK] at the point you want to divide.**
● Repeat this step to divide at other points.
③ **Press [RETURN ⤴] to go to Chapter View screen.**

4 ■ **To start play:**
Select the chapter, then press [OK].

■ **To delete chapter:**
① **Select the chapter, then press [DEL].**
● **Multiple editing**
Select the chapter, then press the "Yellow" button.
A check mark is displayed. Repeat this step until you select the chapters to be deleted.
● Press the "Yellow" button again to cancel.
② **Select "Delete", then press [OK].**

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

📖
● You cannot edit the Radio programme.

Editing video

Copying titles

HDD ↔ RAM +RW
-RW(VR) → HDD
HDD → -R -R DL -RW(V) +R +R DL

1 Insert a disc.

Menu screen appears.

e.g.,

```
DVD-RAM

Play Video
View Pictures ( JPEG )
Copy

DVD-RAM is inserted.

OK
RETURN
```
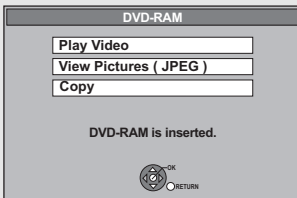
2 Select "Copy", then press [OK].

If the menu screen is not displayed

1 While stopped
  Press [FUNCTION MENU].
2 Select "Copy (VIDEO / PICTURE)" in "Copy", then press [OK].

3 Set the copy direction.

① Select "Copy Direction", then press [▶].
② Set "Source".
③ Set "Destination".
④ Press [◀] to confirm.

```
Copy

         Cancel All

1 Copy Direction          Source          HDD
  HDD → DVD
                          Destination      DVD
2 Copy Mode
  VIDEO  High Speed        Information of the copy destination
                           - DVD-RAM
3 Create List              - Copy restricted titles can be
  0                          copied on to disc

         Start Copying

RETURN          Select the copy direction.
```
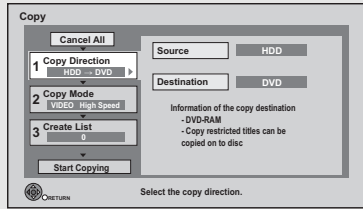
4 Set the recording mode.

① Select "Copy Mode", then press [▶].
② Set "Format" to "Video".
③ Set "Recording Mode".
④ Press [◀] to confirm.

5 Register titles for copy.

① Select "Create List", then press [▶].
② Select "New item", then press [OK].
③ Select the titles, then press [OK].

```
Create List Grouped Titles
HDD

                    Date    Channel   Time    Title Name      Titles
                    01.01  OOOO      9:00   Dogs and Cats      1
                    01.01  OOOO     15:00   Birds              1
Time    9:00        02.01  OOOO      9:30   World news         1
Rec time            03.01  OOOO     10:00   Football           1
     0:30 (DR)      03.01  OOOO     18:30   House dog          1
Size   1360 MB      04.01  OOOO      2:00   Hunting            1
                    05.01  OOOO     11:00   Shopping           1
                    05.01  OOOO     15:00   Venus              1
                    06.01  OOOO      3:45   Kitten             1
                    06.01  OOOO      9:00   Moon               1

                                          Page 003/003      Page Up
RETURN     OPTION              Select                       Page Down
```

(⇒ 46, Select the titles for the copying list)
④ Press [◀] to confirm.

6 Set other settings.

① Set other settings.
  (⇒ 46, Setting the copying options)
② Press [◀] to confirm.

7 Select "Start Copying", then press [OK].

8 Select "Yes", then press [OK] to start copying.

To cancel all registered copying setting and lists

After performing steps 1 – 2

1 Select "Cancel All", then press [OK].
2 Select "Yes", then press [OK].

📖

● -R -R DL Use "Copy Video (AVCHD) to Disc" when copying HD Video (AVCHD format) in high definition. (⇒ 49)
● Titles in the grouped titles and other titles cannot be registered simultaneously.
● RAM When copying to DVD-RAM using "8 hours" mode, play may not be possible on DVD players that are compatible with DVD-RAM. Use "6 hours" mode if playback may be on other equipment. (⇒ 77, Recording time in EP mode)

Copying video

Copying titles

Select the titles for the copying list

Select the item in step [5] –③ (⇨ 45)

Press the "Yellow" button
A check mark is displayed. Repeat this step until you select all necessary items.

- Press the "Yellow" button again to cancel.
- The items will be copied in the order of the copying list. If you want to specify the order, edit the copying list after the items are selected. (⇨ right)

- **Other operation**
  ① Press [OPTION].
  ② Select the operation, then press [OK].

> Information
> Sort
> Grouped Titles
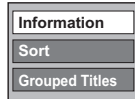
Information:	Information is shown.
Sort: (All title screen only)	Titles are sorted according to the selected item.

Copying list icons and functions

Copying list indicators

▶▶✕	Titles that cannot be copied in high speed mode to the inserted disc
(!)	Title contains still picture(s) • Still picture(s) cannot be copied.
N **(NTSC)** P **(PAL)**	Title recorded using a different encoding system from that of the TV system currently selected on the unit. • Titles displaying these marks cannot be selected.
G	Title is restricted by Child Lock (Parental Rating) (⇨ 76).

Data size of each registered item

> Destination C...
> Size: 0:00 (0%)
> No. Size Title
> New item (Total=0)
> Page 01/01
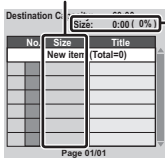
Size:
Data size recorded to the copy destination

- 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.

Editing the copying list

Select the item after step [5] –③ (⇨ 45)
① Press [OPTION].
② Select the operation, then press [OK].

> Delete All
> Add
> Delete
> Move

Delete All:	Select "Yes", then press [OK].
Add:	Add new items to the copying list. 1 Select the title, then press the "Yellow" button. A check mark is displayed. Repeat this step until you select all necessary items. • Press the "Yellow" button again to cancel. 2 Press [OK].
Delete:	Select "Yes", then press [OK].
Move:	Move selected items or change the order of items on the copying list. Select the destination, then press [OK].

Setting the copying options

Select the item in step [6] –① (⇨ 45)
① Select "Other Settings", then press [▶].
② Select the copying option, then press [OK].

Subtitles:	(Only when copying titles in DR mode and the recording mode other than High Speed is selected) 1 Select "Subtitles", then press [OK]. 2 Select "Automatic" or "Off", then press [OK].
Finalise: (HDD → -R -R DL -RW(V) +R +R DL only) **Create Top Menu:** (HDD → +RW only)	1 Select "Finalise" or "Create Top Menu", then press [OK]. 2 Select "On" or "Off", then press [OK].

> [note icon]
> - If "On" is selected, the discs become play-only and you can also play them on other DVD equipment. However, you can no longer record or edit.
> - If "Off" is selected, it is possible to perform "Finalise" or "Create Top Menu" later. (⇨ 73)

Copyable media and copy speed

■ HDD → Disc

(–: Impossible)

| Original title's recording mode | Destination | | Copy speed |
	Media	Picture quality	
DR	**RAM** **-R** **-R DL** **-RW(V)**	Original Picture Quality	–
		High Definition	–
	+R **+R DL** **+RW**	Standard Definition	Normal speed[1, 2]
HG, HX, HE, HL or HM	**RAM** **-R** **-R DL** **-RW(V)**	Original Picture Quality	–
		High Definition	–
	+R **+R DL** **+RW**	Standard Definition	Normal speed
XP, SP, LP, EP or FR	**RAM**	Original Picture Quality	High speed
		High Definition	–
		Standard Definition	Normal speed
	-R **-R DL** **-RW(V)** **+R** **+R DL** **+RW**	Original Picture Quality	High speed
		High Definition	–
		Standard Definition	Normal speed[3]

■ Disc → HDD

(–: Impossible)

| Original | | Destination picture quality | Copy speed |
Recording mode	Media		
XP, SP, LP, EP or FR	**RAM** **-RW(VR)**	Original Picture Quality	High speed
	+RW	Standard Definition	Normal speed
	-R **-R DL** **-RW(V)** **+R** **+R DL**	Original Picture Quality	–
		High Definition	–
		Standard Definition	–

[1] Subtitle is optional (⇨ 46, Setting the copying options)

[2] If programme has both Dolby Digital and MPEG audio tracks, priority is given to what you select. (⇨ 79, Audio Type for Digital Broadcast)

[3] It cannot copy at high speed in following cases:
 – Copy including a title that was recorded to HDD with "Rec for High Speed Copy" set to "Off" (⇨ 77)
 – Titles that contain many deleted segments.
 – Titles that have been copied to the HDD from an SD card or a Panasonic's video camera, etc. with HDD (SD Video) (⇨ 63).
 – **+R** **+R DL** **+RW** Titles recorded in "EP" mode and "FR (recordings 5 hours or longer)" mode.
 – **+R** **+R DL** **+RW** Titles recorded in 16:9 aspect
 – **-R** **-R DL** **-RW(V)** Titles recorded in 16:9 aspect using "EP" mode or "FR (recordings 5 hours or longer)" mode

Copying video

Copying titles

■ When copying to disc in normal speed mode `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`

You cannot copy to the disc in the following cases.
- – When there is not enough free space on the HDD.
- – When the number of titles recorded to the HDD and the number of titles to be copied to the disc is greater than 999 in total.

■ When stopping the normal speed copy during copy

Copies until the point cancelled.
- – `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW` If copy is cancelled during the step while temporarily copying to the HDD, then nothing will be copied.

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

■ About maintaining the chapter mark

- ● Position of the chapter might shift slightly.
- ● It will not maintain the exceeded amount if it exceeds the maximum chapter numbers on a disc.
  - – `RAM` `-R` `-R DL` `-RW(V)` : Approx. 1000
  - – `+R` `+R DL` `+RW` : Approx. 254
    (Depends on the state of recording.)

Copying Title Playing

`HDD` → `RAM` `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`

1 Playback the title to copy.

- ● If you also want to record the subtitles, display the subtitles by pressing [STTL ⊚].
  If you want to switch the subtitles, select the subtitles with "Subtitles" in the Disc menu. (⇨ 70)

2 Press [OPTION].

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

4 Select "Start", then press [OK].

- ● It will start copying from the beginning of the title regardless of the playing position.

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

📖

- ● You can record to or play HDD while high speed copying.
  Press [OK] to disappear the screen display.
- ● Press [STATUS ⓘ] to confirm the current progress.

> 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 (⇨ 73). To play +RW on other players, we recommend you create top menu (⇨ 73), but they may not play on all DVD players.

■ Speed and recording mode when copying

Titles in DR, HG, HX, HE, HL or HM modes

Copy destination	Copy Speed	Recording mode
`RAM` `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`	Normal speed	FR

Titles in XP, SP, LP, EP or FR modes

Copy destination	Copy Speed	Recording mode
`RAM` `-R` `-R DL` `-RW(V)` `+R` `+R DL` `+RW`	High speed※	Same as title to be copied※

※ When the copy destination (disc) does not have enough space, copy will perform at normal speed in FR mode.

Copying video

Copying HD Video (AVCHD format) from HDD

You can copy HD Video (AVCHD format) recorded on HDD by a Panasonic video camera etc. to a disc.

■ HDD → -R -R DL (High Definition)

1 Insert a new disc.

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

If the menu screen is not displayed
1 Press [FUNCTION MENU].
2 Select "Copy Video (AVCHD) to Disc" in "Copy", then press [OK].

3 Go to step 5 on page 45, "Copying titles".

📖

● This function can only be used for unformatted DVD-R or DVD-R DL.
● Discs created with this function will be automatically finalised, making recording no longer possible.

■ HDD → RAM +RW -R -R DL -RW(V) +R +R DL (Standard Definition)

Go to step 1 on page 45, "Copying titles".

● Select XP, SP, LP, EP or FR mode in step 4 –③.

Copying a finalised disc

DVD-V → HDD

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

After performing steps 1 – 4 ("Format" is automatically set to "DVD-Video") (⇨ 45, Copying titles)

1 Set "Copy Time".

① Select "Copy Time", then press [▶].
② Select "Time Setting", then press [OK].
③ Select "On", then set the copying time.
  ● When copying all the content on the disc select "Off".
④ Press [OK].

```
Copy
         Cancel All
  1 Copy Direction
     DVD → HDD              2  Hour    00  Min.
  2 Copy Mode
     DVD-Video  SP           Set the time a few minutes longer.
  3 Copy Time
     2:00
        Start Copying
  OK                        Press OK to change the setting.
     RETURN
```
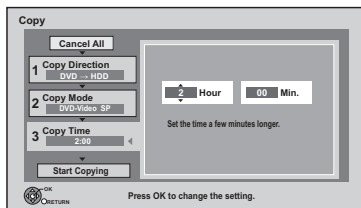
⑤ Press [◀] to confirm.

● Set a few minutes longer than the source title, in order to include the operation time before play begins.

2 Select "Start Copying", then press [OK].

3 Select "Yes", then press [OK] to start copying.

4 When the top menu is displayed
Select the title you want to start copying, then press [OK].

```
  My favorite                         01/02
  01                    02
◀ Chapter 1             Chapter 2
  03                    04
  Chapter 3             Chapter 4
                        06
```
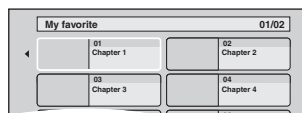
While playing in order, all the titles after the selected title are recorded until the set time. (After the last title on the disc has finished playing the top menu is recorded until the set time is reached.)

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

📖

● Operations and on screen displays during copy are also recorded.
● Almost all DVD-Video on sale have been treated to prevent illegal copying, and cannot be copied.
● The content is recorded as 1 title from the start of copy to the end.
● If play does not begin automatically press [▶] (PLAY/×1.3) to start.

Copying video

Playing still pictures

HDD RAM -R -R DL CD SD USB

1 ■ **HDD**
Press [FUNCTION MENU].

■ **RAM -R -R DL CD SD USB**
Insert the disc, the SD card or USB memory.

e.g., **SD**

SD Card
Play Video (AVCHD)
View Pictures (JPEG)
Copy Video (AVCHD)
Copy Video (MPEG2)
Copy Pictures (JPEG)
SD card is inserted.

OK / RETURN
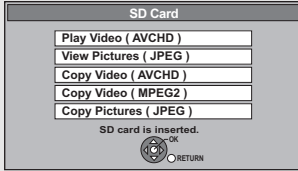
2 ■ **HDD**
Select "Picture" in "Playback Contents", then press [OK].

■ **RAM -R -R DL CD SD USB**
Select "View Pictures (JPEG)", then press [OK].

3 **Select the date of "Pictures by Date" or album of "Album", then press [OK].**

e.g., **HDD**

DIRECT NAVIGATOR — Pictures by Date — PICTURE
HDD
001 / 002 / 003 / 004 / 005 / 006
Press OK to display pictures. Page 01/01
OK / RETURN / OPTION / VIDEO / MUSIC / Select / Slideshow

"Pictures by Date" screen

4 **Select the still picture, then press [OK].**

● Press [◀, ▶] to display the previous or next still picture.

■ **Switching the DIRECT NAVIGATOR (PICTURE) appearance**

HDD RAM

Still pictures copied from SD cards and USB memories are grouped by the shooting date on Pictures by Date screen.

① Press [OPTION].
② Select "View Album" or "Pictures by Date", then press [OK].

DIRECT NAVIGATOR — Pictures by Date — PICTURE
HDD
001 / 002 / 003 / 004 / 005 / 006

Pictures by Date screen

DIRECT NAVIGATOR — Album View — PICTURE
HDD
001 / 002 / 003 / 004 / 005 / 006

Album screen

● How to create an Album (⇨ 53, Copy the selected item to new Album)

■ **DIRECT NAVIGATOR (PICTURE) screen icons**

🔒 Picture and Album protected.

🚩 **HDD**
Date that has not yet been viewed

📖

● You cannot play still pictures while recording or copying.
● 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.

Switching the screens

■ **HDD**
①**Press the "Red" button.**
②**Select "VIDEO" or "MUSIC", then press [OK].**

■ **RAM**
Press the "Red" button.
The screen switches from "PICTURE" to "VIDEO".

Start Slideshow

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

You can also start with the "Blue" button.

To stop the slideshow
Press [RETURN ⇔].

Still picture play option

1 Press [OPTION].

2 Select the item, then press [OK].

■ **While displaying DIRECT NAVIGATOR (PICTURE)**

Slideshow Settings

You can set the following items for slide show.

After completing the following settings, select "Set", then press [OK].

Slideshow Settings	
Please set the following functions.	
Display Interval ◄	Normal ►
Transition Effect	Fade
Repeat Play	On
Background Music	Off
Music Selection	Sample Music
Set	Cancel

RETURN
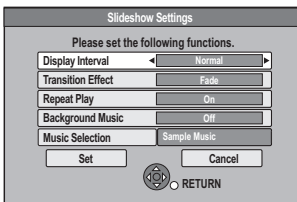
Display Interval

Transition Effect
● You can set to "Fade", "Motion" or "Random".

Repeat Play

Background Music
Music Selection
Sample music in this unit or music stored on the HDD (My Favourites or Playlists) (⇨ 57) or USB can be played during the playback of the slide show.

Information (Still picture)

Information is shown.

■ **While displaying a still picture**

Rotate RIGHT, Rotate LEFT

● Rotation information will not be stored depending on the disc or card.

Zoom in, Zoom out

● This function is only available for small-sized still pictures.

Still pictures

Editing still pictures

HDD RAM SD

1
■ **HDD**
Press [FUNCTION MENU].

■ **RAM** **SD**
Insert the disc or the SD card.

e.g., **SD**

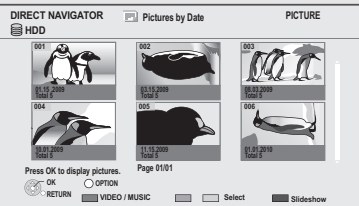| SD Card |
|---|
| Play Video (AVCHD) |
| View Pictures (JPEG) |
| Copy Video (AVCHD) |
| Copy Video (MPEG2) |
| Copy Pictures (JPEG) |

SD card is inserted.
OK
RETURN
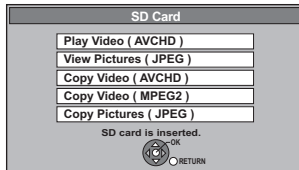
2
■ **HDD**
Select "Picture" in "Playback Contents", then press [OK].

■ **RAM** **SD**
Select "View Pictures (JPEG)", then press [OK].

3
■ **Editing an album or date:**
Select the album or date, then press [OPTION].
⇨ 50, Switching the DIRECT NAVIGATOR (PICTURE) appearance

■ **Editing a still picture:**
① **Select the item, then press [OK].**

e.g., **HDD**

DIRECT NAVIGATOR	Pictures by Date	PICTURE
HDD		

001
11.15.2009
Total 5

002
03.15.2009
Total 5

003
08.03.2009
Total 5

004
10.01.2009
Total 5

005
11.15.2009
Total 5

006
01.01.2010
Total 5

Press OK to display pictures.
Page 01/01
OK   OPTION
RETURN
VIDEO / MUSIC   Select   Slideshow
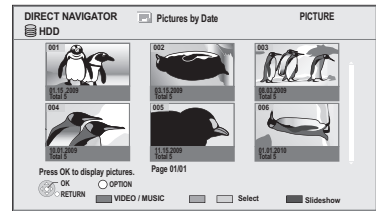
② **Select the still pictures to edit, then press [OPTION].**

● **Multiple editing**
Select the item, then press the "Yellow" button. (Repeat.)
A check mark appears. Press the "Yellow" button again to cancel.

4 **Select the operation, then press [OK].**

(e.g., **HDD** Pictures by Date)

View Album
Start Slideshow
Slideshow Settings
Copy
Change Date
Delete

→ Still picture play option (⇨ 51)

Copy to Album
Copy to New Album
Copy to DVD-RAM

Still pictures operation (⇨ 53)
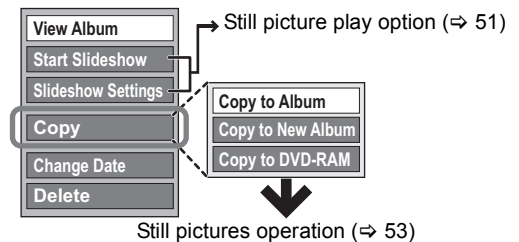
Still pictures

Still pictures operation

After performing steps 1–3 (⇨ 52)

Copy to Album

`HDD` `RAM`

① **Select "Copy to Album" in "Copy", then press [OK].**

② **Select "Start", then press [OK].**

③ **Select the destination album, then press [OK].**

● The destination album with protect setting cannot be copied to.

Copy the selected item to new Album

`HDD` `RAM`

Copy the selected item to new album.

① **Select "Copy to New Album" in "Copy", then press [OK].**

② **Select "Start", then press [OK].**

③ **Press [OK].**

④ **Select "Yes" or "No", then press [OK].**

● "Yes":
You can give names to albums. (⇨ 69, Entering text)
● "No":
Date of the first recorded picture becomes the album name automatically.
(Pictures without recording date, it will become "--.--.----".)
● After copying, the screen shows the Album screen automatically.

Copy to disc or HDD

`HDD` `RAM`

① **Select "Copy to DVD-RAM" or "Copy to HDD" in "Copy", then press [OK].**

② **Select "Start", then press [OK].**

Change the date of a folder

`HDD` `RAM`

(Pictures by Date only)

① **Select "Change Date", then press [OK].**

② **Select the item and change the date.**

③ **Press [OK].**

● A new folder will be created.
● The original folder is not deleted. Delete it if unrequired.
● If there is a same date folder, pictures move into the folder.

Enter Album Name

(Album only)

Select "Enter Album Name", then press [OK].
(⇨ 69, Entering text)

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

Changing Protection

(Album and picture list only)

① **Select "Set up Protection" or "Cancel Protection", then press [OK].**

② **Select "Yes", then press [OK].**

🔒 appears when the protection is set.
● Even if the protection is set, the album may be deleted by another unit.

Deleting

① **Select "Delete", "Delete Album" or "Delete Pictures", then press [OK].**

② **Select "Delete", then press [OK].**

Still pictures

Copying still pictures

Copying automatically

SD → **HDD**

This unit saves information about imported still pictures. Therefore, if still pictures are imported from the same SD card, then only new still pictures will be copied.

USB → **HDD**

All pictures in USB will be copied.

1 While stopped
Insert the SD card or the USB memory.

```
┌─────────────────────────────────┐
│            SD Card              │
│   Play Video ( AVCHD )          │
│   View Pictures ( JPEG )        │
│   Copy Video ( AVCHD )          │
│   Copy Video ( MPEG2 )          │
│   Copy Pictures ( JPEG )        │
│      SD card is inserted.       │
│              OK                 │
│            ○RETURN              │
└─────────────────────────────────┘
```

● Display items differ depending on what is recorded.

2 Select "Copy Pictures (JPEG)", then press [OK].

```
┌─────────────────────────────────┐
│   Copy New Pictures ( JPEG )    │
│                                 │
│   Copy from        SD CARD      │
│                                 │
│   Copy to           HDD         │
│                                 │
│   Copy added pictures ( JPEG ) by date. │
│                                 │
│       Copy          Cancel      │
│         OK                      │
│       ○RETURN                   │
└─────────────────────────────────┘
```
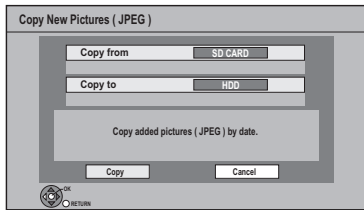
3 Select "Copy", then press [OK].

● **SD** If protection of the card is set, copy will start.
● **USB** Copy will start.

4 **SD**
Select "Copy & Delete" or "Copy Only", then press [OK].
If "Copy & Delete" is selected, copied pictures in the SD card will be deleted after copying.

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

📖

● Pictures without shooting date will be categorised using the creation date.
● If the space on the destination drive runs out or the number of files/ folders to be copied exceeds the maximum (⇨ 99), copying will stop partway through.
● This unit saves the information on up to 12,000 still pictures and 30 SD cards. If additional still pictures are imported, the older information will be deleted.

Copying using the copying list

HDD ↔ **RAM** **SD**
SD ↔ **RAM**
USB → **HDD** **RAM**

1 While stopped
Press [FUNCTION MENU].
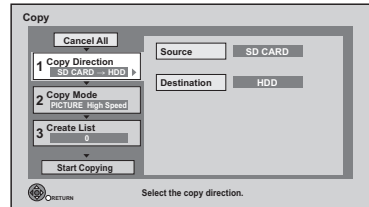
2 Select "Copy (VIDEO / PICTURE)" in "Copy", then press [OK].

```
┌─────────────────────────────────┐
│  Copy                           │
│     Cancel All                  │
│   1 Copy Direction   Source   SD CARD │
│      SD CARD → HDD ▶             │
│                   Destination   HDD │
│   2 Copy Mode                   │
│      PICTURE High Speed         │
│   3 Create List                 │
│           0                     │
│      ▼                          │
│     Start Copying               │
│  ○RETURN   Select the copy direction. │
└─────────────────────────────────┘
```

3 Set the copy direction.

① Select "Copy Direction", then press [▶].
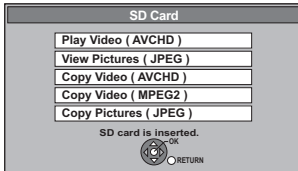② Set "Source".
③ Set "Destination".
④ Press [◀] to confirm.

4 Set the copy mode.

① Select "Copy Mode", then press [▶].
② Set "Format" to "PICTURE".
③ Press [◀] to confirm.

5 Register still pictures for copy.

● Pictures from different dates or albums will not be registered to same list.

① Select "Create List", then press [▶].
② Select "New Item", then press [OK].

```
┌─────────────────────────────────┐
│ Destination Capacity: 4343MB    │
│ ┌──────────┐                    │
│ │ New Item │     Picture        │
│ └──────────┘                    │
│  No.    Size         Title      │
│              (Total:0)          │
└─────────────────────────────────┘
```
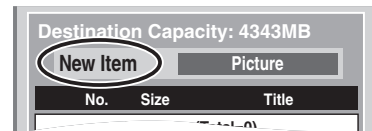
③ Select the item, then press [OK].
④ Select "New item", then press [OK].
⑤ Select the folder or still picture.
   ● To select another "Album" or "Date", press [OPTION] and select "Select Album" or "Select Date", then press [OK].
⑥ Press the "Yellow" button.
   ● A check mark is displayed. Repeat step ⑤ to ⑥ until you select all necessary items.
⑦ Press [OK].
⑧ Press [◀] to confirm.

Still pictures

6 Select "Start Copying", then press [OK].

● [Only when copied with "By Picture (Album)" from **HDD** to **RAM** **SD** or from **RAM** to **HDD** **SD**]
When specifying another album as the copying destination, select the album.

Album	New album

7 Select "Yes", then press [OK] to start copying.

To cancel all registered copying settings and lists
After performing steps 1–2 (⇨ 54)
1 Select "Cancel All", then press [OK].
2 Select "Yes", then press [OK].

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

📖

● If the number of files/folders to be copied exceeds the maximum (⇨ 99), copying will stop partway through.

Editing the copying list

Select the item after step 5–③ (⇨ 54)
① Press [OPTION].
② Select the operation, then press [OK].

Delete All
Add
Delete

Delete All:	Select "Yes", then press [OK].
Add:	1 Select the item, then press the "Yellow" button. A check mark is displayed. Repeat this step until you select all necessary items. ● Press the "Yellow" button again to cancel. 2 Press [OK].
Delete:	Select "Yes", then press [OK].

Playing music/Copying music to HDD

[-R] [-R DL] [CD] [USB] → [HDD]
- Music CD: All tracks in the CD will be recorded.
- [-R] [-R DL] [CD] [USB] (MP3) : All tracks in the folder will be recorded.
  (Cannot record track-by-track.)

- It will be recorded as 1 album to the HDD in 1 recording.
- The maximum number of tracks on HDD: 40000
  (Depends on the remaining capacity.)

1 While stopped

■ Music CD
Insert a disc.
The unit starts accessing the Gracenote®
Database and searches for the title information.

POWERED BY

gracenote.

- **If search results indicate that multiple titles were found**
Select the appropriate title, then press [OK].

- Playback will automatically start.

■ MP3
①Insert the disc or USB memory.

e.g., [USB]
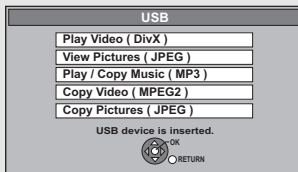
- Display items differ depending on what is recorded in each media.

②Select "Play / Copy Music (MP3)", then press [OK].
- [-R] [-R DL] [CD] Playback will automatically start if only MP3 is recorded.

2 When copying to HDD
Press the "Blue" button.

e.g., **Music CD**

Playing track
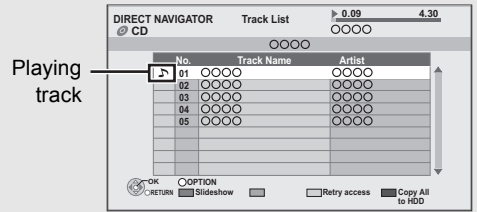
3 Select "Copy", then press [OK].
Copying starts.

📖

- Only the track/artist name will be displayed if the information is contained in ID3 tag of the MP3 file.
- If there is a large amount of still picture data etc. within a MP3 file, play may not be possible.
- While recording, no other operations can be performed. Timer recordings will not proceed.

■ About the Gracenote® Database
- This unit has an internal database containing information for approximately 350,000 album titles.
- If the title is not in the built-in database, it is possible to acquire the title automatically by connecting to the network via the Internet. (⇨ 13, 19)
- If there are music CDs with very similar title information, then the incorrect title information may be obtained. If no title suggestions are found, it is displayed as "Unknown Artist", "Unknown Album".
  In these cases, enter the music CD title information manually, after recording to the HDD has completed.

Music

To find a folder (MP3 only)

① **While the Track List is displayed**
Press [OPTION].

② **Select "Select Folder", then press [OK].**

```
DIRECT NAVIGATOR   Select Folder   ▶ 0.09
⊘ CD ( MP3 )                          ○○○○

        ⊘○○○○                    F 3/6
         ├○○○○
         └○○○○
        ─○○○○
         └○○○○
        ─○○○○
         └○○○○
        ─○○○○
        ─○○○○
 ○─OK
 ○RETURN ▼
```
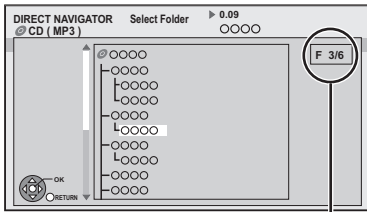
Selected folder No. /Total folder
If the folder has no track, "– –" is displayed as folder number.

③ **Select a folder, then press [OK].**

Switching the screens

[HDD]
While DIRECT NAVIGATOR (MUSIC) screen is displayed

```
DIRECT NAVIGATOR   Music Menu              MUSIC
⊟ HDD              Total Tracks  53

              ● Artists
              ⊘ Albums
              ✷ My Favourites
              ⊡ Playlists
              ⓝ Frequently Played
              ⌁ Random Play

 ⊕─OK    ○OPTION    Please select to access music.
 ○─RETURN ▢VIDEO / PICTURE  ▢      ▢      ▬
```
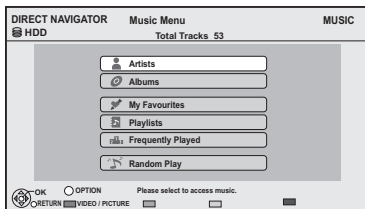
① **Press the "Red" button.**

② **Select "VIDEO" or "PICTURE", then press [OK].**

Playing music recorded on HDD

1 **When the HDD is selected**
Press [FUNCTION MENU].

2 **Select "Music" in "Playback Contents", then press [OK].**

```
DIRECT NAVIGATOR   Music Menu              MUSIC
⊟ HDD              Total Tracks  53

              ● Artists
              ⊘ Albums
              ✷ My Favourites
              ⊡ Playlists
              ⓝ Frequently Played
              ⌁ Random Play

 ⊕─OK    ○OPTION    Please select to access music.
 ○─RETURN ▢VIDEO / PICTURE  ▢      ▢      ▬
```

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

● Artists	❶
⊘ Albums	❷
✷ My Favourites	❸
⊡ Playlists	❹
ⓝ Frequently Played	❺
⌁ Random Play	❻
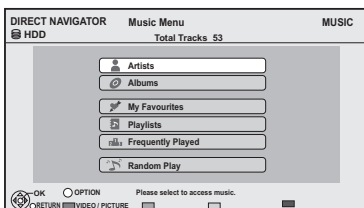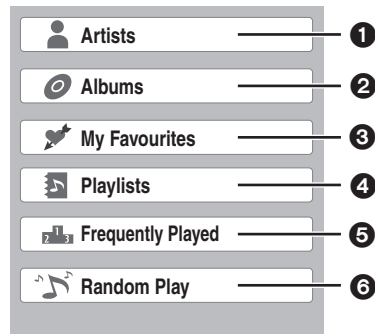
❶ Categorise by artist
❷ Categorise by album
❸ Tracks registered in "My Favourites"
❹ Tracks registered in "Playlists"
❺ Tracks played most within 200 tracks played recently (up to 30 Tracks)
❻ Random playback of all tracks

■ **When "Artists" is selected**
① Select the initial of the artist.
② Select the name of the artist, then press [OK].
③ Select the album, then press [OK].

■ **When "Albums" is selected**
① Select the initial of the album.
② Select the album, then press [OK].

■ **When "Playlists" is selected**
Select the playlist, then press [OK].

4 **Select the track, then press [OK].**

```
DIRECT NAVIGATOR   Track List   ▶ 0.09      4.30
⊟ HDD                           ○○○○

                No.  Track Name        Artist
Playing track ─ ⌁ 0001  ○○○○           ○○○○
                  0002  ○○○○           ○○○○
                  0003  ○○○○           ○○○○
                  0004  ○○○○           ○○○○
                  0005  ○○○○           ○○○○

 ⊕─OK    ○OPTION
 ○─RETURN ▢Slideshow ▢Add to My    ▢      ▢
                      Favourites
```

📖
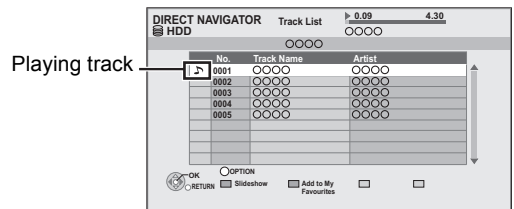
● You cannot play music tracks on HDD while copying.

Music

Playing music/Copying music to HDD

Operations during music play

`HDD` `-R` `-R DL` `CD` `USB`

Stop	Press [∎].
Pause	Press [❙❙]. Press [❙❙] again or [▶] (PLAY/×1.3) to restart play.
Search	Press [◀◀] or [▶▶]. ●Press [▶] (PLAY/×1.3) to restart play.
Skip	During play or while paused, press [❙◀◀] or [▶▶❙]. Skip to the track you want to play. ●Each press increases the number of skips.

Useful functions during music play

`HDD` `-R` `-R DL` `CD` `USB`
Operations during play

Register a track to the "My Favourites"

`HDD`
While Track List screen is displayed
Select the track, then press the "Green" button.
●Up to 99 tracks can be registered.

Information

`HDD`
While Track List screen is displayed
①**Select the track.**
②**Press [OPTION].**
③**Select "Information", then press [OK].**

Repeat Play
Random

Refer to "Play menu—Change the play sequence" in "Playback menu" (⇨ 70)

Re-master 1
Re-master 2

Refer to "Sound Effects" in "Playback menu" (⇨ 71)

Display Still Pictures (Slideshow)

Pictures stored on the "Album" of the HDD can be played back as slideshow during playback of the music.
●How to create an Album (Picture) (⇨ 53, Copy the selected item to new Album)

While playing the music
Press the "Red" button.

●**Change the pictures to display**
① While slideshow playing
Press [OPTION].
② Select "Select Picture Album", then press [OK].
③ Select the album, then press [OK].
e.g.,

Select Picture Album
Please select the album to start slideshow.
Sample Pictures
My Favourites
My Travel
While playing music a picture slideshow can be displayed.
OK
RETURN
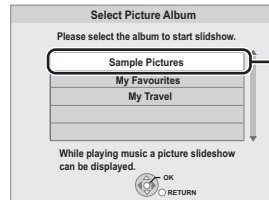
—Sample pictures pre-installed on HDD

To end the slideshow
Press [RETURN ⤺].

➢ **Playing music continuously even after turning off power to the television (⇨ 64)**

Music

Editing music/playlist

Editing music

HDD

1 Press [FUNCTION MENU].

2 Select "Music" in "Playback Contents", then press [OK].

```
DIRECT NAVIGATOR    Music Menu              MUSIC
📼 HDD                  Total Tracks  53
           👤  Artists
           💿  Albums
           ♪  My Favourites
           📋  Playlists
           ▁▂▃  Frequently Played
           🔀  Random Play

⊚OK    ○OPTION      Please select to access music.
↩RETURN ⊡VIDEO / PICTURE   ⊟         ⊟
```

● When doing "Delete All Tracks", "Clear My Favourites" or "Clear Frequently Played" (⇨ go to step 4).

3 Select the item, then press [OK].

4 Press [OPTION].

5 Select the item, then press [OK].

e.g., while selecting "Albums"

```
Delete Album
Add to Playlist
Edit Album Name
```

Album and track operation

After performing steps 1–4 (⇨ above)

Deleting all tracks

● While displaying "Music Menu" screen
① **Select "Delete All Tracks", then press [OK].**
② **Select "Yes", then press [OK].**
③ **Select "Delete", then press [OK].**

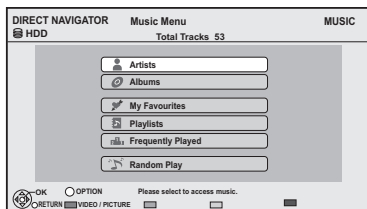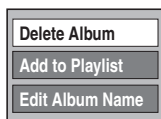● While displaying "Artists" screen
① **Select "Delete All Tracks", then press [OK].**
② **Select "Delete", then press [OK].**

Deleting Album

● While displaying "Albums" screen
① **Select "Delete Album" or "Delete", then press [OK].**
② **Select "Delete", then press [OK].**

Deleting

● While displaying "Track List" screen
① **Select "Delete", then press [OK].**
② **Select "Delete", then press [OK].**

Editing name

Select "Edit Album Name", "Edit Track Name", "Edit Artist Name" or "Edit Playlist Name", then press [OK].
(⇨ 69, Entering text)

Removing all tracks

Tracks themselves are not deleted from the HDD.

● While displaying "Playlists" screen
① **Select "Remove All Tracks", then press [OK].**
② **Select "Remove", then press [OK].**

● While displaying "Music Menu" screen
① **Select "Clear My Favourites" or "Clear Frequently Played", then press [OK].**
② **Select "Clear", then press [OK].**

Removing track

● While displaying "My Favourites" or "Frequently Played" screen
① **Select "Remove", then press [OK].**
② **Select "Remove", then press [OK].**
Selected track is removed.

Add to Playlist

You can register your favourite albums and tracks into 10 preset playlists.

● While displaying "Track List" screen of Artists or Albums
① **Select "Add to Playlist", then press [OK].**
② **Select the playlist, then press [OK].**

● New playlist cannot be added.
● Up to 999 tracks can be registered to each playlist.

Music

Recording from external equipment

Recording broadcasts from Set Top Box

Recording disc: [HDD]
Recording mode: XP, SP, LP, EP

➢ **When connecting the Set Top Box (⇨ 13)**

1 While stopped

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

2 Press [REC MODE] to select the recording mode.

● DR, HG, HX, HE, HL, HM and FR mode cannot be selected.

3 Select the channel on the other equipment.

4 Press [● REC].

Recording starts.

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

To stop recording
Press [■].

📖

● It will be recorded in standard definition quality even if the programme is in high definition quality.

Recording from a video equipment

● Turn off the unit and other video equipment before connecting.

e.g., Connecting to the AV2 or DV input terminals on the front

This unit
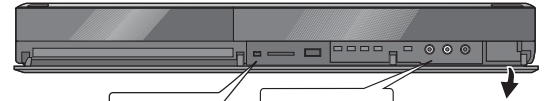
DV cable (IEEE 1394, 4-pin)

Audio/Video cable∗

Other video equipment

Connect to Audio/Video output terminals.

∗ Connect to terminals of the same colour.

When recording from the unit's DV terminal
● Select the audio type in "Audio Type for DV Input" (⇨ 79).
● When recording from DV equipment (e.g., digital video camcorder), you can record audio/video recordings from DV tape only.

📖

● The video quality will be degraded.
● While copying from DV input or executing the "Flexible Recording via AV input" (⇨ 61)
  – Copy will stop when timer recording starts.
  – Chasing playback, simultaneous rec and play, switching of input cannot be performed.
  – [-R] [-RW(V)] [+R] [+RW] Chapter will be created automatically.

With Other Equipment

Manual recording

Recording disc: HDD
Recording mode: XP, SP, LP, EP

① **While stopped**
Press [INPUT SELECT] to select the input channel.

e.g., If you have connected to AV2 input terminals, select "AV2".

② **Press [REC MODE] to select the recording mode.**

③ **Start play on the connected equipment.**

④ **Press [● REC].**

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

To stop recording
Press [■].

DV Automatic Recording

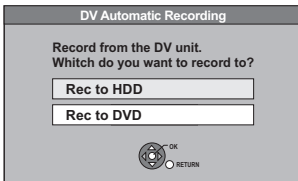**Recording disc:** HDD RAM -R -RW(V) +R +RW
Recording mode: XP, SP, LP, EP

① **Turn off this unit and DV equipment.**

② **Connect the equipment with the unit's DV input terminal (⇨ 60).**

③ **Turn on this unit.**

④ **Turn on the DV equipment, and pause play at the point you want recording to start.**

```
DV Automatic Recording

Record from the DV unit.
Whitch do you want to record to?

   Rec to HDD
   Rec to DVD

         OK
         RETURN
```

⑤ **Select "Rec to HDD" or "Rec to DVD", then press [OK].**

⑥ **Press [REC MODE] to select the recording mode.**

⑦ **Select "Start", then press [OK].**

To stop recording
Press [■].

● It is not possible to operate the unit from DV equipment.
● The DV input cannot be connected to a computer, etc.
● The DV equipment name may not be shown correctly.

> If the DV automatic recording function does not work properly, check the connections and settings, and turn the unit off and back on.
> **If that does not work, follow the instructions for manual recording (⇨ left).**

Flexible Recording via AV input

Recording disc: RAM -R -RW(V) +R +RW
Recording mode: FR

① **While stopped**
Press [INPUT SELECT] to select the input channel.

e.g., If you have connected to AV2 input terminals, select "AV2".

② **While stopped**
Press [FUNCTION MENU].

③ **Select "Others", then press [OK].**

④ **Select "Flexible Recording via AV input", then press [OK].**

```
Flexible Recording via AV input
Please set recording time. Record in FR mode.

Maximum recording time
       8 hour 00 min.
Set recording time
       8  Hour   00  Min.    Start    Cancel
     OK
     RETURN
```
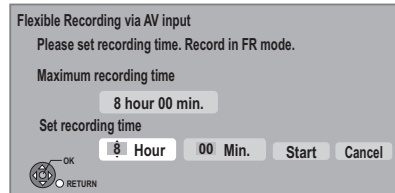
⑤ **Select "Hour" and "Min." and set the recording time.**

⑥ **Start play on the other equipment.**

⑦ **Select "Start", then press [OK].**

To stop recording partway
Press [■].

To show the remaining time
Press [STATUS ⓘ].

With Other Equipment

Copy the HD Video or the SD Video

e.g., Connecting to the Panasonic's video camera
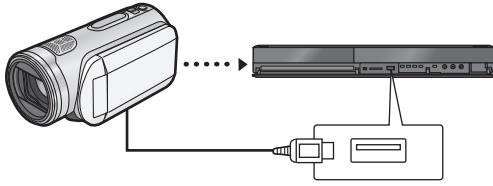
USB connection cable
(specified cable such as accessory of the USB equipment)

Copying HD Video (AVCHD format)

It is possible to copy the HD video (AVCHD format) recorded on the Panasonic's video camera, etc. to the HDD.
AVCHD (Disc) → HDD
AVCHD (SD card, video camera, etc.) → HDD

1 ■ **From a video equipment**
 Connect the video camera.
 ≥Select the appropriate mode that makes the video camera ready for data transfer on the video camera.

 ■ **From a disc or an SD card**
 Insert a disc or card.

 e.g., SD

> SD Card
> Play Video (AVCHD)
> View Pictures (JPEG)
> Copy Video (AVCHD)
> Copy Video (MPEG2)
> Copy Pictures (JPEG)
> SD card is inserted.
> OK
> RETURN

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

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

3 When copying from video equipment
 The confirmation screen appears, then press [OK].

4 **Select the title, then press the "Yellow" button.**
 A check mark is displayed. Repeat this step until you select all necessary titles.
 ≥Press the "Yellow" button again to cancel.
 (All the recordings on the same date become a title.)

5 **Press [OK].**

6 **Select "Start", then press [OK].**
 ≥It may take time for the copying to start.

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

📖

● Copy cannot be executed while recording or playback.
● An AVCHD title with more than 100 scenes will be divided into titles every 99th scene and copied.

With Other Equipment

Copying SD Video (MPEG2 format)

It is possible to copy the SD video (MPEG2 format) recorded on the Panasonic video camera, etc. to the HDD or disc.
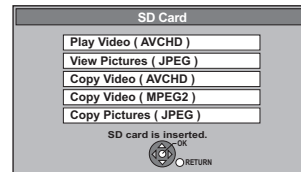SD , Panasonic's video camera → HDD RAM

1 ■ **From a video equipment**
Connect the video camera.

- ≥Select the appropriate mode that makes the video camera ready for data transfer on the video camera.

■ **From an SD card**
Insert a card.

```
┌──────────────────────────────────┐
│            SD Card                │
│  ┌────────────────────────────┐   │
│  │ Play Video ( AVCHD )       │   │
│  ├────────────────────────────┤   │
│  │ View Pictures ( JPEG )     │   │
│  ├────────────────────────────┤   │
│  │ Copy Video ( AVCHD )       │   │
│  ├────────────────────────────┤   │
│  │ Copy Video ( MPEG2 )       │   │
│  ├────────────────────────────┤   │
│  │ Copy Pictures ( JPEG )     │   │
│  └────────────────────────────┘   │
│     SD card is inserted.          │
│         ⊙—OK                      │
│         ◯ RETURN                  │
└──────────────────────────────────┘
```
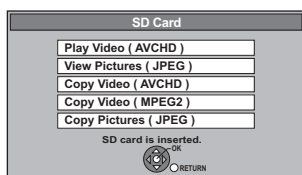
- ≥Display items differ depending on what is recorded in the card.

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

3 Select "Start Copying", then press [OK].

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

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

📖

- ● You cannot playback SD Video on an SD card or in the HDD of the Panasonic's video camera, etc. with this unit. You must copy the files to the HDD or a DVD-RAM.
- ● You cannot playback or record while copying SD Video.

With Other Equipment

Linked operations with the TV (VIERA Link "HDAVI Control™")

What is VIERA Link "HDAVI Control"?

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.

Preparation

1 Connect this unit to your TV or receiver using an HDMI cable. (⇨ 12)
2 Set "VIERA Link" to "On" (⇨ 81). (The default setting is "On".)
3 Set the "HDAVI Control" operations on the connected equipment (e.g., TV).
   - **Set the input channel on VIERA to suit the terminal to be used as "HDAVI Control".**
4 Turn on all "HDAVI Control" compatible equipment, 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.

Automatic input switching
Power on link

When the following operations are performed, the television will automatically switch the input channel and display the corresponding action. Additionally when the television is off, the television will automatically turn on.

– When play starts on the unit
– When an action that uses Direct Navigator or Function Menu etc, is performed.

Power off link

When you set the TV to standby mode, the unit is also automatically set to standby mode.

- Power off link function does not work when recording, copying, finalising etc.

Playing music continuously even after turning off power to the television[1]

The following operations make it possible to keep the power of the unit ON and to play music continuously.

When the unit is connected to an amplifier/receiver supports VIERA Link.

① **While playing music**
   Press [OPTION].

② **Select "TV Power Off", then press [OK].**

- Sound may be discontinued for several seconds when the power to the television is turned off.

Direct TV Recording[2]

This function allows you to immediately start recording the programme that you are viewing on the TV.

- Depending on the TV type connected with this unit, this function may not work if you select the TV channels on this unit.

Refer to the TV operating instructions for operation.

- The titles are recorded to the HDD.

Convenient functions

Easy control only with VIERA remote control[1]

You can operate this unit using buttons on the TV remote control.
Refer to the operating instructions of the TV about the buttons that you can use.

Using OPTION MENU

By using the TV remote control, you can play discs using the "Control Panel" (⇨ below).

① **Press [OPTION].**
② **Select an item, then press [OK].**

e.g.,

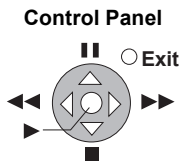| Control Panel |
|---|
| FUNCTION MENU |
| Aspect |
| Play Menu |
| Top Menu |
| Menu |
| Drive Select |

OK / RETURN

■ Using the Control Panel

Using the Control Panel, you can operate search backward, search forward, stop, etc, with the TV remote control.
Select "Control Panel" from OPTION MENU.
The Control Panel is displayed.

Control Panel

⏸ ○ Exit

◄◄   ►►

►

■

---

[1] This function is available with the TV that supports "HDAVI Control 2" or later.
[2] This function is available with the TV that supports "HDAVI Control 3" or later.

📖

● This unit supports "HDAVI Control 5" function.
  "HDAVI Control 5" is the newest standard (current as of December, 2009) for Panasonic's HDAVI Control compatible equipment. This standard is compatible with Panasonic's conventional HDAVI equipment.
  Please refer to individual manuals for other manufacturers' equipment supporting VIERA Link function.
● VIERA Link "HDAVI Control", based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed.
● These functions may not work normally depending on the equipment condition.
  About "HDAVI Control" function, read the manual of the connected equipment (e.g., TV) too.
● Use the remote control supplied with this unit if you cannot operate this unit using buttons on the TV remote control.
● The operation of this unit may be interrupted when you press incompatible buttons on the TV remote control.
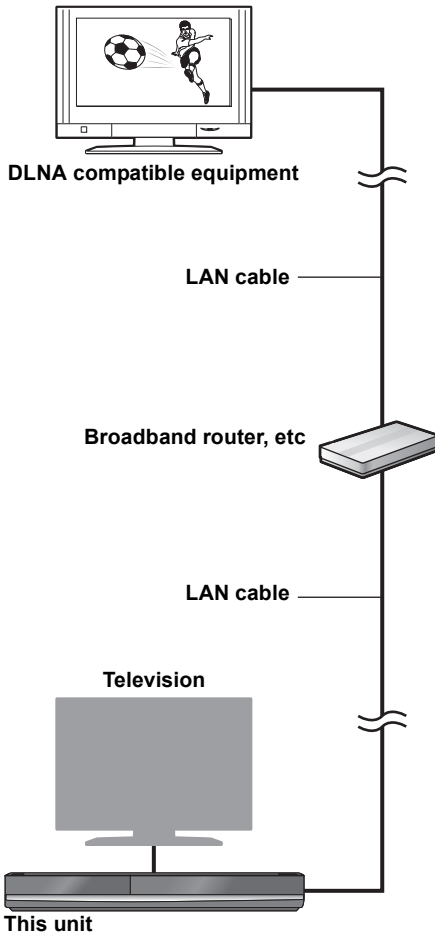
Convenient functions

DLNA feature

You can enjoy the video and still pictures saved on the HDD of this unit on DLNA compatible equipment connected via a network.

e.g.,

DLNA compatible equipment

LAN cable

Broadband router, etc

LAN cable

Television

This unit

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

**Preparation**
- Network connection (⇨ 13)
- Network Easy Settings (⇨ 19, 81)

Playing back from Panasonic DLNA compatible equipment

Register the equipment

① **While stopped**
   Press [SETUP].

② **Select "Network Settings" in "Network", then press [OK].**

③ **Select "Home Network (DLNA) Settings", then press [OK].**

Home Network (DLNA) Settings	
Home Network (DLNA)	Off
Registered devices list	
Set unit name	

OK
RETURN
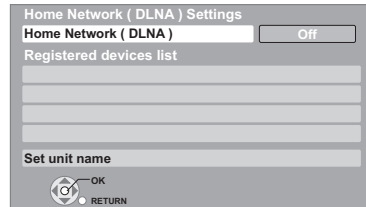
④ **Select "Home Network (DLNA)", then press [OK].**

⑤ **Select "On", then press [OK].**

⑥ **Select "Yes", then press [OK].**

⑦ **Access this unit from the connected DLNA compatible equipment within 10 minutes.**
   - Up to 4 devices can be registered.

➢ **Even if it is Panasonic equipment, you may not be able to register from "Home Network (DLNA) Settings". (⇨ 67, Register non-Panasonic equipment)**

Convenient functions

Playing back from the equipment

① **Operate the playback equipment to display the list of titles on this unit.**
- ●For operation of the equipment, refer to their respective operating instructions.

② **Select the item to playback (folder), then press [OK]**
- ●Menu structure will be different depending on the equipment connected to this unit. Select the contents by repeating the operation.
- ●Control Panel is displayed once the playback starts. Operation can be performed with [▲, ▼, ◀, ▶], [OK], [RETURN ⏎] and [EXIT].

Control Panel

e.g.
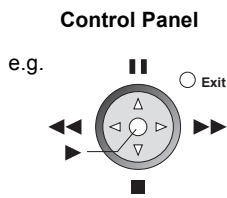
- ●Press [OK] if the Control Panel is not displayed.

➤ **Even with Panasonic DLNA compatible equipment, listing of titles or playback method may be different. (⇨ right, Playing back from non-Panasonic equipment)**

■ Register non-Panasonic equipment

1 While stopped
   Press [SETUP].
2 Select "Network Settings" in "Network", then press [OK].
3 Select "Server (DLNA) Settings", then press [OK].
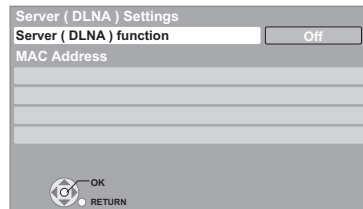
4 Select "Server (DLNA) function", then press [OK].
5 Select "On", then press [OK].
6 Select the MAC Address for the connected equipment, then press [OK].
   - ●Up to 12 devices can display the MAC Address.
   - ●Up to 4 devices can be registered.
7 Select "Yes", then press [OK].

■ Playing back from non-Panasonic equipment

Select the title on this unit from the connected equipment, and start the playback.

- ●For operation of the equipment, refer to their respective operating instructions.

📖

- ● You cannot playback the titles on other DLNA compatible equipment from this unit.
- ● Files not on the HDD cannot be played back.
- ● Music cannot be played back.
- ● Editing is not possible. (Only delete can be performed from Panasonic equipment)
- ● Programme being recorded cannot be played back.
- ● Playback via DLNA compatible equipment cannot be done when this unit is in the following conditions:
  – While simultaneously recording 2 programmes
  – While playing back a disc
  – While simultaneously performing High speed copy and recording
  – While displaying the Setup menu
  – While executing functions using a network, such as "VIERA CAST"
- ● There may be some video that cannot be played back on DLNA compatible equipment depending on the equipment.
- ● You cannot playback simultaneously from 2 or more items of DLNA compatible equipment.

Convenient functions

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Enjoying VIERA CAST™

You can access a selection of Internet services from the Home screen with VIERA CAST, for example YouTube, Picasa Web Albums. (Current as of December 2009)

Preparation
● Network connection (⇨ 13)
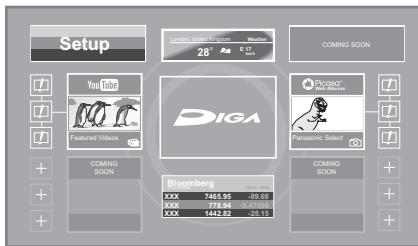● Network Easy Settings (⇨ 19, 81)

1 Press [VIERA CAST].

● Message is displayed. Please read these instructions carefully and then press [OK].

2 Press [▲, ▼, ◄, ►] to select the item, then press [OK].

● You can operate VIERA CAST using the following buttons on the unit's remote control. [▲, ▼, ◄, ►], [OK], [RETURN �], coloured buttons and numbered buttons.

VIERA CAST Home screen;
e.g.,

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

For details of VIERA CAST Home screen
Refer to a help item on the home screen.

To return to VIERA CAST Home screen
Press [VIERA CAST].

To exit from VIERA CAST
Press [EXIT].

● Set the "Lock" to "On" to restrict using VIERA CAST. (⇨ 81)
● Set the "Automatic Volume Control" to "Off" when the audio is warped while using the VIERA CAST. (⇨ 81)

📖

● If using slow Internet connection, the video may not be displayed correctly. A high-speed Internet service with a speed of at least 6 Mbps is recommended.
● Be sure to update the software (firmware) when a software (firmware) update notice is displayed on the screen.
  If the software (firmware) is not updated, you will not be able to use the VIERA CAST™ function.
● VIERA CAST™ Home screen is subject to change without notice.
● The services through VIERA CAST™ are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
● All features of websites or content of the service may not be available.
● Some content may be inappropriate for some viewers.
● Some content may only be available for specific countries and may be presented in specific languages.
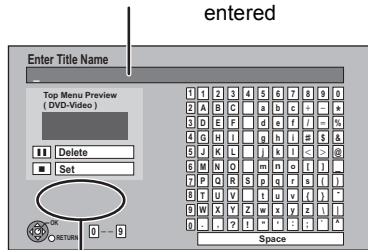● If timer recording starts, VIERA CAST™ will stop.

Convenient functions

Entering text

Preparation
● Show Enter Title Name screen.

1 Press [▲, ▼, ◄, ►] to select a character, then press [OK].

Name field: shows the text you have entered

Enter Title Name

Top Menu Preview (DVD-Video)

❚❚ Delete
■ Set

OK RETURN   0 -- 9

Space

AVCHD: If a name is long, the warning message will appear.

Repeat this step to enter other characters.

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

● **Using the numbered buttons to enter characters**

e.g., entering the letter "R"

① **Press [7] to move to the 7th row.**
② **Press [7] twice to highlight "R".**
③ **Press [OK].**
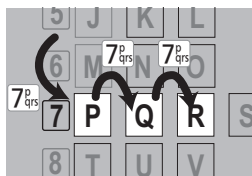
2 Press [■] (Set).

"Writing..." appears then the screen returns to the DIRECT NAVIGATOR screen and so on.

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

For your reference
The name of the DVD-Video that will be displayed in the top menu after finalisation is previewed.

Enter Title Name
Chapter1

Top Menu Preview
(DVD-Video)
Chapter 1

❚❚ Delete
■ Set

📖
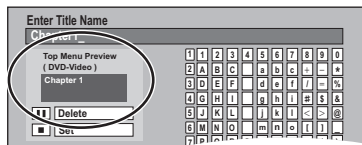
● The maximum number of characters is different depending on the media.
● If a name is long, parts of it may not be shown in some screens.

Convenient functions

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VQT2J62

Playback menu

Common procedures

1 Press [DISPLAY].

e.g.,

Disc	Audio Selection	eng (Dolby D)
Play		
Picture		
Sound		
Other		

Menu　　　　**Item**　　　　**Setting**

● The menu is not displayed when playing still pictures.

2 Select the menu, then press [▶].

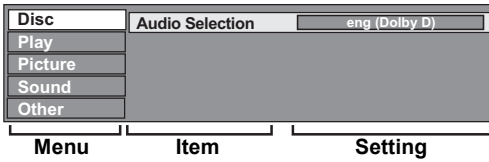### 3 Select the item, then press [▶].

4 Select the setting.

● Some items can be changed by pressing [OK].

To clear the Playback menu
Press [DISPLAY].

Depending on the condition of the unit (playing, stopped, etc.) and media contents, there may be some items that you cannot select or change.

Disc menu—Setting the disc content

Video
The original video recording method appears.
e.g., MPEG4 AVC

Soundtrack※
Show or change the soundtrack.

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

Audio Selection
Switch in the case of multiple audio.

Angle※
Change the number to select an angle.

Audio Channel
(⇨ 36, Changing audio)

※ With some discs, you may only be able to make changes using the menus (⇨ 33) on the disc.

Audio attribute

LPCM/⚫Digital/⚫Digital+/ DTS/MPEG:	Signal type
k (kHz):	Sampling frequency
b (bit):	Number of bits
ch (channel):	Number of channels

Language

ENG: English	DAN: Danish	THA: Thai
FRA: French	POR: Portuguese	POL: Polish
DEU: German	RUS: Russian	CES: Czech
ITA: Italian	JPN: Japanese	SLK: Slovak
ESP: Spanish	CHI: Chinese	HUN: Hungarian
NLD: Dutch	KOR: Korean	FIN: Finnish
SVE: Swedish	MAL: Malay	✳: Others
NOR: Norwegian	VIE: Vietnamese	

Play menu—Change the play sequence

Repeat Play
(Only when the elapsed time is being displayed on the unit's display.)
Select the item which you want to repeat. The items displayed differ depending on the type of media.

Select "Off" to cancel.

Random
(Only when playing music)
Select whether or not to play random.

Convenient functions

Picture menu—Change the picture quality

Mode
Select the picture quality mode during play.

Normal:	Default setting
Soft:	Soft picture with fewer video artifacts
Fine:	Details are sharper
Cinema:	Mellows movies, enhances detail in dark scenes. (This does not affect the titles in DR mode.)

HD optimizer
It will compensate the mosaic noise in the video and haze around the characters precisely.

Detail Clarity
The picture is sharp and detailed.

Progressive
Select the method of conversion for progressive output to suit the type of title being played. (⇨ 108)

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".
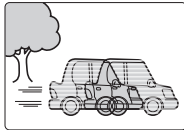
Sound menu—Change the sound effect

Sound Effects
● **Re-master 1**
● **Re-master 2**
(Discs record at 48 kHz or less)
This feature gives you a more natural sound by adding higher frequency signals not recorded on the track.

● This function is effective when the Digital Audio Output setting is set to "PCM".

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

Other menu—Change the display position

Position
Change where this menu screen appears on your TV.

Convenient functions

Disc and card management

RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR) SD

1 While stopped

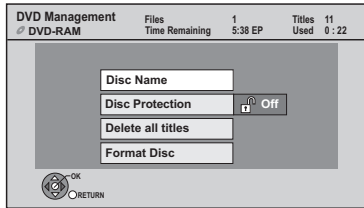**Press [FUNCTION MENU].**

2 Select "Others", then press [OK].

3 Select "DVD Management" or "Card Management", then press [OK].

```
DVD Management    Files          1          Titles  11
⊘ DVD-RAM        Time Remaining  5:38 EP    Used   0 : 22


          Disc Name
          Disc Protection        🔓 Off
          Delete all titles
          Format Disc

     ◉ OK
     ◑ RETURN
```
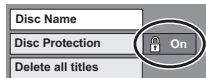
Setting the protection

RAM

After performing steps 1–3 (⇨ above)

① **Select "Disc Protection", then press [OK].**
② **Select "Yes", then press [OK].**

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

```
Disc Name
Disc Protection      🔒 On
Delete all titles
```

● Cartridge-protection (⇨ 8)

Providing a name for a disc

RAM -R -R DL -RW(V) +R +R DL +RW

After performing steps 1–3 (⇨ above)

Select "Disc Name", then press [OK].

(⇨ 69, Entering text)

● The disc name is displayed in the DVD Management window.
● -R -R DL -RW(V) +R +R DL With a finalised disc, the name is displayed on the Top Menu.
● +RW The disc name is displayed only if you play the disc on other equipment after creating top menu.

```
DVD Management    Files          1          My favourite                  01/02
⊘ DVD-RAM        Time Remaining  5:38 EP
   My favourite                              01              02
                                             Chapter 1       Chapter 2
```

📖

● Do not perform this operation when copying HD Video (AVCHD format) to DVD-R or DVD-R DL. (⇨ 49)

Delete all titles

RAM

After performing steps 1–3 (⇨ left)

① **Select "Delete all titles", then press [OK].**
② **Select "Yes", then press [OK].**
③ **Select "Start", then press [OK].**
   A message appears when finished.
④ **Press [OK].**

📖

● Still picture data (JPEG) or computer data cannot be deleted.

Format

RAM -RW(V) +RW -RW(VR)
+R +R DL (New disc only)
SD

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 (⇨ left)

① **Select "Format Disc" or "Format Card", then press [OK].**
② **Select "Yes", then press [OK].**
③ **Select "Start", then press [OK].**
④ **Press [OK].**

To stop formatting RAM
Press [RETURN ⤺].
● You can cancel formatting if it takes more than 2 minutes. The disc must be reformatted if you do this.

📖

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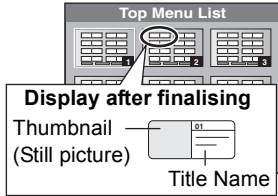● -RW(V) -RW(VR) You can format DVD-RW only as DVD-Video format on this unit.

Convenient functions

Top Menu

-R   -R DL   -RW(V)   +R   +R DL   +RW

The background selected here will be displayed as the DVD-Video top menu after finalising or Create Top Menu (+RW).

After performing steps 1–3 (⇨ 72)
1 **Select "Top Menu", then press [OK].**
2 **Select the background, then press [OK].**

```
               Top Menu List

                 ┌──────┐

            1           2           3

Display after finalising

Thumbnail ─────┐  ┌──────┐
(Still picture)   │    01 │
                  └───┬───┘
                  Title Name
```

📖

● You can change thumbnails displayed in the top menu. (⇨ 42, Changing thumbnail)

Auto-Play Select

-R   -R DL   -RW(V)   +R   +R DL   +RW

You can select whether to show the top menu after finalising or creating Top Menu (+RW).

After performing steps 1–3 (⇨ 72)
1 **Select "Auto-Play Select", then press [OK].**
2 **Select "Top Menu" or "Title 1", then press [OK].**

Top Menu: The top menu appears first.

Title 1: The disc content is played without displaying the top menu.

Finalise

-R   -R DL   -RW(V)   +R   +R DL

You can play these discs on compatible DVD players by finalising it on the unit.

After performing steps 1–3 (⇨ 72)
1 **Select "Finalise", then press [OK].**
2 **Select "Yes", then press [OK].**
3 **Select "Start", then press [OK].**
4 **Press [OK].**

After finalising
● **-R   -R DL   +R   +R DL The disc becomes play-only and you can no longer record or edit.**
● **-RW(V) You can record and edit the disc after formatting (⇨ 72).**

📖

● You cannot cancel finalising.
● Finalising takes up to 15 minutes.
  (-R DL   +R DL Finalising takes up to 60 minutes.)
● **Do not disconnect the AC mains lead while finalising.** This can render the disc unusable.
● When finalising a high-speed recording compatible disc, it may take longer than displayed on the confirmation screen (approximately four times longer).
● You cannot finalise discs recorded on other manufacturer's equipment.
● -R   -R DL   -RW(V)   +R   +R DL If you finalise discs recorded on Panasonic equipment other than this unit, the background selected as "Top Menu" may not be displayed.
● Discs finalised on this unit may not be playable on other players due to the condition of the recording.

Create Top Menu

+RW

You can create Top Menu for displaying on other equipment.

Make selections from "Top Menu" and "Auto-Play Select" (⇨ left) before creating top menu.

After performing steps 1–3 (⇨ 72)
1 **Select "Create Top Menu", then press [OK].**
2 **Select "Yes", then press [OK].**
3 **Select "Start", then press [OK].**
   ● Creating Top Menu starts. You cannot cancel creating.
   ● Creating Top Menu can take a few minutes.
4 **Press [OK].**

📖

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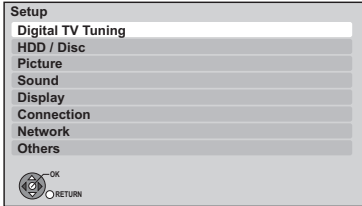
Convenient functions

Changing the unit's settings

You can change the unit's settings using Setup menu.
≥The settings remain intact even if you switch the unit to standby.

Common procedures

1 While stopped
Press [SETUP].

```
Setup
Digital TV Tuning
HDD / Disc
Picture
Sound
Display
Connection
Network
Others

            OK
            RETURN
```

2 Select the menu, then press [OK].

3 Select the item, then press [OK].

4 Select the option, then press [OK].
≥Follow the instruction on the screen if the operation method is different.
≥Depending on connection or the status of this unit some items cannot be selected or changed the settings.

∎ About the PIN
PIN is required to change the following settings. Enter following the instructions on the screen.
≥The PIN set here is common for the following items.
– Child Lock (Parental Rating)
– DVD-Video Parental Control
– Lock (Internet Content Settings)

PIN can be changed via the PIN Entry. (⇨ 82)

① Select the number, then press [▶].
≥You can also use the numbered buttons.
② Press [OK].
③ Repeat step ① to enter 4-digit PIN.
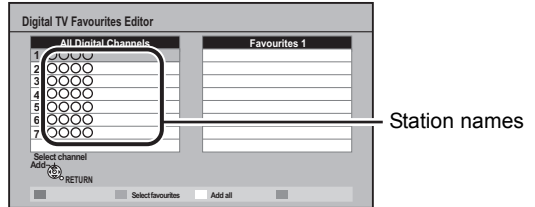④ Press [OK] to confirm.

e.g., PIN Entry

```
PIN Entry

Remember the PIN.

  0   0   0   0

            OK
```
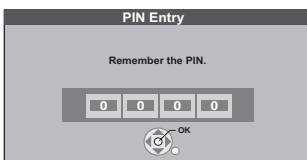
≥**Make a note of PIN in case you forget it.**

Digital TV Tuning

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

Press the "Green" button to select the Favourites to edit.

```
Digital TV Favourites Editor
      All Digital Channels          Favourites 1
1
2
3
4
5
6
7
Select channel
Add
            RETURN
                Select favourites    Add all
```

Station names

≥**To add channels to a Favourites list**
① Select the channel in the "All Digital Channels" column, then press [OK].
≥"Green": Select the "Favourites".
≥"Yellow": Add all channels.
② Press [RETURN ⤴].
③ Press [OK] to save the Favourites.

≥**To change the order of channels**
① Select the channel in the "Favourites" column to move, then press the "Green" button.
② Select the new position of the channel, then press the "Green" button.
③ Press [RETURN ⤴].
④ Press [OK] to save the Favourites.

≥**To delete channels in a Favourites list**
① Select the channel in the "Favourites" column, then press [OK].
≥Press the "Yellow" button to delete all the channels from the Favourites.
② Press [RETURN ⤴].
③ Press [OK] to save the Favourites.

≥**To change the name of a Favourites list in the Favourites column**
① Press the "Red" button in the "Favourites" column.
② Press [▲, ▼, ◄, ►] to select a character, then press [OK].
Repeat this step to enter other characters.
≥"Red": Delete character.
≥"Blue": Delete all characters.
③ Press [RETURN ⤴].
④ Press [OK] to save the Favourites.

Convenient functions

■ Channel List

You can edit the Channel List to change the channel skip setting or channel number assignments.

```
Digital TV Channel List
1 ○○○○                              ☑
2 ○○○○                              ☑
3 ○○○○                              ☑
4 ○○○○                              ☑
5 ○○○○                              ☑          Station names
6 ○○○○                              ☑
7 ○○○○                              ☑
Se
Hide        ○RETURN
   Tune        Swap        Reveal all
```
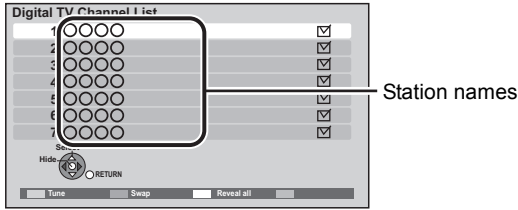
➢ To skip unwanted channels

① Select the channel.

② Press [OK].
  ≥ The check mark is removed.
  ≥ "Yellow" : Clear the all skip setting.

➢ To change the channel number assignment

① Select the channel in the "Digital TV Channel List", then press the "Green" button.

② Enter the channel number you wish to reassign with the numbered buttons.

e.g.,	5:	[0] ⇨ [0] ⇨ [5]
	15:	[0] ⇨ [1] ⇨ [5]
	115:	[1] ⇨ [1] ⇨ [5]

③ Press [OK].
  ≥ If another channel is already assigned to the channel number you wish to use, the two channels will be switched.

➢ To set the channel manually

Press the "Red" button.

"Digital TV Manual Tuning" screen appears. (⇨ right)

📖

≥ When channel numbers are added using "Update Channel List" (⇨ right) or "Manual Tuning" (⇨ right), numbers from 800ch will be assigned to the added channels.

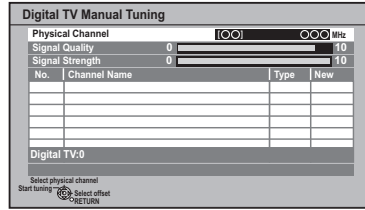## ■ Auto Setup
■ Download from TV

You can restart auto channel setting if set up (⇨ 18) fails for some reason.

Select "Download from TV" when you connect the unit to a VIERA Link (HDAVI Control 3) compatible TV with an HDMI cable.

Select "Yes", then press [OK].

■ Manual Tuning

You can set each channel manually that the Auto Setup could not complete successfully.

```
Digital TV Manual Tuning
Physical Channel                  [○○]        ○○○ MHz
Signal Quality          0                              10
Signal Strength         0                              10
No.   Channel Name                      Type   New


Digital TV:0
Select physical channel
Start tuning ◎ Select offset
            ○RETURN
```
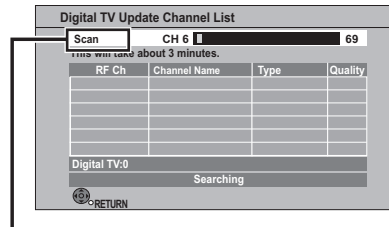
① Select the channel.

② Adjust the frequency.
  ≥ Adjust the frequency by checking the signal strength and signal quality displays.

③ Press [OK] to start scan.
  The set channel is displayed in the table.

■ Update Channel List

You can update the terrestrial digital channels to the latest one.

≥ The unit starts updating the terrestrial digital channels. This takes about 3 minutes.

```
Digital TV Update Channel List
Scan          CH 6 ▮                              69
This will take about 3 minutes.
RF Ch      Channel Name         Type        Quality


Digital TV:0
                    Searching
◎○RETURN
```

"Finished" is displayed when the search is finished.
Press [RETURN ⇧] to save the newly found channels.

Convenient functions

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Changing the unit's settings

■ Child Lock (Parental Rating)

You can restrict the viewing and recording of channels unsuitable to children.
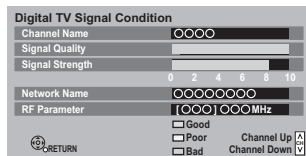
Set a ratings level to limit broadcast viewing and playback.

● Follow the on-screen instructions.
● PIN is required to change. (⇨ 74)

■ Signal Condition

You can check the quality and strength of signals.

Press [∧ ∨ CH] to select the channel.

```
Digital TV Signal Condition
Channel Name          ○○○○
Signal Quality        
Signal Strength       
                      0   2   4   6   8   10
Network Name          ○○○○○○○○
RF Parameter          [ ○○○ ] ○○○ MHz
                      ☐ Good
☐ RETURN              ☐ Poor    Channel Up   ∧
                      ☐ Bad     Channel Down ∨
```

Signal Quality

Red bar: The signal quality is bad.
Orange bar: The signal quality is poor.
Green bar: The signal quality is good.

Signal Strength

"0": Signal strength is 0%,
"10": Signal strength is 100%.

● When the signal is too strong (red bar), reduce the signal amplification at your aerial.

■ New Channel Message

When a new DVB channel is added, this unit will be informed automatically.

HDD / Disc

■ Settings for Playback

➢ Soundtrack

Choose the language for audio.
● If "Original" is selected, the original language of each disc will be selected.
● Enter a code with the numbered buttons when you select "Other ∗∗∗∗". (⇨ 83, Language code list)

➢ Subtitles

Choose the language for subtitle.
● If "Automatic" is selected and the language selected for "Soundtrack" is not available, subtitles of that language will automatically appear if available on that disc.
● Enter a code with the numbered buttons when you select "Other ∗∗∗∗". (⇨ 83, Language code list)

➢ Menu

Choose the language for disc menus.

● Enter a code with the numbered buttons when you select "Other ∗∗∗∗". (⇨ 83, Language code list)

➢ DVD-Video Parental Control

Set a ratings level to limit DVD-Video play.
● Follow the on-screen instructions.
● PIN is required to change. (⇨ 74)

Convenient functions

■ Settings for Recording

➤ Recording time in EP mode
Select the maximum number of hours for recording in EP mode (⇨ 100, Recording modes and approximate recording times).
● When recording to DVD-RAM using "8 hours" mode, it may not be possible to play on DVD players.

➤ Aspect for Recording
Sets the aspect ratio when recording or copying in HG, HX, HE, HL, HM, XP, SP, LP, EP, FR mode.
● If "Automatic" is selected, the title will be recorded with the original aspect ratio at the time when recording started (including when recording started at a commercial, etc.).
● In the following case, the programme will be recorded with the original aspect ratio.
  – **HDD** **RAM** When the recording mode is set to "XP", "SP", "LP", "EP" or "FR" with the "Rec for High Speed Copy" set to "Off"
● In the following cases, even when set to "Automatic" or "16:9", recordings will be made or copied in 4:3.
  – **-R** **-R DL** **-RW(V)** When the recording mode is set to "EP" or "FR (recordings 5 hours or longer)" mode.
  – When recording to a +R, +R DL and +RW.

➤ Rec for High Speed Copy
You can copy titles recorded in XP, SP, LP, EP or FR mode from the HDD to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW using high speed mode.
We recommend turning the setting "Off" if high speed copy to DVD-R, etc. is not necessary when recording a programme.
This setting is valid for the following cases:
– Recording from an external equipment (including DV equipment)
– Copying from a finalised DVD-Video disc.
● The following restrictions are applied to recorded titles.
  – Recordings are made using the aspect ratio set in "Aspect for Recording" (⇨ above).
  – Select the type of audio in advance from "Bilingual Audio Selection" (⇨ 78).
  – You are no longer able to switch the audio when watching a programme on an input channel on the TV connected to this unit.

➤ DVD Speed for High Speed Copy
Select the speed of high-speed copying.
If "Normal (Silent)" is selected, the time required for copying will double (approximately).

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

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

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

➤ Delete all titles
Delete does not work if one or more titles are protected.

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

Changing the unit's settings

Picture

■ Still Mode

Select the type of picture shown when you pause play
(⇨ 107, Frames and fields).

Automatic	
Field	Select if jittering occurs when "Automatic" is selected. (The picture is coarser.)
Frame	Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected. (The picture is clearer and finer.)

■ Seamless Play

Select the play mode between playlist chapter segments
and partially deleted titles.
● If you set "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×1.3).

■ NTSC Video Output

Select how the NTSC image is output.

Sound

■ Dynamic Range Compression

DVD-V

Change the dynamic range for late night viewing.

■ Downmix

Select the downmix system of multi-channel to 2-channels
sound.
● Select "Surround encoded", when the connected
  equipment supports the virtual surround function.
● There is no effect on "Bitstream" via HDMI AV OUT and
  DIGITAL AUDIO OUT.
● The audio will be output in "Stereo" in the following cases.
  – AVCHD playback

■ Bilingual Audio Selection

(Only when recording from DV input)
Select whether to record the main or secondary audio type
when:
● Copying to a DVD-R, DVD-RW (DVD-Video format), +R
  and +RW.
● "Rec for High Speed Copy" is enabled. (⇨ 77)
● Recording sound in LPCM (⇨ 79, Audio Type for XP
  Recording).
● When recording from the unit's DV terminal, select the type
  of audio recording from "Audio Type for DV Input" (⇨ 79).

Convenient functions

■ Digital Audio Output

➤ PCM Down Conversion

Select how to output audio with a sampling frequency of 96 kHz.
- It will be converted to 48 kHz regardless of the setting in following cases.
  - The signals have a sampling frequency of over 96 kHz.
  - The disc has copy protection.
- If "Off" is selected, signals are output as 96 kHz
- If "On" is selected, signals are converted to 48 kHz. (Choose when the connected equipment cannot process signals with a sampling frequency of 96 kHz.)

➤ Dolby Digital
➤ DTS
➤ MPEG

Select the audio signal to output.

📖

- Select "PCM" when the connected equipment cannot decode the respective audio format.
- Not making the proper settings may result in noise.

■ Audio Type for XP Recording

Choose the audio type when recording or copying with XP mode.

- 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.

■ Audio Type for DV Input

You can select the kind of audio when recording from the unit's DV input terminal (⇨ 60).
- If "Mix" is selected, both Stereo 1 and Stereo 2 are recorded.
- When recording bilingual broadcast, select the type of audio in advance from "Bilingual Audio Selection" (⇨ 78).

■ Audio Type for Digital Broadcast

If programme has both Dolby Digital and MPEG audio tracks, priority is given to what you select.
- This setting will give effect in the following conditions.
  - When recorded in HG, HX, HE, HL, HM, XP, SP, LP, EP or FR mode.
  - DR File Conversion (⇨ 43)
  - Normal speed copy from the title recorded in DR mode. (⇨ 45, 47)

Dolby Digital	Apart from stereo (2ch) audio, these signals can also be multi-channel audio.
MPEG	An audio compression method that compresses audio to small size without any considerable loss of audio quality.

■ Audio for HG / HX / HE / HL / HM Recording

If programme has multi channel audio, priority is given to what you select.
- This setting will give effect in the following conditions.
  - Selected audio is recorded when recorded in HG, HX, HE, HL or HM mode.
  - Convert to HG, HX, HE, HL or HM mode in "DR File Conversion" (⇨ 43)

Convenient functions

Changing the unit's settings

Display

■ On-Screen Information
Choose the approximate time until the digital channel information screen (⇨ 21) disappears automatically.

■ Unit's Display
Changes the brightness of the unit's display.
● If "Automatic" is selected the display turns dark during play and disappears when the unit is turned off. It reappears momentarily if a button is pressed. While using this mode, the standby power consumption can be reduced.

■ Screen Saver
This is to prevent burn-in on the screen.
● When this is set to "On", the masked-off area on the screen becomes grey.
Depending on the condition of the unit (Connection, Setting) the masked-off area on the screen becomes grey.

■ Teletext
Select the Teletext display mode. (⇨ 21)

Connection

Depending on the connected equipment, some items may be shaded in grey on the display and cannot be selected, or you may not be able to change the settings.

■ TV Aspect
Set to match the type of television connected.

Pan & Scan:	
Side picture is trimmed for 16:9 picture. The pictures may be shown in the letterbox style depending on the content.	
Letterbox:	
Black bands appear for 16:9 picture.	

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

■ TV System
Set in accordance with the TV System for the connected TV.

■ HDMI Connection

➢ HDMI Video Mode
Select "On" when video is output from HDMI AV OUT terminal. Select "Off" for all other conditions.

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

Convenient functions

Deep Colour Output

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

HDMI Audio Output

Select "Off" when connected to TV with HDMI cable, and connected to amplifiers not compatible with HDMI with a DIGITAL AUDIO OUT terminal

Contents Type Flag

Depending on the playback content, the TV will output adjusting to the optimal method when a TV that supports Contents Type Flag is connected.

VIERA Link

Set to use "HDAVI Control" function when connected with an HDMI cable to a device that supports "HDAVI Control".
● Select "Off" when you do not want to use "HDAVI Control".

■ Component Resolution

This sets the video output resolution when using the component video terminal.

● You cannot change the setting while the "HDMI Video Mode" is set to "On".
  Set the "HDMI Video Mode" to "Off".
● If it is set to "720p", images other than "720p" will be output as "1080i".
● Even if you select "720p" or "1080i", the video output resolution is restricted to "576p/480p" when HD contents recorded on this unit, DVD-Video discs and DivX recorded at a rate of 50 field per second and images via AV1, AV2 or DV input are output from the COMPONENT VIDEO OUT terminals.

Network

■ Network Easy Settings

Press [OK] to start Network Easy Settings. (⇨ 19)

■ Network Settings

IP Address / DNS Settings

Check the connection of the network or set the IP address and DNS.
● Press [OK] to show the respective setting.

📖
● "Connection Speed Setting" is enabled only when "Connection Speed Auto-configure" is turned "Off".

Proxy Server Settings

Check and set the connection to the Proxy server.
● Press [OK] to show the respective setting.

Internet Content Settings

Lock

You can restrict using VIERA CAST.
● Follow the on-screen instructions.
● PIN is required to change. (⇨ 74)

Automatic Volume Control

Volume that is different depending on the contents is adjusted automatically to the standard volume while using the VIERA CAST.
● Depending on contents, this function will not work.
● Select "Off" when the audio is warped.

Home Network (DLNA) Settings

You will be able to access this unit from Panasonic DLNA compatible equipment on the network by registering them to this unit. (⇨ 66)
It is also possible to change the name of this unit on the network.

Server (DLNA) Settings

By allowing access from non-Panasonic DLNA compatible equipment on the network, it allows them to access this unit. (⇨ 66)

Convenient functions

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VQT2J62

Changing the unit's settings

Others

■ Standby Settings

➢ Power Save in Standby

On	It will go into the Power Save in Standby mode.
On Timer	"Power Save in Standby" is activated when the set time comes.
Off	It is possible to start quickly from the standby mode. (Quick Start mode)

● If the clock has not been set, "Power Save in Standby" is activated at all hours.
● This function cannot be enabled when the DLNA function is enabled in "Home Network (DLNA) Settings" or "Server (DLNA) Settings". (⇨ 81)

➢ Automatic Standby

Set the time to automatically turn the unit off.
After the unit has finished operating, the unit will be turned off once the set time has passed.

➢ Automatic Standby after OTR

If "On" is selected, this unit is turned to standby mode when this unit is not operated for approximately 5 minutes after completing One Touch Recording (⇨ 26).

➢ Automatic Standby after Copy

If "On" is selected, this unit is turned to standby mode when this unit is not operated for approximately 5 minutes after completing copy (⇨ 45).

■ Remote Control

Change the remote control code on the main unit and the remote control if you place other Panasonic products close together.
● Use "DVD 1", the factory set code, under normal circumstances.

① **Select the code, then press [OK].**

To change the code on the remote control

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

● Operation is possible only with Panasonic remote controls with "IR6" printed at the bottom when the remote control code of this unit is set to "DVD 4", "DVD 5" or "DVD 6".
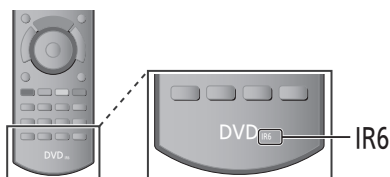
■ Clock

If the time is not set correctly, use the settings listed in the method below.
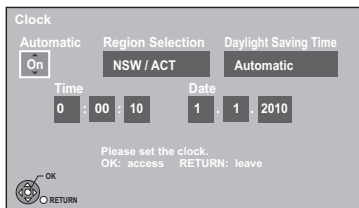
● **Automatic**
This unit usually obtains time and date information from digital broadcasts.
But, if the time is not set correctly, set it to "Off" and perform "Manual Setting".

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

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

● **Manual Setting**
① **Select "Off" of "Automatic", then press [OK].**
② **Select the item you want to change.**
③ **Change the setting.**
④ **Press [OK] when you have finished the settings.**

■ PIN Entry

You can set/change the PIN. (⇨ 74)

Convenient functions

■ System Update (⇨ 84)

➢ Software Update in Standby

When you set this unit to standby mode, software (firmware) updates are downloaded automatically at the time you have specified.

➢ Software Licence

Information about the software licence is displayed.

■ System Information

Display software (firmware) version of this unit.

■ DivX Registration

You need this registration code to purchase and play DivX Video-on-Demand (VOD) content (⇨ 39).

■ Initialize

➢ Shipping Condition

All the settings except for basic 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, disc language settings, ratings level, ratings PIN, remote control code, network settings etc. return to the factory presets.

Language code list

Enter the code with the numbered buttons.

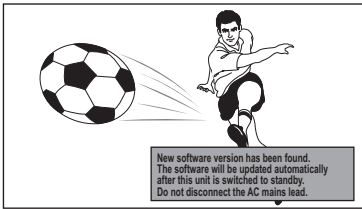| Language	Code	Language	Code	Language	Code
Abkhazian:	6566	Gujarati:	7185	Rhaeto-Romance:	
Afar:	6565	Hausa:	7265		8277
Afrikaans:	6570	Hebrew:	7387	Romanian:	8279
Albanian:	8381	Hindi:	7273	Russian:	8285
Amharic:	6577	Hungarian:	7285	Samoan:	8377
Arabic:	6582	Icelandic:	7383	Sanskrit:	8365
Armenian:	7289	Indonesian:	7378	Scots Gaelic:	7168
Assamese:	6583	Interlingua:	7365	Serbian:	8382
Aymara:	6589	Irish:	7165	Serbo-Croatian:	8372
Azerbaijani:	6590	Italian:	7384	Shona:	8378
Bashkir:	6665	Japanese:	7465	Sindhi:	8368
Basque:	6985	Javanese:	7487	Singhalese:	8373
Bengali; Bangla:		Kannada:	7578	Slovak:	8375
	6678	Kashmiri:	7583	Slovenian:	8376
Bhutani:	6890	Kazakh:	7575	Somali:	8379
Bihari:	6672	Kirghiz:	7589	Spanish:	6983
Breton:	6682	Korean:	7579	Sundanese:	8385
Bulgarian:	6671	Kurdish:	7585	Swahili:	8387
Burmese:	7789	Laotian:	7679	Swedish:	8386
Byelorussian:	6669	Latin:	7665	Tagalog:	8476
Cambodian:	7577	Latvian, Lettish:	7686	Tajik:	8471
Catalan:	6765	Lingala:	7678	Tamil:	8465
Chinese:	9072	Lithuanian:	7684	Tatar:	8484
Corsican:	6779	Macedonian:	7775	Telugu:	8469
Croatian:	7282	Malagasy:	7771	Thai:	8472
Czech:	6783	Malay:	7783	Tibetan:	6679
Danish:	6865	Malayalam:	7776	Tigrinya:	8473
Dutch:	7876	Maltese:	7784	Tonga:	8479
English:	6978	Maori:	7773	Turkish:	8482
Esperanto:	6979	Marathi:	7782	Turkmen:	8475
Estonian:	6984	Moldavian:	7779	Twi:	8487
Faroese:	7079	Mongolian:	7778	Ukrainian:	8575
Fiji:	7074	Nauru:	7865	Urdu:	8582
Finnish:	7073	Nepali:	7869	Uzbek:	8590
French:	7082	Norwegian:	7879	Vietnamese:	8673
Frisian:	7089	Oriya:	7982	Volapük:	8679
Galician:	7176	Pashto, Pushto:	8083	Welsh:	6789
Georgian:	7565	Persian:	7065	Wolof:	8779
German:	6869	Polish:	8076	Xhosa:	8872
Greek:	6976	Portuguese:	8084	Yiddish:	7473
Greenlandic:	7576	Punjabi:	8065	Yoruba:	8979
Guarani:	7178	Quechua:	8185	Zulu:	9085

Convenient functions

Software (Firmware) Update

Software of this unit can be updated automatically by following method in standby mode at the specified time (Default setting is 3 a.m. ⇨ 83, Software Update in Standby)
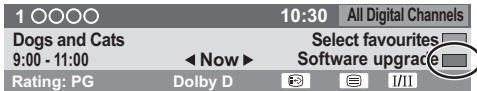
- From broadcasts
- From Internet [network connection and setting is required. (⇨ 13, 19)]
- The time it takes to update depends on the connection.
  – For Broadcast: About 2 to 4 hours
  – For Internet: About 1 hour

The download time differs depending on the network environment.

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

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

- It is displayed on the Digital channel information (⇨ 21) when the Software (Firmware) can be updated immediately.

1 ○○○○		10:30	All Digital Channels
Dogs and Cats			Select favourites
9:00 - 11:00	◄ Now ►		Software upgrade
Rating: PG	Dolby D		I/II

To execute, push the "Red" button while the digital channel information is displayed, and follow the instructions on the screen.

- Update of the software (firmware) will start when the power is turned off.

■ The unit's display during the update

e.g.,

```
SW -- DL
```

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

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

📖

- If the timer recording is scheduled within the following time at the start of the download, the download will not be executed.
  – For broadcast: Within 4 hours
  – For Internet: Within 1 hour
- You can also download the latest software (firmware) from the following website and burn it to a CD-R to update the software (firmware).
  http://panasonic.jp/support/global/cs/
- If you do not want to perform the software (firmware) update, set the "Software Update in Standby" in the Setup menu to "Off". (⇨ 83)

Convenient functions

Other Settings

Switch the aspect ratio of the screen

When black bars are shown at the top, bottom, left, and right sides of the screen, you can enlarge the image to fill the screen.

1 Press [OPTION].

2 Select "Aspect", then press [OK].

3 Select the item.

Normal:	Normal output
Side cut:	The black bars on the right and left sides of the 16:9 image disappear and the image is enlarged.
Zoom:	The black bars on the top and bottom sides of the 4:3 image disappear and the image is enlarged.

4 Press [OK].

● It may also be adjusted using the screen mode of the TV etc.
● The screen mode is switched to "Normal" in the following situations:
  – when you change channel
  – when you start or end the playback of a title
  – when the unit is turned off or on.
● **DVD-V** "Side cut" does not have any effect.
● When "TV Aspect" (⇨ 80) is set to "Pan & Scan" or "Letterbox", the "Zoom" effect is disabled.

Television operation

Once set, TV can be operated from the TV operation area of the remote control.

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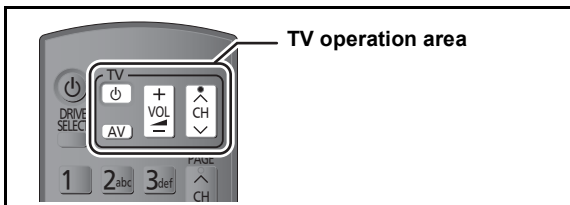
1 Point the remote control at the television
While pressing [⏻ TV], enter the code (⇨ right) with the numbered buttons.

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.

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

Manufacturer and Code No.

Brand	Code	Brand	Code
Panasonic	01/02/03/04	NEC	36
AIWA	35	NOBLEX	33
AKAI	27/30	NOKIA	25/26/27/60/61
BEKO	05/71/72/73/74	NORDMENDE	10
BENQ	58/59	OLEVIA	45
BRANDT	10/15	ONWA	30/39/70
BUSH	05	ORION	05
CENTREX	66	PEONY	49/69
CURTIS	05	PHILCO	41/48/64
DAEWOO	64/65	PHILIPS	05/06/46
DESMET	05	PHONOLA	05
DUAL	05	PIONEER	37/38
ELEMIS	05	PROVIEW	52
FERGUSON	10/34	PYE	05
FINLUX	61	RADIOLA	05
FISHER	21	SABA	10
FUJITSU	53	SALORA	26
FUNAI	63/67	SAMSUNG	32/42/43/65/68
GOLDSTAR	05/50/51	SANSUI	05
GOODMANS	05	SANYO	21/54/55/56
GRADIENTE	36	SCHNEIDER	05/29/30
GRUNDIG	09	SEG	05/69/75/76/77/78
HITACHI	05/22/23/40/41	SELECO	05/25
IRRADIO	30	SHARP	18
ITT	25	SIEMENS	09
JVC	17/30/39/70	SINUDYNE	05
KDS	52	SONY	08
KOLIN	45	TCL	31/33/66/67/69
KONKA	62	TELEFUNKEN	10/11/12/13/14
LG	05/50/51	TEVION	52
LOEWE	07/46	THOMSON	10/15/44
MAG	52	TOSHIBA	16/57
METZ	05/28	WHITE WESTINGHOUSE	05
MITSUBISHI	05/19/20/47		
MIVAR	24	YAMAHA	18/41

HOLD function

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

Press and hold [OK] and [RETURN ⇆] simultaneously until "X HOLD" appears on the unit's display.

To cancel the HOLD function
Press and hold [OK] and [RETURN ⇆] simultaneously until "X HOLD" disappears.

Convenient functions

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Messages 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.

DVD □

("□" stands for a number.)

➤ The remote control and main unit are using different codes. Change the code on the remote control.

① **Press and hold [OK] and the indicated number button at the same time for more than 5 seconds. (⇨ 82)**
② **Press and hold [OK] for more than 5 seconds.**

GUIDE

➤ TV Guide data is being downloaded. (⇨ 22)

FINISH

➤ The software (firmware) update is complete. (⇨ 84)

HARD ERR

➤ If there is no change after turning the unit on and off, consult the dealer where the unit was purchased.

NoERAS

➤ You cannot delete items on this disc.
  The disc may be damaged. Use a new disc.

NoREAD

➤ The disc is dirty or badly scratched. The unit cannot record, play, or edit. (⇨ 3)
➤ This message may appear when the lens cleaner has finished cleaning.
  Press [▲ OPEN/CLOSE] on the main unit to eject the disc. (⇨ 16)

NoWRIT

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

PLEASE WAIT

➤ Displayed when the unit is started and turned off.
➤ There was a power failure or the AC plug was disconnected while the unit was on. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.

PROG FULL

➤ There are already 32 timer programmes. Delete unnecessary timer programmes. (⇨ 32)

REMOVE

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

START

➤ Update of the software (firmware) is started.
  You cannot operate the unit until the update is complete. (⇨ 84)

SW-DL

➤ Software (firmware) is downloading.
  Download will stop when the power is turned on, or the timer recording starts. (⇨ 84)

UNSUPPORT

➤ You have inserted a disc the unit cannot play or record on. (⇨ 6)
  You tried to operate with a non-compatible USB memory.

UPD □/□

("□" stands for a number.)

➤ The software (firmware) is being updated.
  You cannot operate the unit until the update is complete. (⇨ 84)

U59

➤ 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.

U61

➤ (When a disc is not inserted) Displays when a malfunction has occurred. This is displayed when the unit is in the recovery process to return to normal operation. Once the display clears you can use the unit again.
  If it remains displayed, consult the dealer where the unit was purchased.

Troubleshooting

U72
U73

➢ The HDMI connection acts unusually.
   – The connected equipment is not HDMI compatible.
   – Please use HDMI cables that have the HDMI logo (as shown on the cover).
   – The HDMI cable is damaged.

U76

➢ HDMI cannot be output because you are connected to a model that does not support copyright protection.

U77

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

U88

➢ (When a disc is inserted) 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. Once the display clears you can use the unit again. (⇨ 88)
   If it remains displayed, consult the dealer where the unit was purchased.

U99

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

H□□ or F□□
("□" stands for a number.)

➢ There is something unusual. (The service number displayed after H and F depends on the unit's condition.)
➢ Check the unit using the troubleshooting guide. If the service number does not disappear, do the following. (⇨ 88–93)
1. Disconnect the plug from the household mains socket, wait a few seconds, then reconnect it.
2. Press [⏻/I] 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.

X HOLD
➢ The HOLD function is activated.
   Press and hold [OK] and [RETURN ⤺] at the same time until "X HOLD" disappears. (⇨ 85)

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.
Updating to the latest software (firmware) may solve the problem. (⇨ 84)

The following do not indicate a problem with this unit:

- Regular disc rotating sounds or louder rotating sounds when recording or high speed copying.
- Poor reception due to atmospheric conditions.
- Image disturbance during search.
- Interruptions in reception due to periodic terrestrial broadcasting breaks.
- When the unit is turned on or off, there may be an unexpected sound. This does not indicate a problem with this unit.

∎ The unit doesn't work.

One of the unit's safety devices may have been activated.
Reset the unit as follows:
① Press [⏻/I] on the main unit to switch the unit to standby.
  - If the unit doesn't switch to standby, press [⏻/I] on the main unit for about 3 seconds. The unit is forcibly switched to standby.
  Alternatively, disconnect the AC mains lead, wait one minute, then reconnect it.
② Press [⏻/I] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer.

∎ Cannot eject disc.

The unit may have a problem. While the unit is off, press and hold [∎] and [CH ∧] on the main unit at the same time for about 5 seconds.

Power

The power is turned off automatically.

➢ If you connected this unit to a "HDAVI Control" compatible TV with an HDMI cable, this unit will be automatically set to standby mode when the TV is set to standby mode.

Displays

The display is dim.

➢ Change "Unit's Display" in the Setup menu. (⇨ 80)

"0:00" is flashing on the unit's display.

➢ Set the clock. (⇨ 82)

The time recorded on the disc and the available time shown do not add up.

➢ -R -R DL +R +R DL The remaining capacity does not increase even if titles are deleted.
➢ Available recording space on DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted. It does not increase if other titles are deleted.
➢ If you record or edit about 200 times or more, the remaining capacity of DVD-R, DVD-R DL, +R, and +R DL is reduced and then recording or editing may be disabled (for the second layer on DVD-R DL and +R DL, this happens after about 60 times).
➢ While searching, the elapsed time may not display correctly.

Compared to the actual recorded time, the elapsed time displayed is less. (Only when recording in NTSC)

➢ The displayed recording/play time is converted from the number of frames at 29.97 frames (equal to 0.999 seconds) to one second. There will be a slight difference between the time displayed and the actual elapsed time (e.g., actual one-hour elapsed time may display as approximately 59 minutes 56 seconds). This does not affect the recording.

The clock does not display on the unit when switched to standby.

➢ The clock does not display when "Power Save in Standby" is activated. Ensure "Power Save in Standby" is set to "Off". (⇨ 82)

Available disc space display is showing different from what was used

➢ Available disc space display may be different from actual. Varying may be large especially when recorded in DR mode.

Troubleshooting

TV screen and video

Screen size is wrong.

➢ Use the television to change the aspect. If your television does not have that function, set "HDMI Video Mode" in the Setup menu to "Off" (⇨ 80) and "Component Resolution" to "576i/480i". (⇨ 81)
➢ Check the following setting in the Setup menu.
  – "TV Aspect" (⇨ 80), "Aspect for 4:3 Video" (⇨ 80)
➢ Check "Aspect for Recording" before recording or file conversion. (⇨ 77)
➢ If you connect an HDMI cable, set "Aspect for 4:3 Video" in the Setup menu to "16:9". (⇨ 80)

It may be possible to adjust the display mode on the TV. Refer to your television's operating instructions.

Pictures do not appear with the HD quality although HD setting was made.

➢ The pictures are output with 576p/480p depending on the programme.

The screen changes automatically.

➢ If there is no operation for 5 minutes or more, the displayed screen switches to the other states automatically. (only when the "Screen Saver" in Setup menu is set to "On".) (⇨ 80)

The recorded title is stretched vertically.

➢ It may have been recorded with 4:3 aspect ratio. You will be able to view in 16:9 aspect ration by setting the "Aspect for 4:3 Video" in Setup menu to "4:3". (⇨ 80)
➢ If the 16:9 aspect ratio image is output to a 4:3 TV connected with the COMPONENT VIDEO OUT terminal or the HDMI AV OUT terminal, it will be stretched vertically. Adjust by the aspect ratio setting on the TV. If you cannot make the adjustment, set the "Component Resolution" in the Setup menu to "576p/480p" and "HDMI Video Format" to "576p/480p". (⇨ 80, 81)
➢ 16:9 aspect programmes are recorded in 4:3 aspect in the following cases.
  – **-R** **-R DL** **-RW(V)** If you recorded or copied using "EP" or "FR (recordings 5 hours or longer)" recording mode.
  – If you recorded or copied to a +R, +R DL or +RW.
  – If you recorded with the "Aspect for Recording" (⇨ 77) set to "4:3" in the Setup menu.
    When you want to record 16:9 programme in the same aspect, set "Rec for High Speed Copy" (⇨ 77) to "On", and set the "Aspect for Recording" (⇨ 77) to "16:9".
  It may be possible to adjust the display mode on the TV. Refer to your television's operating instructions.

There is a lot of after-image when playing video.

➢ Set "HD optimizer" in the Picture menu to "Off". (⇨ 71)

The images from this unit do not appear on the television.

➢ Check the connection and the television's input settings.
➢ When the connected television is not progressive compatible, press and hold [■] and [▶] (PLAY/×1.3) on the main unit at the same time for more than 5 seconds. The output will be changed to interlace.
➢ The unit's "TV System" setting differs from the TV system used by the disc now playing. While stopped, keep pressing [■] and [⏏ OPEN/CLOSE] on the main unit for 5 or more seconds. The system switches from PAL to NTSC or vice versa. (⇨ 80)
➢ Picture may not be seen when more than 4 devices are connected with HDMI cables.
  Reduce the number of connected devices.

The picture is distorted during play, or video will not play correctly.

➢ The picture may be distorted or a black screen may appear between scenes recorded with different aspect ratios.
➢ DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided) discs have two writable layers on one side. Video and audio may momentarily cut out when the unit is switching layers.

Sound

No sound.
Distorted sound.

➢ Check the connections or amplifier's settings. (⇨ 12, 13, 14, 15)
➢ Press [AUDIO] to select the audio. (⇨ 36)
➢ To output audio from a device connected with an HDMI cable, set "HDMI Audio Output" to "On" in the Setup menu. (⇨ 81)

Cannot switch audio.

➢ You cannot switch the audio if "Digital Audio Output" is set to "Bitstream" (⇨ 79)

Troubleshooting

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VQT2J62

Troubleshooting guide

Operation

The remote control doesn't work.
➢ The remote control and main unit are using different codes. Change the code on the remote control. (⇨ 82)

① **Press and hold [OK] and the indicated number button at the same time for more than 5 seconds.**
② **Press and hold [OK] for more than 5 seconds.**

➢ Software (firmware) is updating when "UPD □/□" is displaying on the unit's display. Wait until the update is completed. (⇨ 84)
➢ The HOLD function is activated. (⇨ 85)

The unit is on but cannot be operated.
➢ Drive has not been selected properly.

Cannot tune channels.
Cannot download channel presets from the television.
➢ Check the connections.
➢ You must connect to a VIERA Link (HDAVI Control 3 or later) compatible TV with a HDMI cable to download channel presets. (⇨ 12)

Startup is slow.
➢ Startup takes time in the following situations:
  – A disc is inserted.
  – The clock is not set.
  – Immediately after a power failure or the AC mains lead is connected.
  – When the unit is connected with an HDMI cable.

Recording, timer recording and copying

Cannot record.
Cannot copy.
➢ Some broadcasts are copyright protected.
➢ You can not record to the disc by pressing the [● REC] or timer recording.
➢ The disc is protected with DVD Management. (⇨ 72)
➢ -R -R DL -RW(V) +R +R DL +RW Since it will copy to HDD temporarily, copying is not possible if there is insufficient available capacity on the HDD. Delete unnecessary titles on the HDD (⇨ 40)
➢ You cannot record and copy on finalised discs.
➢ -R -R DL -RW(V) +R +R DL +RW Recording or editing may not be possible on these discs after ejecting and loading the disc or turning the power on/off for approximately 30 times after being recorded to.
➢ Discs recorded on equipment other than this unit may not be able to be recorded to.
➢ This unit cannot record/copy NTSC signals to discs that already have PAL signal recordings. Play of discs recorded with both PAL and NTSC on another unit is not guaranteed.

Cannot record from external equipment.
➢ Check that the connection and input channel is correct. (⇨ 13, 60)

Cannot record 2 programmes simultaneously.
➢ There are conditions that 2 programmes simultaneous recording is possible. (⇨ 25)

Timer recording does not work properly.
➢ Refer to "Notes on timer recording" (⇨ 31)

A part or whole of a recorded title has been lost.
➢ If there is a power failure or the AC mains lead is disconnected from the household mains socket while recording or editing, the title may be lost or the HDD/disc may become unusable. We cannot offer any guarantee regarding lost programmes or discs. (⇨ 72, 77)

Troubleshooting

An unusually loud sound is coming from the rotating disc.

➢ If you want copy to perform more quietly, select "Normal (Silent)" in "DVD Speed for High Speed Copy" in the Setup menu. (⇨ 77)

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. (⇨ 60)
➢ You cannot start recording until the images from the DV equipment appear on the television.
➢ Depending on the equipment, the DV automatic recording may not operate properly.

Play

Cannot playback.

➢ The disc is dirty, scratched or marked. (⇨ 3)
➢ You tried to play a +RW that needs to have a top menu on the equipment used for recording.
➢ You cannot playback while executing the "Flexible Recording via AV input" or when recording from the DV input.

Audio and video momentarily pause.

➢ **-R DL** **+R DL** 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.

DVD-Video is not played.

➢ You have set a ratings level. (⇨ 76)
➢ Ensure the disc is for the correct DVD-Video region number, and is not defective. (⇨ 8)

You have forgotten your ratings PIN.
You want to cancel the ratings level.

➢ 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/×1.3) on the main unit at the same time for 5 or more seconds ("INIT" will appear on the unit's display).

Image for the Quick View is not smooth.

➢ Image may not be played back smoothly in case of DR, HG, HX, HE, HL, HM mode titles or AVCHD format titles.
➢ This function does not work when recording is in XP or FR mode.

The resume play function does not work.

➢ Memorized positions are cancelled when
  – open the disc tray.
  – **CD** **SD** **USB** turn off the power.
  (**HDD** will not be cancelled)

Cannot play the disc on other players.

➢ **-R** **-R DL** **-RW(V)** **+R** **+R DL** **+RW** The disc must be finalised or created top menu after recording or copying (⇨ 73).
➢ **-R** **-R DL** The disc created in AVCHD format can only be played back on AVCHD compatible equipment.

Troubleshooting

Troubleshooting guide

Edit

The available recording time doesn't increase even after deleting titles on the disc.
➢ Available space on DVD-R, DVD-R DL, +R, or +R DL does not increase even after deleting titles.
➢ Available space on DVD-RW (DVD-Video format) or +RW increases when you delete the last title.

Cannot edit.
➢ You may not be able to edit on the HDD if there is no available space.
  Delete any unwanted titles to create empty space. (⇨ 40)

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

Still pictures

The contents of the card cannot be read.
➢ Remove the card from the slot and then insert again. If this does not solve the problem, turn off and turn on the unit again.

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

Still pictures (JPEG) do not playback normally.
➢ The images that were edited on the PC, such as Progressive JPEG, etc., may not play back. (⇨ 99)

Music

Tracks could not be copied to the HDD.
➢ If there are copyright protected tracks such as SCMS restrictions, they will not be copied.
➢ Recording from CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.

USB

The contents of the USB memory cannot be read.
➢ Remove the USB memory from the USB port and then insert again. If this does not solve the problem, turn off and turn on the unit again. If it cannot be operated after that, set "VIERA Link" to "Off" and turn the power of this unit off again, and turn it back on. (⇨ 81)
➢ USB memories connected using a USB extension cable or a USB hub may not be recognized by this unit.

TV Guide

The TV Guide System does not receive any data.
➢ Set the clock. (⇨ 82)
➢ If signal quality is bad (ghost images or limited reception), the TV Guide system may not be able to receive any data.

The empty field is displayed for some or all stations.
➢ Some stations are not supported by the TV Guide system.

The TV Guide information is not displayed properly.
➢ There was a programme change, or TV Guide information from a broadband cast station was possibly not correctly transmitted.
  Check the current programme, e.g. on the Web site for the TV Guide system provider or station provider.

The TV Guide data transfer was interrupted.
➢ The TV Guide system shows the data that was received up to the interruption.
➢ The programme information may be incomplete.

The TV Guide data is not updated.
➢ Make sure that the time is set correctly. (⇨ 82)

Troubleshooting

Broadcast

Picture regularly breaks up on some channels.

➢ Adjust the aerial reception with "Manual Tuning" in the Setup menu. (⇨ 75)

Picture very infrequently breaks up on some or all channels.

➢ Electrical atmospheric interference caused by local or distant lightning storms or heavy rain with wind in "leafy" locations may cause pictures to break up and audio to mute or distort momentarily.

After the Auto-setup, there aren't any stations in the station list.

➢ The Auto-setup was started and interrupted. Do an Auto-setup again.

VIERA Link

VIERA Link doesn't work.

➢ Some functions may not work depending on the version of "HDAVI Control" of the connected equipment. This unit supports "HDAVI Control 5" functions.
➢ If the connection for the equipment connected with HDMI was changed, or if there was a power failure or the plug was removed from the household mains socket, "HDAVI Control" may not work.
In this case, change TV (VIERA) setting for "HDAVI Control" again.

Network

You cannot access this unit from DLNA compatible equipment on the network.

➢ Check the network connection and the network settings. (⇨ 13, 19, 66, 81)
➢ It may not be possible to connect depending on the types of the equipment or the status of the equipment.

To reset this unit

To return all the settings other than the main ones to the factory preset

➢ Perform "Shipping Condition" or "Default Settings" in the setup menu. (⇨ 83)

To reset the ratings level settings

➢ While the disc tray is open, press [DRIVE SELECT] to select the DVD drive, then press and hold [● REC] and [▶] (PLAY/×1.3) on the main unit at the same time for 5 or more seconds.

Troubleshooting

Unit care

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

■ When cleaning this unit's lens
Use the **Lens cleaner** (not included) to clean the unit's lens

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

■ Setup precautions
● **Place the unit on a surface that is flat and not subject to vibration or impact.**

● **Do not place on anything that generates heat like a video cassette recorder, etc.**
● **Place in an area where condensation does not occur. Conditions where condensation may occur**

DO NOT

S S S

This unit
VCR

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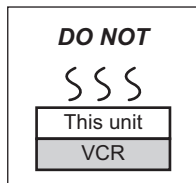
■ Cigarette smoke etc. causes malfunction or breakdown
The unit may breakdown if cigarette smoke or bug spray/vapor, etc. gets inside the unit.

■ When moving the unit
Before moving the unit, ensure the disc tray is empty.
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. 3 minutes) in order to avoid subjecting to vibration and shock. (Even after turning the unit off, the HDD continues operating for a short time.)

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 copying. It is recommended to save the recorded content on a disc or to keep the original data or CDs that they were copied from.

■ 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 unit is turned on or off, there may be an unexpected sound. This does not indicate a problem with this unit.

Reference

Operations that can be performed simultaneously

Operations that can be performed while recording or copying a title

(◯: Possible, –: Impossible)

	Playback of HDD	Playback of discs	Playback of still pictures	Playback of music recorded on HDD
While recording to HDD in DR mode	◯	◯[1]	–	◯
While recording to HDD in HG, HX, HE, HL, HM, XP, SP, LP, EP, or FR modes	◯	◯[1, 2]	–	◯
While recording from DV input	–	–	–	–
While copying in normal speed mode	–	–	–	–
While copying in high speed mode [With finalising or creating Top Menu (+RW)]	–	–	–	–
While copying in high speed mode [Without finalising or creating Top Menu (+RW)]	◯	–	–	–

[1] DivX video cannot playback.

[2] AVCHD format titles cannot playback.

● Simultaneous operation is not possible while executing the "DV Automatic Recording" or "Flexible Recording via AV input".

Starting of the timer recording while executing other operation

Starting of timer recording possible during the following operations	Starting of timer recording not possible during the following operations
● Recording the title[1] ● Playing the title[2] ● Editing the title ● Copying a title in high speed mode (without finalising or creating Top Menu) – Only 1 programme can be recorded ● Executing "DV Automatic Recording"[3] ● Executing "Flexible Recording via AV input"[3] ● Executing Pause Live TV[1]	● Copying a title in normal speed mode ● Copying a title in high speed mode (with finalising or creating Top Menu) ● Copying HD Video (AVCHD format) ● Editing still pictures or music ● Copying still pictures ● Copying music ● Formatting ● Finalising/Creating Top Menu (+RW)

[1] Executing operation will terminate when 2 programme simultaneous recording cannot be performed.

[2] Playback of disc will terminate when the timer recording to disc is started while playing back from the disc.

[3] Executing operation will be terminated.

Reference

Structure of folders displayed by this unit

You can play DivX, MP3 and still pictures (JPEG) on this unit by making folders as shown below. However depending on the method of writing data (writing software), play may not be in the order you numbered the folders.

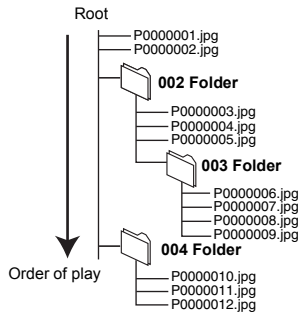**`-R` `-R DL` `CD` `USB` Structure of MP3, still picture or DivX folders**

Prefix with 3-digit numbers in the order you want to play them.
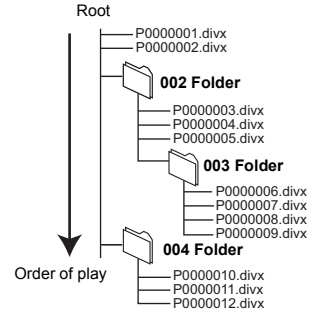
Files inside a folder are displayed in the order they were updated or taken.

MP3

Root
- **001 Folder** (file=track)
  - 001track.mp3
  - 002track.mp3
  - 003track.mp3
- **002 Folder**
  - 001track.mp3
  - 002track.mp3
  - 003track.mp3
  - 004track.mp3
- **003 Folder**
  - 001track.mp3
  - 002track.mp3
  - 003track.mp3

Order of play

Still picture

Root
- P0000001.jpg
- P0000002.jpg
- **002 Folder**
  - P0000003.jpg
  - P0000004.jpg
  - P0000005.jpg
- **003 Folder**
  - P0000006.jpg
  - P0000007.jpg
  - P0000008.jpg
  - P0000009.jpg
- **004 Folder**
  - P0000010.jpg
  - P0000011.jpg
  - P0000012.jpg

Order of play

DivX

Root
- P0000001.divx
- P0000002.divx
- **002 Folder**
  - P0000003.divx
  - P0000004.divx
  - P0000005.divx
- **003 Folder**
  - P0000006.divx
  - P0000007.divx
  - P0000008.divx
  - P0000009.divx
- **004 Folder**
  - P0000010.divx
  - P0000011.divx
  - P0000012.divx

Order of play

`RAM`

✳✳✳: Numbers XXX: Letters

Root
- XXXX✳✳✳✳.JPG
- JPEG
  - **DCIM**✳✳✳
    - ✳✳✳**XXXXX**
      - XXXX✳✳✳✳.JPG
- DCIM ※
  - ✳✳✳**XXXXX**
    - XXXX✳✳✳✳.JPG

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

● 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.

`SD`

✳✳✳: Numbers XXX: Letters

Card
- **DCIM**
  - ✳✳✳**XXXXX** (Picture folder)
    - XXXX✳✳✳✳.JPG

Any folder with JPEG files e.g.,

- 001
  - P0000001.JPG
  - P0000002.JPG
- SD_VIDEO (MPEG2 folder)
  - PRG✳✳✳
    - MOV✳✳✳.MOD
    - MOV✳✳✳.MOI
    - PRG✳✳✳.PGI
  - MGR_INFO (MPEG2 information folder)
- PRIVATE
  - AVCHD (AVCHD folder)

Reference
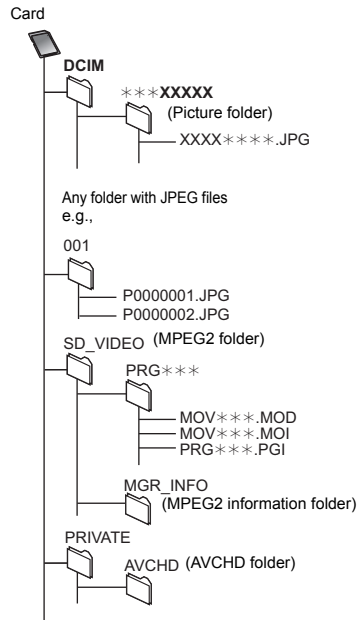
Specifications

Specifications are subject to change without notice.

■ General

Dimensions (W×H×D):

430 mm×59 mm×238 mm
(excluding the projecting parts)
430 mm×59 mm×249 mm
(including the projecting parts)

Mass:

Approx. 3.3 kg
Power supply: AC 220 to 240 V, 50 Hz
Power consumption: **XW480** Approx. 35 W
XW380 Approx. 34 W

Power consumption in standby mode:
Power Save in Standby mode
Activated: **Approx. 1.1 W**
Deactivated: **Approx. 8 W**

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

■ Television system

Tuner System	Channel Coverage
DVB-T Australia	VHF: 6 to 12 UHF: 27 to 69

RF converter output: Not provided

■ Video

Video system: PAL (colour signal, 625 lines, 50 fields)/
NTSC (colour signal, 525 lines, 60 fields)
Recording system: MPEG2 (Hybrid VBR)/
MPEG-4 AVC/H.264
Video in (PAL/NTSC):

AV1/AV2 (pin jack)
1 Vp-p 75 Ω, termination
S-Video in (PAL/NTSC):
AV1 (S terminal) 1 Vp-p 75 Ω, termination
Video out (PAL/NTSC):
Video Out (pin jack) 1 Vp-p 75 Ω, termination
S-Video out (PAL/NTSC):
S-Video Out (S terminal) 1 Vp-p 75 Ω, termination
Component video output
(PAL 576i/576p/720p/1080i, NTSC 480i/480p/720p/
1080i)

Y: 1.0 Vp-p 75 Ω, termination
P_B: 0.7 Vp-p 75 Ω, termination
P_R: 0.7 Vp-p 75 Ω, termination

■ Audio

Recording system: Dolby Digital 2ch
(XP, SP, LP, EP mode),
Linear PCM (XP mode),
Dolby Digital Max 5.1ch (DVB-T)
(DR, HG, HX, HE, HL, HM mode)
MPEG 2ch (DR mode)
Audio in: AV1/AV2 (pin jack)
Input level: Standard: 0.5 Vrms,
Full scale: 2.0 Vrms at 1 kHz
Input impedance: More than 10 kΩ
Audio out: 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, MPEG)
HDMI terminal
(PCM, Dolby Digital, DTS, MPEG)

■ HDMI Output

19 pin type A: 1 pc
HDMI™ (V.1.3a with Deep Colour, x.v.Colour™)
● This unit supports "HDAVI Control 5" function.

■ Other terminals

DV Input IEEE 1394 Standard, 4 pin: 1 pc
USB Port Type A: 1 pc
SD Card Slot 1 pc
LAN (Ethernet) Port 10BASE-T/100BASE-TX

■ Internal HDD capacity

XW480:	500 GB
XW380:	250 GB

■ Optical pick-up

System with 1 lens, 2 integration units
662 nm wavelength for DVDs,
780 nm wavelength for CDs

■ LASER specification

Class 1 LASER Product
Wave length:

780 nm (CDs)
662 nm (DVDs)

Laser power:

No hazardous radiation is emitted with the safety
protection

■ 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

Reference

■ **Region code:**
DVD: #4

■ **Playable discs**
DVD-RAM: DVD Video Recording format, AVCHD format, JPEG
DVD-R: DVD-Video format[1], AVCHD format[1], MP3[1, 2], JPEG[1, 2], DivX[1, 2]
DVD-R DL (Dual Layer): DVD-Video format[1], AVCHD format[1], MP3[1, 2], JPEG[1, 2], DivX[1, 2]
DVD-RW: DVD-Video format[1], DVD Video Recording format, AVCHD format[1]
+R[1], +R DL (Double Layer)[1], +RW
DVD-Video, CD-Audio (CD-DA)
CD-R/CD-RW: CD-DA[1], MP3[1, 2], JPEG[1, 2], DivX[1, 2]

[1] Finalising is necessary for compatible playback.
[2] ISO9660 level 1 or 2 (except for extended formats) and Joliet
This unit is compatible with multi-session/border (except for DVD-R DL).
This unit is not compatible with packet-writing.

■ **Maximum writing speed of discs**
DVD-RAM: Up to 5x Speed
DVD-R: Up to 12x Speed
DVD-R DL: Up to 4x Speed
DVD-RW: Up to 4x Speed
+R: Up to 8x Speed
+R DL: Up to 4x Speed
+RW: Up to 4x Speed
Maximum supporting speed of drive for each disc:
Refer "Recordable discs" (⇨ right).

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

■ **SD Card**
Slot: SD Memory Card slot: 1 pc
Compatible media: SD Memory Card
Format: FAT12[1], FAT16[1] (In case of SD Memory Card)
FAT32[1] (In case of SDHC Memory Card)
exFAT (In case of SDXC Memory Card)
Data that can be played: JPEG, SD (Standard Definition)-Video[2], HD (High Definition)-Video

[1] Long file name is unsupported.
[2] Video Recording conversion and transfer is possible from SD card to HDD or DVD-RAM disc.
After Video Recording conversion and transfer to HDD or DVD-RAM disc is completed, the playback becomes possible.

■ **USB device**
USB standard: USB 2.0 High Speed
Format: FAT16, FAT32
Data that can be played: MP3, JPEG, DivX, SD (Standard Definition)-Video[1], HD (High Definition)-Video[2]

[1] Video Recording conversion and transfer is possible from USB device to HDD or DVD-RAM disc.
After Video Recording conversion and transfer to HDD or DVD-RAM disc is completed, the playback becomes possible.
[2] Video Recording conversion and transfer is possible from USB device to HDD.
After Video Recording conversion and transfer to HDD is completed, the playback becomes possible.

Reference

Specifications

About DivX/MPEG2/AVCHD/ JPEG/MP3 files

■ DivX

Playable media   DVD-R, DVD-R DL, CD-R, CD-RW, USB device※

Maximum number of folders recognizable:
300 folders (including the root folder)

Maximum number of files recognizable: 200 files

● Support version

Extension
Files must have the extension ".DIVX", ".divx", ".AVI" or ".avi".

Picture resolution
Up to 1920×1080 pixels

Reference
DivX certified to play DivX video up to HD 1080p, including premium content.

Video
– Number of stream: Up to 1
– Codec: DIV3, DIV4, DIVX, DV50, DIV6
– FPS (Frame Per Second): Up to 60 fps

Audio
– Number of stream: Up to 8
– Format: MP3, MPEG, Dolby Digital
– Multi channel: Dolby Digital is possible. MPEG multi is 2 ch conversion.

● GMC (Global Motion Compensation) is not supported.

● DVD-R and DVD-R DL must conform to UDF 1.02 without ISO9660 and UDF 1.5 with ISO9660.

※ DivX VOD contents cannot be played back.

■ SD (Standard Definition)-Video

Playable media   SD Card※1, USB device※2
Codec
MPEG2 (SD-Video Entertainment Video Profile)
File Format   SD-Video format conforming

※1 Video Recording conversion and transfer is possible from SD card to HDD or DVD-RAM disc.
After Video Recording conversion and transfer to HDD or DVD-RAM disc is completed, the playback becomes possible.

※2 Video Recording conversion and transfer is possible from USB device to HDD or DVD-RAM disc.
After Video Recording conversion and transfer to HDD or DVD-RAM disc is completed, the playback becomes possible.

※3 SD-Video Entertainment Video Profile

■ HD (High Definition)-Video

Playable media   SD Card, USB device※
Codec   MPEG-4 AVC/H.264
File Format   AVCHD format conforming

※ Video Recording conversion and transfer is possible from USB device to HDD.
After Video Recording conversion and transfer to HDD is completed, the playback becomes possible.

■ JPEG

Playable media   HDD, DVD-RAM, DVD-R, DVD-R DL, CD-R, CD-RW, SD Card, USB device
Format   JPEG conforming DCF (Design rule for Camera File system)※
Compatible pixels   Between 34×34 and 8192×8192 pixels (Sub sampling is 4:2:2 or 4:2:0)
Thawing Time   Approx. 2 sec. in case of SD card (8.1 M pixels, JPEG)

Maximum number of folders recognizable:
CD 99 folders (including the root folder)
HDD **RAM** **-R** **-R DL** **SD** **USB**
300 folders (including the root folder)

Maximum number of files recognizable: **CD** 999 files
RAM **-R** **-R DL** **SD** **USB** 3000 files
HDD 9999 files

● JPEG files must have the extension ".jpg" or ".JPG".
● MOTION JPEG and PROGRESSIVE JPEG are not supported.

※ Design rule for Camera File system: unified standard established by Japan Electronics and Information Technology Industries Association (JEITA).

■ MP3

Playable media   HDD, DVD-R, DVD-R DL, CD-R, CD-RW, USB device
Compression rate   32 kbps to 320 kbps
Sampling frequency   16 kHz/22.05 kHz/24 kHz/32 kHz/ 44.1 kHz/48 kHz

This unit is compatible with ID3 tags.

Maximum number of folders recognizable (except for HDD):
300 folders (including the root folder)

Maximum number of files recognizable (except for HDD):
3000 files

● MP3 files must have the extension ".mp3" or ".MP3".

Reference

Recording modes and approximate recording times

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

Recording Mode	HDD		RAM		-R -RW(V) +R +RW (4.7 GB)	-R DL +R DL (8.5 GB)
	XW480 (500 GB)	XW380 (250 GB)	Single-sided (4.7 GB)	Double-sided (9.4 GB)		
DR[1] (High Definition (HD) quality: estimated bit rate is 15 Mbps)	72 hours	36 hours	–	–	–	–
DR[1] (Standard Definition (SD) quality: estimated bit rate is 8 Mbps)	135 hours	66 hours	–	–	–	–
HG	80 hours	40 hours	–	–	–	–
HX	120 hours	60 hours	–	–	–	–
HE	180 hours	90 hours	–	–	–	–
HL	240 hours	120 hours	–	–	–	–
HM	350 hours	175 hours	–	–	–	–
XP	110 hours	55 hours	1 hour	2 hours	1 hour	1 hour 45 min.
SP	220 hours	110 hours	2 hours	4 hours	2 hours	3 hours 35 min.
LP	442 hours	221 hours	4 hours	8 hours	4 hours	7 hours 10 min.
EP	885 hours (664 hours[2])	441 hours (331 hours[2])	8 hours (6 hours[2])	16 hours (12 hours[2])	8 hours (6 hours[2])	14 hours 20 min. (10 hours 45 min.[2])

[1] Recording time of DR mode may vary depending on bit rate of broadcasting.

[2] When "Recording time in EP mode" is set to "6 hours" in the Setup menu (⇨ 77).

Maximum number of titles that can be recorded

HDD:	999 titles (When continuously recording for long durations, titles are automatically divided every 8 hours.)
RAM -R -R DL -RW(V):	99 titles on one disc.
+R +R DL +RW:	49 titles on one disc.

Reference

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cdrequest@am-linux.jp

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Reference

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Reference

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 overload 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 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.

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

-If you see this symbol-

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Limited Warranty

Panasonic Warranty

1. The product is warranted for 12 months from the date of purchase. Subject to the conditions of this warranty Panasonic or it's Authorised Service Centre will perform necessary service on the product without charge for parts or labour if, in the opinion of Panasonic, the product is found to be faulty within the warranty period.

2. This warranty only applies to Panasonic products purchased in Australia and sold by Panasonic Australia or its Authorised Distributors or Dealers and only where the products are used and serviced within Australia or it's territories. Warranty cover only applies to service carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when warranty service is requested.

3. This warranty only applies if the product has been installed and used in accordance with the manufacturer's recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, maladjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.

4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:
   (a) Video or Audio Tapes   (e) Cabinet Part
   (b) DVD Video, Blu Ray, or Recordable Discs   (f) Information stored on the Hard Disk Drive
   (c) SD cards or USB devices   (g) User replaceable Batteries
   (d) Video or audio Heads from wear and tear in normal use

5. Some products may be supplied with ethernet connection hardware. The warranty is limited on such products and will not cover
   (a) Internet connection related problems
   (b) Access fees or charges incurred for the internet
   (c) the use of incompatible software or software not specifically stipulated in the product operations manual; and
   (d) any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its connection to the internet or any other device.

6. If warranty service is required you should:
   - Telephone Panasonic's Customer Care Centre on 132600 or visit our website and use the Service Centre Locator for the name/address of the nearest Authorised Service Centre.
   - Send or bring the product to a Panasonic Authorised Service Centre together with your proof of purchase receipt as a proof of purchase date. Please note that freight and insurance to and / or from your nearest Authorised Service Centre must be arranged by you.

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

Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600 or visit our website and use the Service Centre Locator.

Unless otherwise specified to the consumer the benefits conferred by this express warranty are additional to all other conditions, warranties, guarantees, rights and remedies expressed or implied by the *Trade Practices Act 1974* and similar consumer protection provisions contained in legislation of the States and Territories and all other obligations and liabilities on the part of the manufacturer or supplier and nothing contained herein shall restrict or modify such rights, remedies, obligations or liabilities.   *May 2008*

THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE) SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES

If you require assistance regarding warranty conditions or any other enquiries,

please contact our Customer Care Centre via the Panasonic website www.panasonic.com.au or

by phone on 132 600. If phoning in, please ensure you have your operating instructions available.

Panasonic Australia Pty. Limited

ACN 001 592 187   ABN 83 001 592 187

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Glossary

AVCHD
AVCHD is a new format (standard) for High Definition video cameras that can be used to record and play high-resolution HD images.

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 discs to normal. This is called decoding.

Deep Colour
This unit incorporates HDMI™ (V.1.3a with Deep Colour) technology that can reproduce greater colour gradation (4096 steps) when connected to a compatible TV.
You can enjoy exceptionally rich, natural-looking colours, with smooth, detailed gradation and minimal colour banding. [A lower colour gradation (256 steps), without Deep Colour, will be reproduced if connected to a TV which does not support Deep Colour. The unit will automatically set appropriate output to suit the connected TV.]

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.

DLNA (Digital Living Network Alliance)
DLNA is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network.

DNS Server
A server which acts like a telephone directory and translates Internet domain names into IP addresses.

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.

Dolby Digital Plus
Multi-channel audio and higher audio quality is made possible using Dolby Digital Plus.

Down-mixing
This is the process of remixing the multi-channel audio found on some discs into fewer channels.

DTS (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-Videos 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.

Film: Recorded at 25 frames per second (PAL discs) or 24 frames per second (NTSC discs). (NTSC discs recorded at 30 frames per second as well.) Generally appropriate for motion picture films.
Video: Recorded at 25 frames/50 fields per second. (PAL discs) or 30 frames/60 fields per second (NTSC discs). Generally appropriate for TV drama programmes or animation.

Finalise

A process that makes play of a recorded CD-R, CD-RW, DVD-R, etc. possible on equipment that can play such media. You can finalise DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL on this unit.

After finalising, the disc becomes play-only and you can no longer record or edit. However, finalised DVD-RW can be formatted for recording again.

Formatting

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

You can format DVD-RAM, DVD-RW (only as DVD-Video format), +RW, SD cards and the HDD or unused +R and +R DL on this unit.

Formatting permanently deletes all contents.

Frames and fields

Frames refer to the single images that constitute the video you see on your television. Each frame consists of two fields.

Frame   **Field**   **Field**

- A frame still shows two fields, so there may be some blurring, but picture quality is generally better.
- A field still shows less picture information so it may be rougher, but there is no blurring.

Gateway

IP address of the electronic device providing Internet access.

Usually called a router IP address. (e.g., 192.168.0.1)

HDD (Hard disk drive)

This is a mass data storage device used in computers, etc. A disk with a surface that has been treated with magnetic fluid is spun and a magnetic head is brought in close proximity to facilitate the reading and writing of large amounts of data at high speed.

HDMI (High-Definition Multimedia Interface)

Unlike conventional connections, it transmits uncompressed digital video and audio signals on a single cable. This unit supports high-definition video output [720p (750p), 1080i (1125i), 1080p (1125p)] from HDMI AV OUT terminals. To enjoy high-definition video a High Definition compatible television is required.

IP address

A set of numbers which distinguish each PC on the network when, for example, connected to the Internet. When using a PC in a LAN to access a PC or device that is not included in the LAN, the IP address is called the local IP address. (e.g., 192.168.0.10)

JPEG (Joint Photographic Experts Group)

This is a system used for compressing/decoding colour still pictures. If you select JPEG as the storage system on digital cameras, etc., the data will be compressed to 1/10–1/100 of its original size. The benefit of JPEG is less deterioration in picture quality considering the degree of compression.

LAN (Local Area Network)

A group of linked devices in a company, school or home. Indicates the boundaries of a particular network.

LPCM (Linear PCM)

These are uncompressed digital signals, similar to those found on CDs.

MPEG2 (Moving Picture Experts Group)

A standard for efficiently compressing and expanding colour video. MPEG2 is a compression standard used for DVD and satellite based digital broadcasting.

MPEG-4 AVC/H.264

A standard for efficiently compressing and expanding colour video. MPEG-4 AVC/H.264 is an encoding method used for recording of the High Definition videos.

MP3 (MPEG Audio Layer 3)

An audio compression method that compresses audio to approximately one tenth of its size without any considerable loss of audio quality.

Reference

Glossary

Pan&Scan/Letterbox

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.

Pan & Scan: The sides are cut off so the picture fills the screen.

Letterbox: Black bands appear at the top and bottom of the picture so the picture itself appears in an aspect ratio of 16:9.

Progressive/Interlace

Interlace is a conventional image signal that displays the image in 2 phases by splitting the display into odd and even scans.

Progressive will display whole image in 1 scan. Therefore, it will give High Definition image without flickering compared with interlace.

Protection

You can prevent accidental deletion by setting writing protection or deletion protection.

Router

Distinguishes the IP address assigned to each device, such as the PC, and relays the flow of data within the network.

Sampling frequency

Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding). Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

Signal Quality

This is the guide for checking the aerial direction. The numbered values displayed do not indicate the strength of the signal, but the quality of the signal (the signal to noise ratio, or "S/N"). The channels you can receive are affected by weather conditions, seasons, time (day/night), region, length of the cable that is connected to the aerial, etc.

Subnet mask

Enables efficient network use. A set of numbers which identify which part of the IP address allocated to every device connected to the router is the network portion.

Thumbnail

This refers to a miniature representation of a picture used to display multiple pictures in the form of a list.

x.v.Colour™

x.v.Colour™ is a name for devices that are compatible with the xvYCC format, an international standard for expanded colour in motion pictures, and that follow the rules for signal transmission.

You can enjoy vivid colours of wider colour ranges for a more realistic picture when connected to a TV that supports the x.v.Colour™ with HDMI cable.

1080i

In one High Definition image, 1080 (1125) alternating scan lines pass every 1/50th of a second to create an interlace image. Because 1080i (1125i) more than doubles current television broadcasts of 480i (525i), the detail is much clearer and creates a more realistic and rich image.

1080p

In one High Definition image, 1080 (1125) scan lines pass at the same time every $1/50^{th}$ of a second to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

720p

In one High Definition image, 720 (750) scan lines pass at the same time every $1/50^{th}$ of a second to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

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