

# Panasonic®

## Operating Instructions HDD Recorder Model No. **DMR-HW100**

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

**The titles recorded onto the HDD of this unit cannot be copied to the media.**



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

**Web Site:** <http://www.panasonic-europe.com>

Model number suffix "EB" denotes UK model.

# Features

## ■ 3D programme and 3D photo playback (⇒ 43, 48)

3D programmes and 3D photos can be played back when this unit is connected to a 3D compatible TV using a High Speed HDMI Cable and recorded 2D programme can be enjoyed as 3D virtually.

## ■ Wireless connection (⇒ 12, 15)

This unit supports Wi-Fi® technology and it is possible to make a wireless connection by using a Wireless LAN Adaptor (optional).

## ■ DLNA (⇒ 64)

You can enjoy the video and photos saved on the HDD of this unit on DLNA (Client) compatible equipment connected via a network. Additionally, you can enjoy viewing video, photos and music saved on a DLNA Certified media server and Panasonic DLNA compatible recorders.

## ■ VIERA CAST (⇒ 61)

Internet services (such as YouTube, video communication, etc.) can be accessed easily by using the VIERA CAST button.

## ■ VIERA Link “HDAVI Control™” (⇒ 62)

Operation of this unit can be controlled by the remote control of the TV (VIERA).

## ■ DVB-T / DVB-T2 tuner built-in (⇒ 22, 29)

This unit has two DVB (Digital Video Broadcasting) terrestrial tuners built-in.

DVB-T2 is an advanced digital terrestrial system for more efficient transmission.

It is possible to record 2 programmes being broadcasted at the same time.

## ■ Supports Audio Description signal (⇒ 25)

Audio Description (when broadcast) adds an additional soundtrack to describe events on screen (narration) and aids understanding and enjoyment, particularly for visually-impaired viewers.

## ■ Owner ID (⇒ 79)

Owner ID is an anti-theft function. Entering the PIN number and owner's personal information will help the Police to determine the owner in the case of theft.

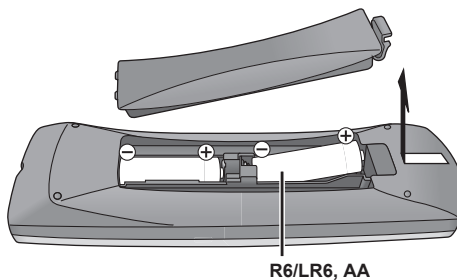
## Supplied accessories

Please check and identify the supplied accessories. (Product numbers correct as of August 2011. These may be subject to change.)

- 1 Remote control (N2QAYB000618)
- 2 Batteries for remote control
- 1 AC mains lead (K2CT2YY00003)
  - Do not use AC mains lead with other equipment.
- 1 RF coaxial cable (K1TWACC00003)

## Using the remote control

Insert so the poles (+ and -) match those in the remote control.



- Use alkaline or manganese batteries.
- Point it at remote control signal sensor on this unit. (⇒ 9)

# Safety precautions

## WARNING

### ■ Unit

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

### ■ AC mains lead

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

### ■ SD card

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

## CAUTION

### ■ Unit

- Do not place sources of naked flames, such as lighted candles, on this unit.
- This unit may receive radio interference caused by mobile telephones during use. If such interference occurs, please increase separation between this unit and the mobile telephone.
- This unit is intended for use in moderate climates.

### ■ Placement

- Place this unit on an even surface.
- To reduce the risk of fire, electric shock or product damage,
  - Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure this unit is well ventilated.
  - Do not obstruct this unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
  - Do not expose this unit to direct sunlight, high temperatures, high humidity, and excessive vibration.

### ■ Batteries

- Danger of explosion if battery is incorrectly replaced. Replace only with the type recommended by the manufacturer.
- Mishandling of batteries can cause electrolyte leakage and may cause a fire.
  - Do not mix old and new batteries or different types at the same time.
  - Do not heat or expose to flame.
  - Do not leave the battery(ies) in a car exposed to direct sunlight for a long period of time with doors and windows closed.
  - Do not take apart or short circuit.
  - Do not recharge alkaline or manganese batteries.
  - Do not use batteries if the covering has been peeled off.
  - Remove batteries if you do not intend to use the remote control for a long period of time. Store in a cool, dark place.
- When disposing the batteries, please contact your local authorities or dealer and ask for the correct method of disposal.

## Caution for AC Mains Lead

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

### CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13- AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

### IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

**WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.**

**THIS PLUG IS NOT WATERPROOF—KEEP DRY.**

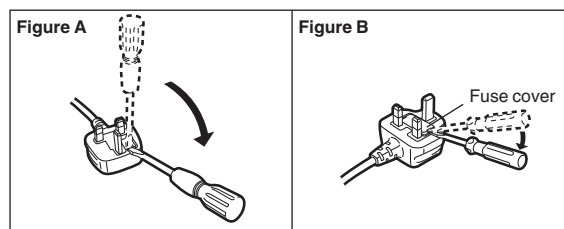
### Before use

Remove the connector cover.

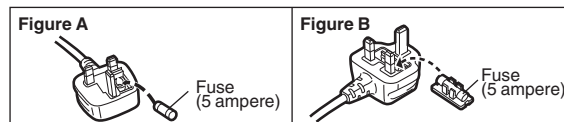
### How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



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Getting started

Watching broadcasts

Recording

Playing back video

Editing video

Photo

Music

With Other Equipment

Convenient functions

Troubleshooting

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### Glossary

Refer to following site for technical terms.

[http://www.panasonic.co.uk/html/en\\_GB/Technology/0-9/217724/index.html](http://www.panasonic.co.uk/html/en_GB/Technology/0-9/217724/index.html)

### About descriptions in these operating instructions

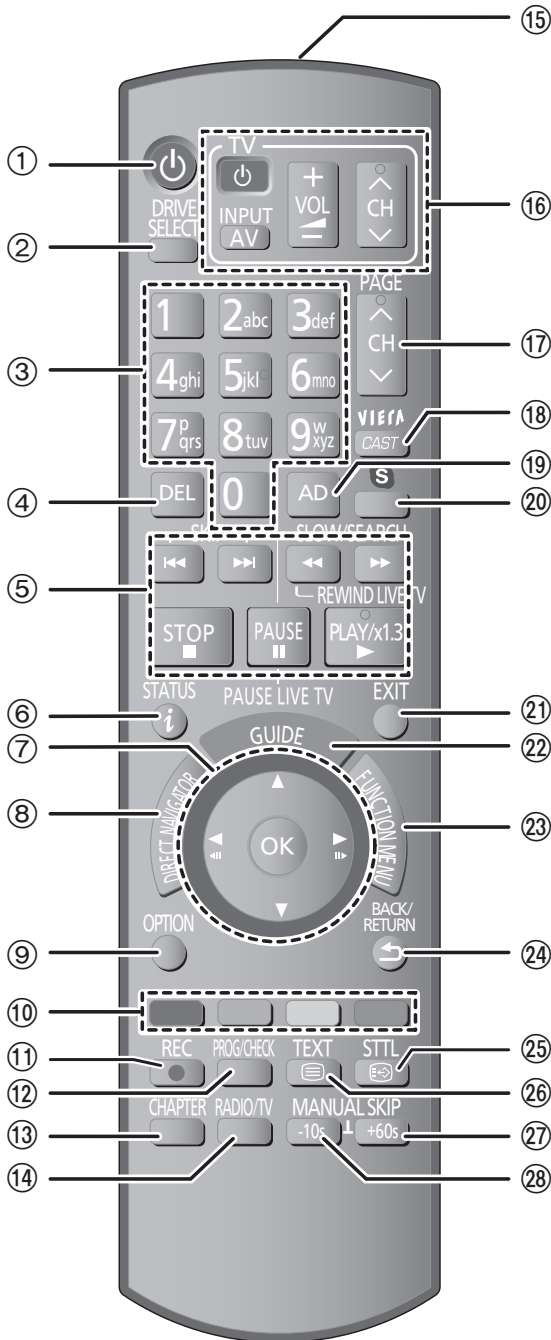
- Pages to be referred to are indicated as “⇒ ○○”.

# Control reference guide

## Remote control

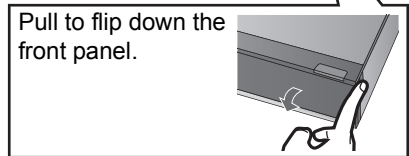
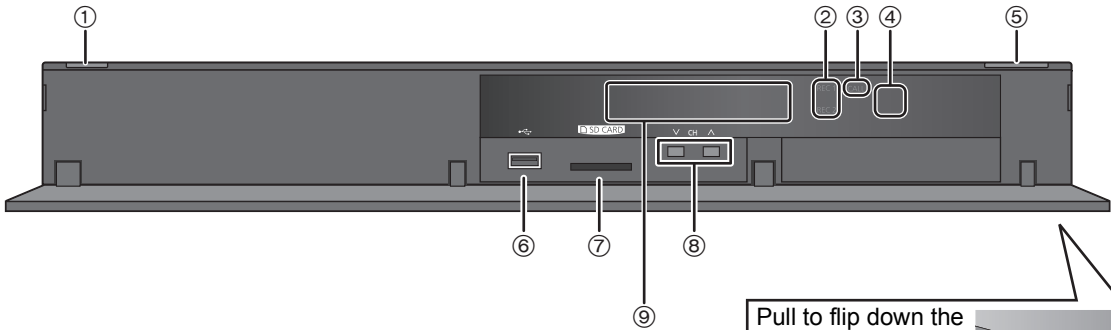
Instructions for operations are generally described using the remote control.

Getting started



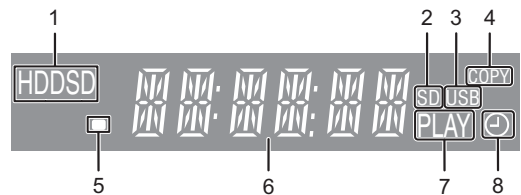
- ① Turn the unit on or off (⇒ 13, 20)
- ② Select drive (HDD, SD or USB) (⇒ 20)
- ③ Select channels and title numbers, etc./Enter numbers or characters (The character buttons may be used when operating VIERA CAST contents.)
- ④ To delete unwanted recorded titles, timer programmes, photos or music (⇒ 44)
- ⑤ Basic operations for recording and play
- ⑥ Show channel information (⇒ 24)/Programme information within TV Guide screen (⇒ 23)/Show status messages (⇒ 41)/Show Information (⇒ 39)
- ⑦ Selection/OK (⇒ 21), Frame-by-frame (⇒ 42)
- ⑧ Show DIRECT NAVIGATOR (⇒ 38)
- ⑨ Show OPTION menu (⇒ 45, 51, 58)
- ⑩ Colour buttons  
Use in accordance with instruction on the screen.
- ⑪ Start recording (⇒ 27)
- ⑫ Show Timer Recording screen (⇒ 34)
- ⑬ Create chapter (⇒ 40)
- ⑭ Switching to the radio channel list (⇒ 24)
- ⑮ Transmit the remote control signal
- ⑯ TV operation area (⇒ 82)
- ⑰ Channel select (⇒ 22)/  
Change pages in the DIRECT NAVIGATOR screen etc.
- ⑱ Show VIERA CAST (⇒ 61)
- ⑲ Listen to Audio Description (⇒ 25, 42)
- ⑳ Start up a video communication (⇒ 61)
- ㉑ Exit the menu screen
- ㉒ Show the TV Guide screen (⇒ 23)
- ㉓ Show FUNCTION MENU screen (⇒ 21)
- ㉔ Return to previous screen
- ㉕ Show subtitles (⇒ 25, 42)
- ㉖ Show digital text (⇒ 25)
- ㉗ Skip approx. 1 minute forward (⇒ 41)
- ㉘ Skip approx. 10 seconds backward (⇒ 41)





- ① **Standby/on switch (⏻/⏻)** (⇒ 13, 20)  
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 **Recording indicator**
  - The indicator will light up while recording.
  - The indicator will blink while recording is paused.
- ③ **CALL LED**
  - The LED will light up when this unit receives incoming call etc. of the video communication. (⇒ 61)
- ④ **Remote control signal sensor**
  - Angle: Approx. 20° up and down, 30° left and right
  - Distance: Within approx. 7 m in front of the unit
- ⑤ **Start PAUSE LIVE TV** (⇒ 26)
- ⑥ **USB port** (⇒ 20)
- ⑦ **SD card slot** (⇒ 20)
- ⑧ **Channel select** (⇒ 22)

⑨ **Display**



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

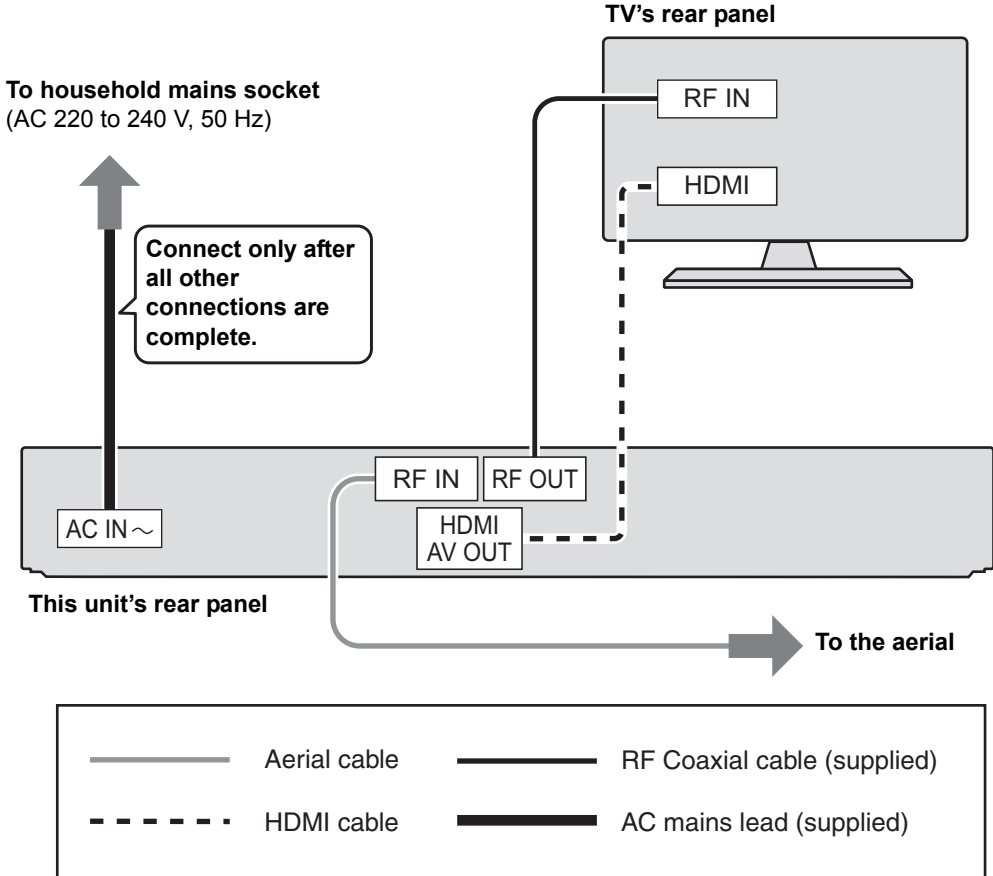
➤ **Rear panel terminals** (⇒ 10, 84)

# Basic Connection

3D programmes can be played back when this unit is connected to a 3D compatible TV using a High Speed HDMI cable.

- Before connection, turn off all equipment and read the appropriate operating instructions.
- Other amplifier connections (⇒ 84)
- When using Communication Camera (⇒ 61)

**BE SURE TO READ THE CAUTION FOR AC MAINS LEAD ON PAGE 5**



## Required setting:

Set "HDMI Audio Output" to "On" (⇒ 75).  
(The default setting is "On".)

After completing the connections, proceed to Easy Setting (⇒ 13).



- Keep the RF coaxial cables as far away as possible from other cables.
- Do not roll up the RF coaxial cables.

## About HDMI cable

- 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 HDMI cable part number:  
RP-CDHS15 (1.5 m), RP-CDHS30 (3.0 m),  
RP-CDHS50 (5.0 m), etc.



- The HDMI connection supports VIERA Link "HDAVI Control" (⇒ 62).
- You cannot connect this unit to DVI devices that are incompatible with HDCP.  
Depending on the device, images may not display properly or at all when connecting with a DVI/HDMI switching cable. (Audio cannot be output.)
- If you are connecting to a TV that is only compatible with 2 channel audio output, audio with 3 channels or more will be down mixed and output as 2 channels, even if connecting with an HDMI cable.

### 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. 0.2 W ("Power Save in Standby" is activated and "RF OUT ( Aerial Signal )" is set to "Off")]**

## Network connection

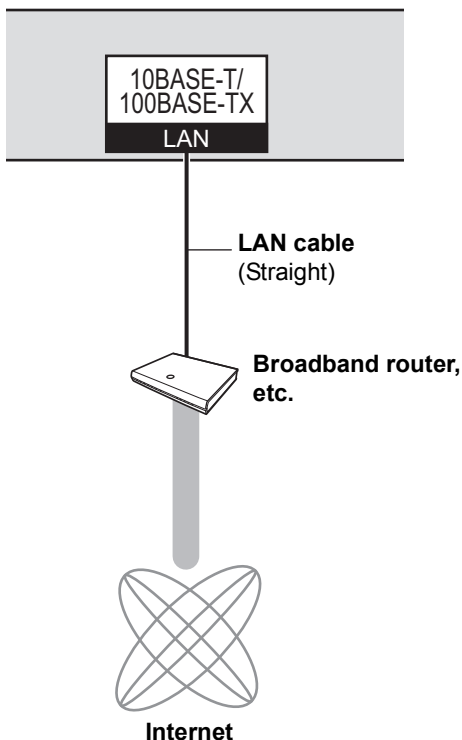
Following functions will be available when this unit is connected to the network.

- DLNA functions (⇒ 64)
- Network Service functions (⇒ 61)
- Updating the software (firmware) of this unit from Internet (⇒ 81)

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

## LAN (ethernet) cable connection

This unit's rear panel



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

## Wireless LAN connection

- Connect the Wireless LAN Adaptor DY-WL10 (optional).

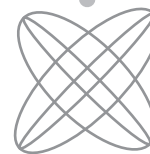
This unit's rear panel



Wireless LAN Adaptor



Wireless router, etc.



Internet



- Only the Wireless LAN Adaptor DY-WL10 (optional) can be used. Read the operating instructions for the Wireless LAN Adaptor DY-WL10 (optional) thoroughly when using it. Connect/disconnect the Wireless LAN adaptor DY-WL10 (optional) when the unit is turned off and not using functions that use the network, such as downloading a programme, etc.
- For up to date compatibility information on your Wireless router refer to <http://panasonic.jp/support/global/cs/> (This site is in English only.)
- The unit is not compatible with public wireless LAN services provided in airports, stations, cafes etc.

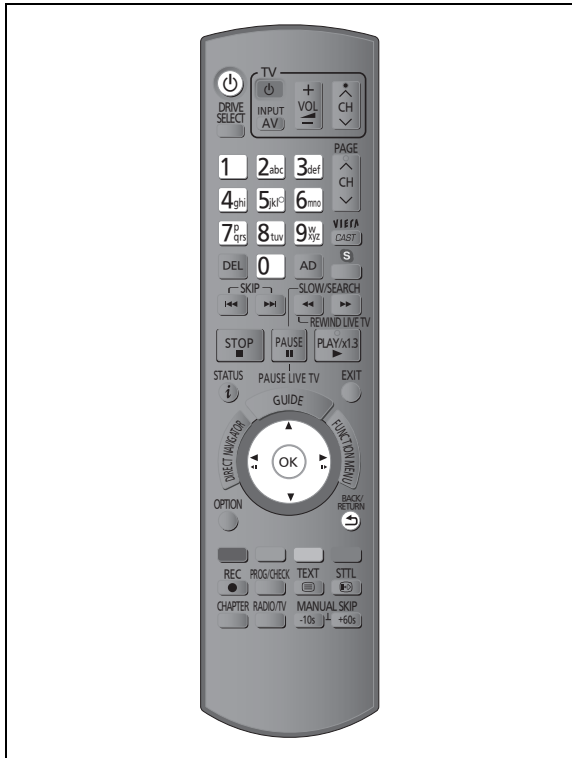
### ■ Precautions of Wireless LAN connection

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

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

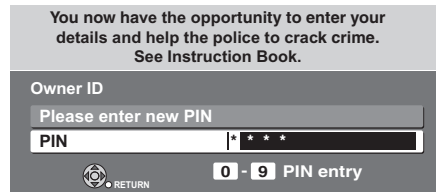
- **Data transmitted and received over radio waves may be intercepted and monitored.**
- **This unit contains delicate electronic components.** Please use this unit in the manner in which it was intended and follow the following points:
  - Do not expose this unit to high temperatures or direct sunlight.
  - Do not bend, or subject this unit to strong impacts.
  - Keep this unit away from moisture.
  - Do not disassemble or alter this unit in any way.

# Settings



## 3 Enter the PIN.

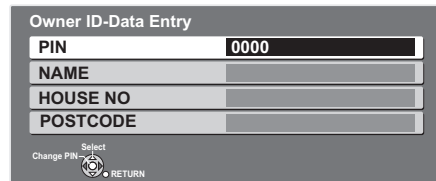
This PIN will be used only for the Owner ID-Data Entry screen.



- ① Press the number buttons to enter 4-digit PIN.
- ② Repeat step ① to confirm.
  - Make a note of PIN in case you forget it. The PIN number cannot be reset.
  - Steps 3 – 6 will be skipped in the Easy Setting after “Shipping Condition” (⇒ 80) is performed. (⇒ go to step 7)

## 4 Set the Owner ID-Data Entry (“NAME”, “HOUSE NO” and “POSTCODE”).

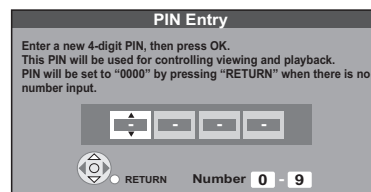
- ① Select the item, then press [OK].  
e.g.,



- ② Select the character, then press [OK].
- ③ Repeat step ②.
- ④ Press [BACK/RETURN ↵].

## 5 Press [BACK/RETURN ↵].

## 6 Enter the new PIN for parental control.



- The default PIN is “0000”.
- ① Press the number buttons to enter 4-digit PIN.
    - Make a note of PIN in case you forget it.
  - ② Press [OK].

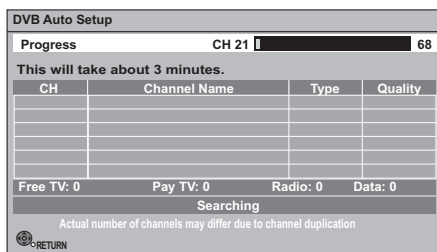
## Easy Setting

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

### 2 Press [⏻].

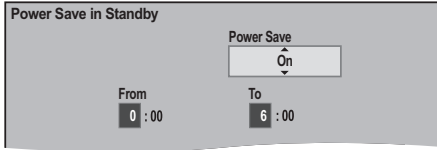
**DVB Auto Setup starts.**

DVB Auto Setup takes about 3 minutes.



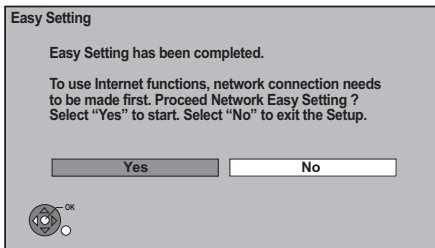
- After DVB Auto Setup has been completed, clock will be set automatically. If the clock setting menu appears, set the time manually (⇒ 79, Clock)

## 7 Set “Power Save” to “On”, “On Timer” or “Off”, then press [OK].



<b>On</b>	It will go into the Power Save in Standby mode.
<b>On Timer</b>	Set the start and stop time and then press [OK]. ● Power Save in Standby mode is activated at the set time period.
<b>Off</b>	It is possible to start quickly from the standby mode. (Quick Start mode) ● If you use Home Network ( DLNA ) Server function (⇒ 77), select “Off”. This function is not available with other settings.

When the following screen appears, Easy Setting is complete.



- Select “Yes” to proceed to “Network Easy Setting”. (⇒ 15)
- Select “No” to finish the Easy Setting.

### To stop partway

Press [BACK/RETURN ↵].

### To restart set up

- 1 Press [DRIVE SELECT] to select the HDD drive.
- 2 Press [FUNCTION MENU].
- 3 Select “Setup”, then press [OK].
- 4 Select “Auto Setup” in “Tuning”, then press [OK].
- 5 Select “Yes”, then press [OK].

### To display the Owner ID information on TV

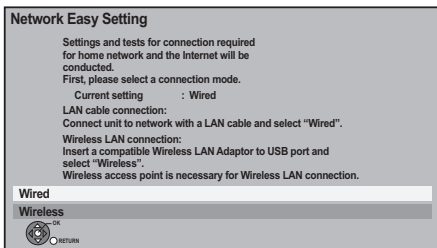
- ① While the unit is on, press and hold [OK], the “Yellow” button and the “Blue” button on the remote control at the same time for more than 5 seconds.  
– “00 RET” is displayed on the unit’s display.
- ② Repeatedly press [▶] (right) on the remote control until “01 OID” is displayed on the unit’s display.
- ③ Press [OK] on the remote control.  
The PIN is not displayed.

- To edit the Channel List (⇒ 71, Channel List)
- To check the signal condition (⇒ 72, Signal Condition)
- To change PIN for parental control (⇒ 79, PIN Entry)
- To sort the Channel List by region (⇒ 71, Channel Sorting by Region)

## Network Easy Setting

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

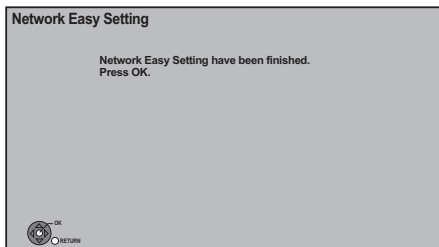
Select “Wired” or “Wireless”, then press [OK].



### “Wired” connection

① Follow the on-screen instructions and make the following settings.

- Network Easy Setting ( Home Network Connection Check )
- Home Network ( DLNA ) Server function
- Network Easy Setting ( Internet Connection Test )



This screen appears, Setup is complete.

② Press [OK].

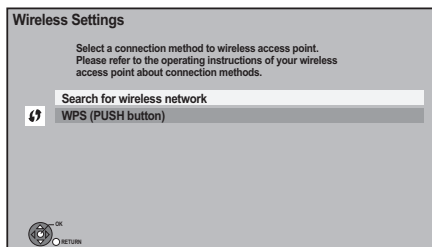
➤ When you experience problems with settings (⇒ 16)

### “Wireless” connection

**Before beginning wireless connection setup**

- Obtain your Network name (SSID\*1).
- If your wireless connection is encrypted please be sure that you know your encryption key.
- If “Wireless LAN Adaptor is not connected.” is displayed, check that the Wireless LAN Adaptor is fully inserted. Alternatively, disconnect and reconnect it. If there is still no change in the display, consult your dealer for advice.

Select “Search for wireless network” or “WPS (PUSH button)” and then follow the on-screen instructions and make the settings.



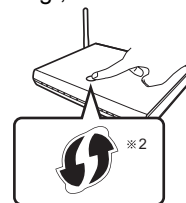
■ Search for wireless network:

- When you select “Search for wireless network”, the available wireless networks will be displayed. Select your network name and press [OK].
  - If your Network name is not displayed search again by pressing the “Red” button on the remote control.
  - Stealth SSID will not be displayed when you select “Search for wireless network”. Enter Manually by using “Wireless Settings”. (⇒ 76)
- If your wireless network is encrypted, Encryption Key Input Screen will be displayed. Input the encryption key of your network.

■ WPS (PUSH button):

If your Wireless router supports WPS (PUSH button), you can easily perform the settings by pressing WPS button on it. WPS (Wi-Fi Protected Setup™) is a standard that facilitates settings relating to the connection and security of wireless LAN devices.

e.g.,



- ① Press WPS button or corresponding button of Wireless router until the lamp starts flashing.
  - For details, refer to the operating instruction of Wireless router.
- ② Press [OK].

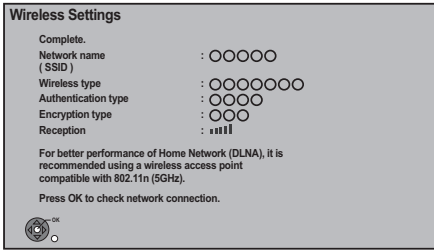
\*1 An SSID (Service Set IDentification) is a name used by wireless LAN to identify a particular network. Transmission is possible if the SSID matches for both devices.

\*2 Wi-Fi Protected Setup™-compatible Wireless router may have the mark.

## When you experience problems with settings

### Wireless Settings

- If there is no problem, the following screen is displayed.

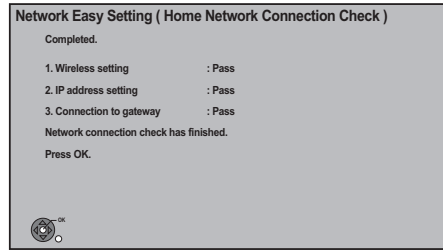


- If there is any problem, the following message is displayed on the screen.

Display	Check the following
A conflict with other devices occurred.	<ul style="list-style-type: none"> <li>● Please wait a few moments, and then try again.</li> </ul>
A time out error occurred.	<ul style="list-style-type: none"> <li>● Setting of the Wireless router for MAC Address etc.</li> <li>● The signal may be weak. Using the USB extension cable supplied with the Wireless LAN Adaptor, adjust the position of the Wireless LAN Adaptor.</li> </ul>
An authentication error or a time out error occurred.	<ul style="list-style-type: none"> <li>● The SSID and the encryption key of the Wireless router.</li> <li>● Please wait a few moments, and then try again.</li> </ul>
A device error occurred.	<ul style="list-style-type: none"> <li>● Connection of Wireless LAN Adaptor</li> <li>● If there is no improvement in symptom, contact your dealer.</li> </ul>

### Network Easy Setting ( Home Network Connection Check )

- If there is no problem, the following screen is displayed.  
e.g., "Wireless" connection



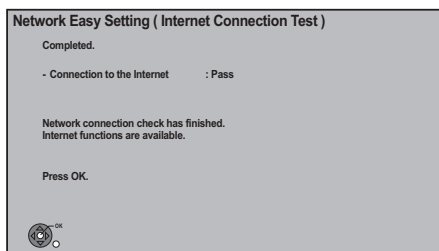
- If there is any problem, the following message is displayed on the screen.

Display	Check the following
1. LAN cable connection or Wireless setting: "Fail" 2. IP address setting: "Fail" 3. Connection to gateway: "Fail"	<ul style="list-style-type: none"> <li>● Connection of the LAN cables (⇒ 12)</li> <li>● Settings of the hub and router</li> </ul>
1. LAN cable connection or Wireless setting: "Pass" 2. IP address setting: "Fail" 3. Connection to gateway: "Fail"	<ul style="list-style-type: none"> <li>● Connection and settings of the hub and router</li> <li>● Settings of "IP Address / DNS Settings" (⇒ 77)</li> </ul>
1. LAN cable connection or Wireless setting: "Pass" 2. IP address setting: "Pass" 3. Connection to gateway: "Fail"	
1. LAN cable connection or Wireless setting: "Pass" 2. IP address setting: "Home network available" 3. Connection to gateway: "Fail"	



## ■ Network Easy Setting ( Internet Connection Test )

- If there is no problem, the following screen is displayed.



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

Display	Check the following
Cannot find the server. (B019)	<ul style="list-style-type: none"> <li>● "Primary DNS" and "Secondary DNS" settings of "IP Address / DNS Settings" (⇒ 77)</li> </ul>
No connection could be made to the server. (B020)	<ul style="list-style-type: none"> <li>● The server may be busy or the service may have been suspended. Please wait a few moments, and then try again.</li> <li>● Settings of "Proxy Server Settings" (⇒ 77) and the router</li> </ul>



- Refer to the operating instructions of the hub or router.
- Home Network ( DLNA ) Server function setting can be set only when you selected "Off" for "Power Save in Standby" in "Easy Setting". (⇒ 14, step 7)
- Even if you set "Home Network ( DLNA ) Server function" to "Off", it is possible to set to "On" later. (⇒ 77)
- You can perform this setup anytime by selecting "Network Easy Setting" in the Setup menu. (⇒ 76)
- You can redo these settings individually using "Network Settings". (⇒ 76)
- Do not use this unit to connect to any wireless network for which you do not have usage rights. During automatic searches in a wireless network environment, wireless networks (SSID) for which you do not have usage rights may be displayed; however, using these networks may be regarded as illegal access.
- After performing network settings on this unit, the settings (encryption level, etc.) of the Wireless router might change. When you have trouble getting online on your PC, perform the network settings on your PC in accordance with the settings of Wireless router.
- Please be aware that connecting to a network without encryption may result in the content of the communication being illegitimately viewed by a third party, or the leaking of data such as personal or secret information.

### To restart Network Easy Setting

- 1 Press [DRIVE SELECT] to select the HDD drive.
- 2 Press [FUNCTION MENU].
- 3 Select "Setup", then press [OK].
- 4 Select "Network Easy Setting" in "Network", then press [OK].

### To redo settings individually




- 1 Press [DRIVE SELECT] to select the HDD drive.
- 2 Press [FUNCTION MENU].
- 3 Select "Setup", then press [OK].
- 4 Select "Network Settings" in "Network", then press [OK].
- 5 Select "IP Address / DNS Settings" (⇒ 77) or "Proxy Server Settings" (⇒ 77), then press [OK].

### Check security before using Home Network ( DLNA ) Server function

If you set "Home Network ( DLNA ) Server function" to "On", all connected devices on the same network can access this unit. Ensure that the router for your home network has adequate security system to prevent unauthorized access.

# HDD and media information

(-: Impossible)

Media type	Standard symbol		Playable contents	Recordable contents
Hard disk drive (HDD)		<b>HDD</b>	<ul style="list-style-type: none"> <li>● Video</li> <li>● AVCHD</li> <li>● JPEG</li> <li>● MPO</li> <li>● MP3</li> </ul>	
SD Cards		<b>SD</b>	<ul style="list-style-type: none"> <li>● AVCHD</li> <li>● MPEG2*</li> </ul>	-
			<ul style="list-style-type: none"> <li>● JPEG</li> <li>● MPO</li> </ul>	
USB memories		<b>USB</b>	<ul style="list-style-type: none"> <li>● AVCHD*</li> <li>● MPEG2*</li> <li>● DivX®</li> <li>● MKV</li> <li>● JPEG</li> <li>● MPO</li> <li>● MP3</li> </ul>	-

\* It cannot be played back directly from the media. Playback is possible by copying to the HDD.



- It may not be able to playback depending on the device that was used to record.
- With certain recording states and folder structures, the play order may differ or playback may not be possible.

## Notes

### Notes for the SD cards

#### Compatible SD card

- SD Memory Card (from 8 MB to 2 GB)
- SDHC Memory Card (from 4 GB to 32 GB)
- SDXC Memory Card (48 GB, 64 GB)
- 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.

#### Setting the protection

Switch the write-protect switch to the "LOCK" position.



#### Using miniSD card or microSD card

Mini-type and micro-type cards can also be used, but must be used with adaptor cards. These are usually supplied with such cards, or otherwise customer provided.



- Usable memory is slightly less than the card capacity.
  - If the SD card is formatted on other equipment, the time necessary for recording may be longer. 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 (⇒ 68).
  - SDHC Memory Cards and SDXC Memory Cards can be used in equipment that is compatible with the appropriate cards. (SDHC Memory Cards can also be used in equipment compatible with SDXC Memory Cards)
- 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.**

### Notes for the USB devices

- This unit does not guarantee connection with all USB devices.
- FAT16 and FAT32 file systems are supported.
- This unit supports USB 2.0 High Speed.
- Although this unit can use USB 3.0 devices as USB 2.0 devices, in certain cases USB 3.0 devices cannot be used due to differing connector shape, larger current ratings, etc. (Use of USB 2.0 devices is recommended.)



- This unit's USB port does not support bus-powered USB device.
- USB memories support DivX and MKV files less than 4 GB.
- When using Communication Camera (TY-CC10W or compatible equipment) or Wireless LAN Adaptor (DY-WL10), connect it to the rear terminal of this unit. (⇒ 12, 61)

### Media handling

#### How to hold an SD card

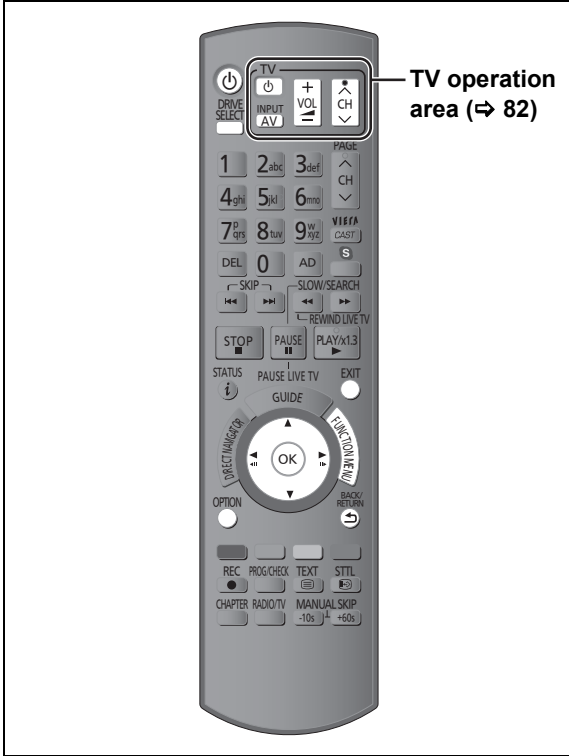
Do not touch the terminal surface.



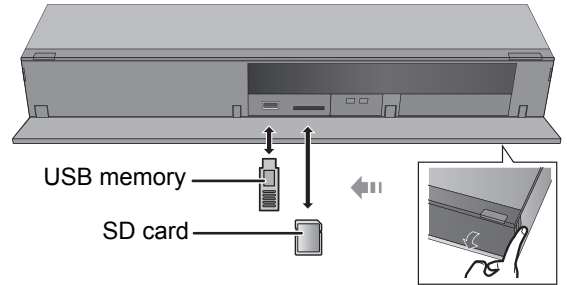
#### Handling precautions

- Do not expose the terminals of the SD card to water, garbage or other strange things.
- 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.

# Common Operations



## Inserting or removing a media



- When the 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 contents.
- When inserting the media, ensure that it is facing the right way up.
- When removing the SD card, press on the centre 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 the connected equipment. For details, refer to the instructions for the connected equipment.

## Preparations

### Turning on this unit

- ① Turn on the TV, then select the appropriate AV input to suit the connections to this unit.
- ② Press [⏻] on the remote control or [⏻/II] on this unit.



### ■ To select a drive

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

## HOLD function

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

Press and hold [OK] and [BACK/RETURN ↵] simultaneously until "X HOLD" appears on the unit's display.



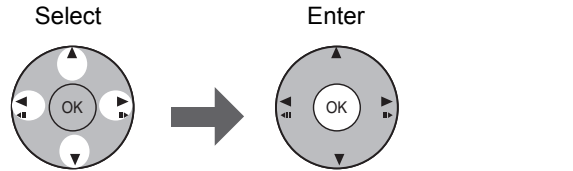
Unit's display

### To cancel the HOLD function

Press and hold [OK] and [BACK/RETURN ↵] simultaneously until "X HOLD" disappears.

## Basic operation

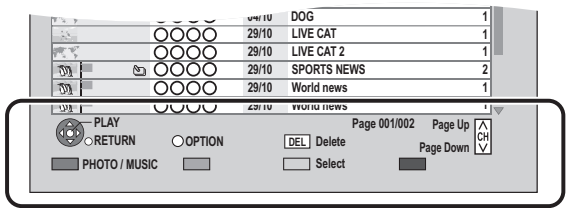
This unit is basically operated via the following method by using the remote control.



To return to the previous screen	Press
To exit the screen	Press

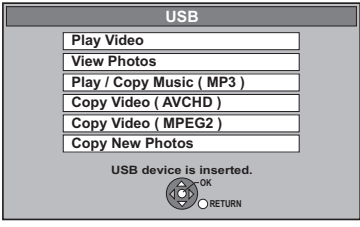
## Display navigation

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



## Menu screen

Menu screen for selecting each operation is displayed when the media is inserted, and you can access the operation screen easily. e.g., **USB**



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

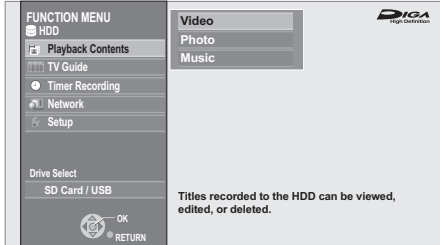
If the menu screen is not displayed, display it by performing the following operation.

- 1 While stopped**  
Press [OPTION].
- 2 Select "Drive Select", then press [OK].**
- 3 Select the media, then press [OK].**
  - Menu screen for each media appears.

## FUNCTION MENU screen

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

- 1 Press [FUNCTION MENU].**
- 2 Select the item, then press [OK].**
  - Repeat step 2 if necessary.



### Playback Contents

- Video (⇒ 37)
- Photo (⇒ 48)
- Music (⇒ 55)

### TV Guide (⇒ 23, 30)

### Timer Recording (⇒ 34)

### Network

- Home Network (DLNA) (⇒ 65)
- Internet Content (⇒ 61)

### Setup (⇒ 70)

You can change the unit's settings of Tuning, Sound, Display, Connection, Network etc. in the Setup menu.

### Drive Select

- SD Card / USB



- Selectable items will change depending on the type and status of the media.

# Watching broadcasts



Press  **CH** to select the channel.

Everytime you change the channel, channel information appears automatically.

Unit's display;



- You can also select the channel with the number buttons.

## ➤ Enjoying 3D programme (⇒ 43)

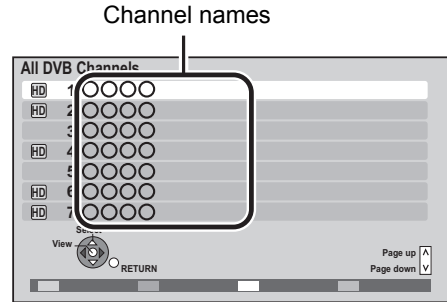


- If you have locked channels (⇒ 72, Child Lock), PIN is required to start viewing the broadcast.
- You can set the time to display the channel information. (⇒ 74, On-Screen Information)

## Using Channel List

You can select from the list of channel names.

- 1 Press [OK].
- 2 Select the channel, then press [OK].



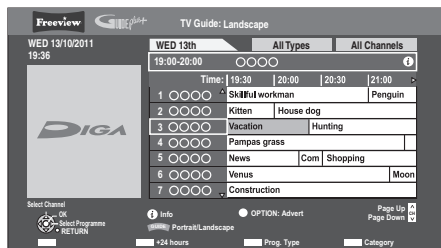
## ➤ To edit the Channel List (⇒ 71)

## Using TV Guide system

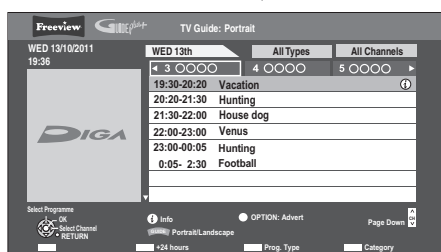
### 1 Press [GUIDE].

Each press switches the appearance.

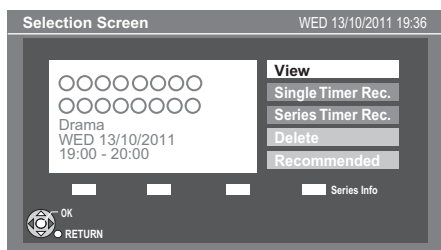
#### Landscape view



#### Portrait view



### 2 Select the programme, then press [OK].



### 3 Select "View", then press [OK].

#### Page up/down

Press [ $\wedge$   $\vee$  CH].

#### To view a programme list for another day

Press the "Red" button (Previous) or the "Green" button (Next).

#### ➤ Timer Recording using the TV Guide System (⇒ 30)



- Selection of channel is made easy by creating a Favourite of the channels you watch often. (⇒ 70, Favourites Edit)
- Some broadcast may not send programme information.

To see programme information  
(Programmes with the ⓘ symbol)

#### Press [STATUS ⓘ].

Additional information is available for these programmes.

#### To show other pages

Press [ $\wedge$   $\vee$  CH].

#### To exit the screen

Press [STATUS ⓘ].

To see advertisement

Press [OPTION].

#### To show other advertisement

Press [ $\blacktriangle$ ,  $\blacktriangledown$ ].

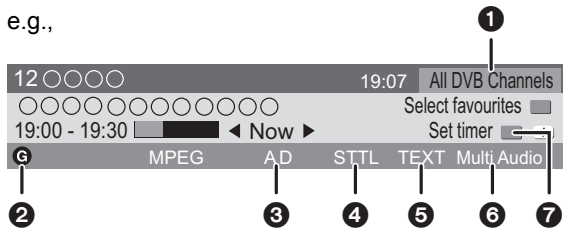
#### To exit the screen

Press [BACK/RETURN ⇐].

## Channel information

Press [STATUS ⓘ].

e.g.,



Watching broadcasts

- 1 Current Category
- 2 Programme with Guidance information
- 3 Audio Description
- 4 Subtitle
- 5 Digital text
- 6 Multiple audio
- 7 Set timer (⇒ 33)

### To show detailed information

Press [STATUS ⓘ] again.

### To hide the information screen

Press [EXIT].

### To change Favourites

Press the “Blue” button.

#### •Register your favourite channels

- 1 Press [OPTION].
- 2 Select “Digital TV Menu”, then press [OK].
- 3 Select “Favourites Edit”, then press [OK].
- 4 Refer to page 70 (Favourites Edit).

### To switch between the current programme and the next programme

Press [◀, ▶].

### To check the programmes currently broadcasting on other channels

Press [▲, ▼].

- You can switch to another channel displayed on the channel information by pressing [OK].

## Switching to the radio channel

Press [RADIO/TV].

### To switch to the all channels

Press [RADIO/TV] again.

### To show the radio channel list

Press [OK].



## Operations while watching broadcast

### To show subtitle

When “STTL” appears in channel information (⇒ 24)

Press [STTL ].

### To hide subtitle

Press [STTL ].

### To change subtitle language

- 1 Press [OPTION].
- 2 Select “Subtitle Language” in “Digital TV Menu”, then press [OK].
- 3 Select the desired language.
  - Press [EXIT] to exit the screen.

### To select Multi Audio

When “Multi Audio” appears in channel information (⇒ 24)

- ① Press [OPTION].
- ② Select “Multi Audio” in “Digital TV Menu”, then press [OK].
- ③ Select the desired audio.

### To exit the screen

Press [EXIT].

### To listen to the Audio Description

Audio Description adds an additional soundtrack to describe events on screen (narration) and aids understanding and enjoyment, particularly for visually-impaired viewers.

When “AD” appears in channel information (⇒ 24)

- ① Press [AD].
- ② Select “Audio Description” and set to “Automatic”.
- ③ Select “Volume”, then adjust the volume with [◀, ▶].



- Audio Description may not be available depending on the type of audio format.
- When “Dolby Digital / Dolby Digital Plus”, “MPEG” or “HE-AAC” is set to “Bitstream” or “Bitstream (Dolby D)”, the Audio Description may not work. Set them to “PCM” (⇒ 74, Digital Audio Output).
- You can also set “Audio Description” active in the Setup menu. (⇒ 72)

### To view Digital text (MHEG)

When “TEXT” appears in channel information (⇒ 24)

Press [TEXT ].

### To select the page or access to certain topic areas and navigation

Use [▲, ▼, ◀, ▶], number buttons or colour buttons, etc. according to on-screen instructions.



- Some functions of Digital text are deactivated during recording.

### Aspect

You can switch the screen mode. (⇒ 82)

## REWIND LIVE TV/PAUSE LIVE TV

This unit temporarily saves a live TV programme you are watching with this unit's tuner on HDD and you can use the following functions.

### REWIND LIVE TV

You can rewind live TV programme up to 1.5 hours before as long as temporary save has not been stopped.

### PAUSE LIVE TV

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

- Select the HDD drive to perform these functions correctly.

## 1 While watching TV

### REWIND LIVE TV

Press **[SLOW/SEARCH ◀◀]** to rewind.

- "REWIND LIVE TV" appears on the unit's display.

### PAUSE LIVE TV

Press **[PAUSE III]** to pause.

- "PAUSE LIVE TV" appears on the unit's display.



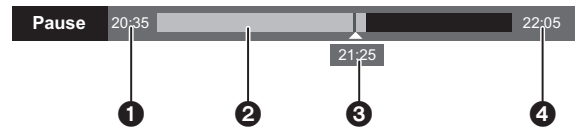
## 2 When you want to resume

Press **[PLAY/×1.3 ▶]**.

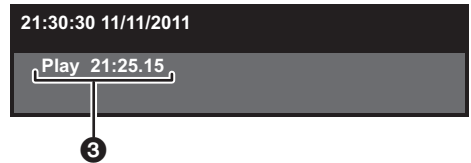
- You can perform search or Quick View, etc.
- If temporary save stops (⇒ right), playback will be performed by that point.

## Display information

- While pausing or rewinding a broadcast: Press **[STATUS ⓘ]**.



- Press **[STATUS ⓘ]** again.



- 1 The time that you can rewind the live programme
- 2 The amount of time temporarily saved on HDD (maximum: 1.5 hours).
- 3 The time of the current playback position
- 4 The time which is 1.5 hours after PAUSE LIVE TV or REWIND LIVE TV started
  - After 1.5 hours from PAUSE LIVE TV or REWIND LIVE TV started, current time is displayed

### To stop REWIND LIVE TV or PAUSE LIVE TV

- 1 Press **[STOP ■]**.
- 2 Select "Yes", then press **[OK]**.

### To hide the display information

Press **[EXIT]**.

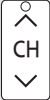


- Temporary save stops in the following cases:
  - When switching to other channels or other screen
  - When recording of the watching programme is started
  - When 2 programmes simultaneous recording is started
  - When performing PAUSE LIVE TV or REWIND LIVE TV for more than 8 hours (This may vary depending on the HDD free space.)
- These functions do not work in the following cases:
  - When the clock is not set
  - While recording 2 programmes simultaneously
  - While watching a programme being recorded
  - When a radio programme is selected
  - **REWIND LIVE TV** When "REWIND LIVE TV" is set to "Off" (⇒ 73)
- **PAUSE LIVE TV** You can operate this unit with the TV remote control by using VIERA Link (⇒ 62). Refer to the TV operating instructions for operation.

# Recording TV programmes

The titles can only be recorded to HDD of this unit and cannot be copied from HDD to the media.




**1** Press  to select the channel.

You can also select the channel with the number buttons or Channel List (⇒ 22).

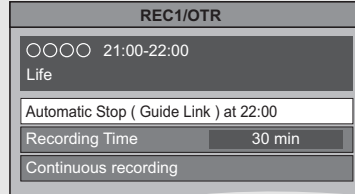
**2** Press . Recording starts.

“REC1” or “REC2” will light



**3** Select “Automatic Stop”, then press .



- **One touch recording (OTR)**  
Recording stops automatically when the programme ends.




- You can also select “Recording Time” or “Continuous recording”. (⇒ below)

### To set the recording time

1 Select “Recording Time” or “Continuous recording” in step **3**.

<b>Recording Time</b>	You can set the length of recording time from 30 minutes to 4 hours. Select the recording time. ● You can also set the time with  .
<b>Continuous recording</b>	The recording is continued until you press  .

2 Press .



- One recording will terminate when simultaneous recording is being done and timer recording starts.
- When “Automatic Standby after OTR” is set to “On” (⇒ 78), this unit is turned to standby mode if this unit is not operated for approximately 5 minutes after completing “Automatic Stop” or “Recording Time” (⇒ above).
- Digital text (MHEG) will not be recorded.

# Recording TV programmes

## Operation during recording

### To check the recording programme

Press **[STATUS]** .

e.g., While recording 2 programmes simultaneously



Recording programme displayed on the TV



Recording programme not displayed on the TV

Recording

### To switch the Channel

Press **[^ v CH]**.

### To display the recording programme on the TV

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

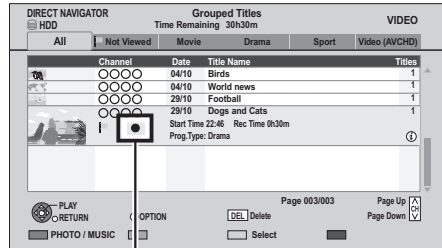
Press **[^ v CH]** to select the recording channel.

## Simultaneous rec and play

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

### ① While recording

Press **[DIRECT NAVIGATOR]**.



“●” is displayed on the recording programme.

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

## To pause recording

It is necessary to display the programme you want to pause on the TV. (⇒ left, To display the recording programme on the TV)

Press **[PAUSE ■■]**.



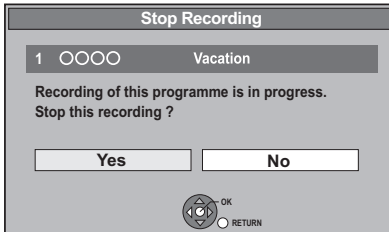
- Press **[PAUSE ■■]** again to restart recording. (A title is not split into separate titles.)
- If paused while recording, the paused part may become a still picture for a moment during playback of that programme.

## To stop recording

Press [STOP ■].

### ■ When recording 1 programme

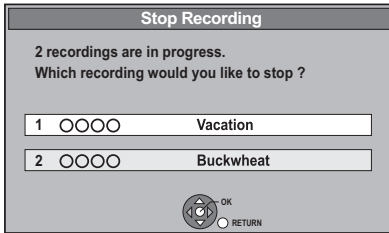
If the following screen appears



Select "Yes", then press [OK].

### ■ When recording 2 programmes

If the following screen appears



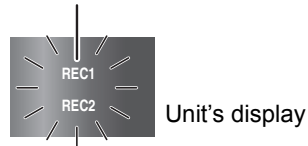
- 1 Select the programme, then press [OK].
- 2 Select "Yes", then press [OK].

## To perform 2 programmes simultaneous recording

While recording

Record another programme with steps ① – ③ on page 27.

"REC1" and "REC2" will light



- Channel cannot be switched except to the recording programmes.

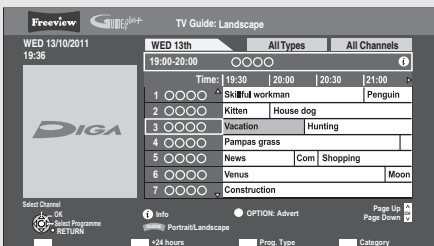
# Timer recording

The titles can only be recorded to HDD of this unit and cannot be copied from HDD to the media.

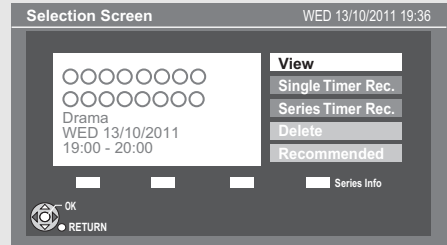


1 Press **GUIDE**.

2 Select the programme, then press **OK**.



3 Select **“Single Timer Rec.”** or **“Series Timer Rec.”**, then press **OK**.



• This screen may not appear depending on the programme.

**Single Timer Rec.:**

Timer programme is set for selected programme.

**Series Timer Rec.:**

Timer programme is set for all the episodes of a series programme.

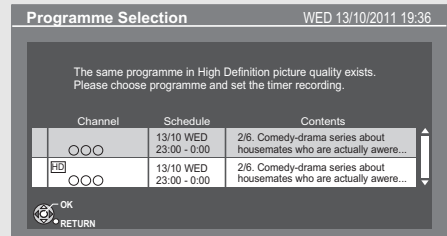
**Recommended (Recommendation Booking):**

Refer to page 32.

**If “Programme Selection” screen appears**

Depending on the signal sent from the broadcaster, both High Definition picture programme and Standard Definition picture programme exist.

Select the programme, then press [OK].



**4 Press [OK].**

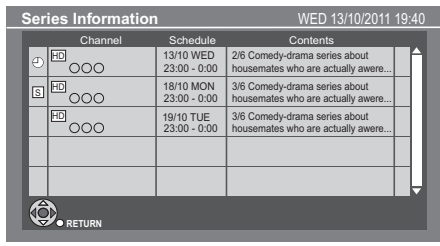
• You cannot change “Channel”, “Day/Date”, etc. (⇒ 34, Timer recording options)  
You can adjust “Start” and “Stop” up to 10 minutes in case of Series Timer Rec.

Timer icon (red)

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

**To check the schedule of the series**

Press the “Blue” button in step [3].



- [⊙] Programme for which you set the timer recording
- [S] The episode to be recorded
- [R] Repeat programme
- [HD] High definition programme

- Using TV Guide system (⇒ 23)
- To confirm and edit the timer programme (⇒ 35)

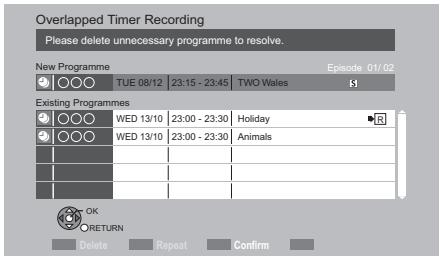
**To cancel a timer recording on the TV Guide screen**

- 1 Select “Delete”, then press [OK] in step [3].
- 2 Select “Yes”, then press [OK].  
(“⊙” in the TV Guide disappears)

**If “Overlapped Timer Recording” screen appears**

You can eliminate the overlapping or may change with repeat event for the duplicated programme by following the on-screen instructions.

- 1 Select “Change”, then press [OK].
- 2 Follow the on-screen instructions.



<b>Red</b>	Delete programme
<b>Green</b>	Record Repeat programme
<b>Yellow</b>	Exit (Overlapping is not resolved)



- You can enter up to 32 programmes up to a month in advance.  
(Each daily, weekly or series programme is counted as one programme.)
- Some broadcasters may not send programme information. Set the timer recording manually (⇒ 34).
- If the same episode has already been set for series timer recording at a different time or on another channel (Repeat programmes), “Series Timer Rec.” will not be selectable.
- Titles recorded using “Series Timer Rec.” are bundled and displayed as a “group” in the DIRECT NAVIGATOR screen (⇒ 38).
- If the unit cannot record the selected programme, the unit will record the repeat programme if it is available. However, this unit will not record the repeat programme, if any part of the selected programme is recorded.
- The series recording will be cancelled if there has been no episode of the series for 13 weeks.

## Various functions with Freeview+

This unit has several functions that enable timer recordings to be controlled by the signal sent from the broadcaster.

If the signal is not sent correctly, the recording may lack the beginning or the ending part of the programmes.

## Guide Link

The recording's start and stop times can be controlled by the broadcaster, e.g. delayed start.

In order to make the timer recording work successfully, we recommend you set the start time earlier and the end time later by some minutes, up to a maximum of 10 minutes.

- This is indicated by "Guide Link" in the Timer Recording screen in step ④ (⇒ 31).
- The "Guide Link" function may not work if you manually change the start time or the stop time over 10 minutes.

## Series Timer Recording

You can record all the episodes of a series by setting just one timer recording. (⇒ 30)

## Split Programme

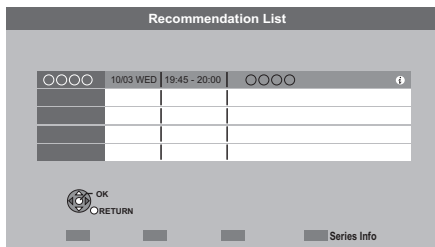
You can record a programme separated into 2 or more parts by some other programmes, e.g., news. When setting timer from the 1st split programme, other parts of the programme will be automatically set and indicated by the timer icon on the TV Guide.

- This is indicated by "Split" in the Timer Recording screen in step ④ (⇒ 31).

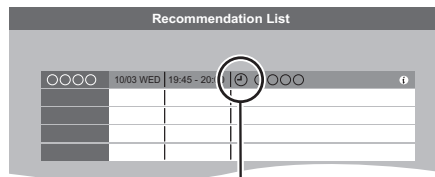
## Recording recommended programme (Recommendation Booking)

You can record a programme that the broadcaster recommends.

- ① After performing steps ① – ② (⇒ 30) Select "Recommended", then press [OK]. "Recommendation List" is displayed.



- ② Select the programme, then press [OK]. If "Programme Selection" appears (⇒ 30, step ③)
- ③ Press [OK]. The timer icon (red) is displayed on the Recommendation List.



Timer icon (red)

- To exit the screen Press [EXIT].

## To cancel the timer recording on the Recommendation List

- 1 Select the programme with "⊖", then press [OK].
- 2 Select "Yes", then press [OK]. (The timer icon "⊖" disappears.)



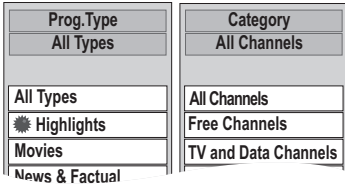
- "Recommended" cannot be selected if there is no recommended programme.



## To search the programme

You can search the programme from programme type and category.

- 1 While displaying TV Guide screen  
Press the “Yellow” button (Prog. Type) or the “Blue” button (Category).
- 2 Select the item, then press [OK].



<b>Landscape view</b>	The unit displays programmes in grey that do not belong to the selected programme type.
<b>Portrait view</b>	Only the programmes belonging to the selected type or category are displayed.

- If you select “Highlights”, the recommended programme list is displayed.

### To return to the previous TV Guide list


Select “All Types” in the “Prog. Type” or “All Channels” in the “Category” in step 2.



- Category and programme types may not be assigned correctly depending on the programme information.
- Some broadcasters may not send programme information.

## Timer recording from channel information

You can make timer recording of the current or next programme.

- 1 While watching a programme  
Press [STATUS ].

e.g.,



- 2 Display the channel information of a programme to record.

- Switch the programme with [◀, ▶].
- Switch the channel with [▲, ▼].

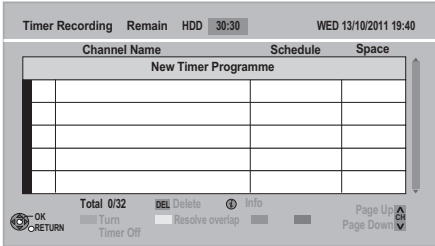
- 3 Press the “Yellow” button.

- 4 Go to step [4](#) on page 31.

- You cannot change “Channel”, “Day/Date”, etc.

## Manually programming timer recording

**1** Press [PROG/CHECK].



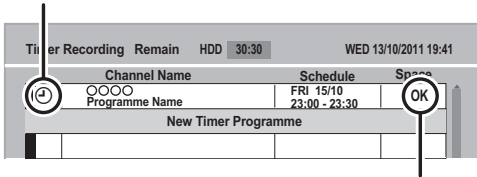
**2** Select “New Timer Programme”, then press [OK].

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

**4** Press [OK].

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

Timer icon (red)



Check for available space on HDD, when “!” is displayed. (⇒ 35)

➤ **To confirm and edit the timer programme**  
(⇒ 35)

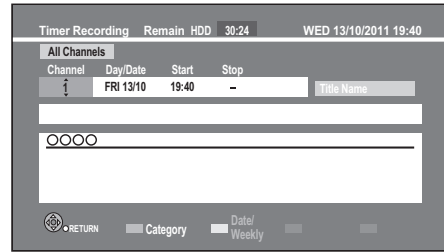


- You can enter up to 32 programmes up to a month in advance.  
(Each daily or weekly programme is counted as one programme.)

## Timer recording options

Select the items and change the items.

e.g.,

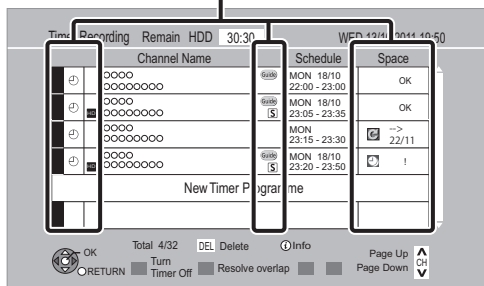


<b>Channel</b>	<p>Press [▲, ▼].</p> <ul style="list-style-type: none"> <li>• You can select Category with the “Red” button to switch Favourites, etc.</li> </ul>
<b>Day/Date</b>	<p>Press [▲, ▼].</p> <p>You can select “Date” or “Weekly” by pressing the “Green” button.</p>
<b>Start/Stop</b>	<p>Press [▲, ▼].</p> <ul style="list-style-type: none"> <li>• Press and hold [▲, ▼] to alter in 15-minute increments.</li> </ul>
<b>Renew</b> (Only daily/weekly/series timer recording)	<p>Press [▲, ▼].</p> <ul style="list-style-type: none"> <li>• <b>Auto Renewal Recording</b> The unit will record the new programme over the old one.</li> </ul>
<b>Title Name</b>	<p>Select “Title Name”, then press [OK]. (⇒ 69, Entering text)</p>

## To confirm and edit a timer programme

Press [PROG/CHECK].

### Icons



- Failed programmes are deleted from the timer recording list at 4 a.m. two days later.
- “No Data” is displayed on a series recording item if there will be no episode of the series for the next 8 days. We recommend you delete the “No Data” item after you confirm the last episode of the series is recorded.

## Screen icons

- Red: Timer recording standby is activated.  
 Grey: Timer recording standby is deactivated.
- Currently recording programme
- A part or all of the programme will not be recorded since the programme is overlapping. Press the “Green” button to resolve overlapping. (⇒ left)
- The HDD is full.
- Copy-protected programme  
It was not recorded.
- The programme did not complete recording because of some reason.
- Auto Renewal Recording is set (⇒ 34).
- Guide Link (⇒ 32)
- Split Programme (⇒ 32)
- Series Timer Recording (⇒ 32)
- OK** Displayed if the recording can fit in the remaining space
- Daily or weekly timer programme is set. (up to a maximum of one month from the present time)
- (Date)** (Date)
- !** It may not be possible to record because:
  - there is not enough space left.
  - the number of possible titles has reached its maximum. (⇒ 96)
  - programmes are deactivated, etc.

### To deactivate a timer programme

Select the programme, then press the “Red” button.

- The timer icon “⊖” (⇒ right) will change from red to grey.
- Press the “Red” button again to activate timer recording standby. (The timer icon “⊖” will change to red.)

### To delete a timer programme

Select the programme, then press [DEL].

### To edit a timer programme

- 1 Select the programme, then press [OK].
- 2 Change the timer recording options. (⇒ 34, Timer recording options)

### To resolve overlapping

- 1 Select the programme with , then press the “Green” button.
- 2 Follow the on-screen instructions.
  - Programme overlapping can be resolved with repeat programme if available.
  - This function is not available for the timer programmes that were set manually.

### To show programme information

Press [STATUS ].

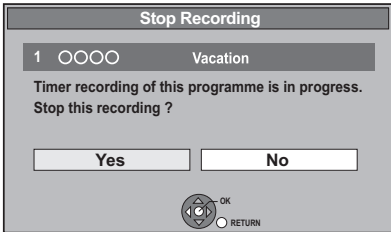
### To exit the timer recording list

Press [EXIT].

## To cancel recording when timer recording has already begun

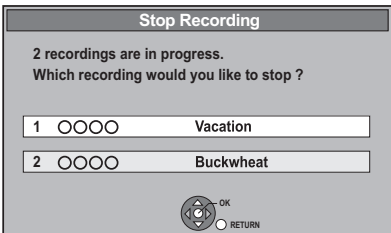
Press [STOP ■].

### ■ When recording 1 programme



Select "Yes", then press [OK].

### ■ When recording 2 programmes



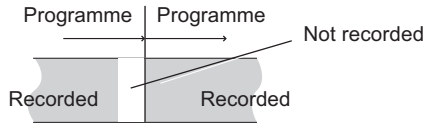
- 1 Select the programme, then press [OK].
- 2 Select "Yes", then press [OK].



- If you have already set a daily/weekly/series 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.
- Even if you turn the unit off during the timer recording, the recording is continued.
- When you programme successive timer recordings to start, about last 1 minute of earlier programme will not be recorded.



- **About 2 programmes simultaneous recording (⇒ 29)**
- **Starting the timer recording while executing other operation (⇒ 95)**

# Playing recorded video contents

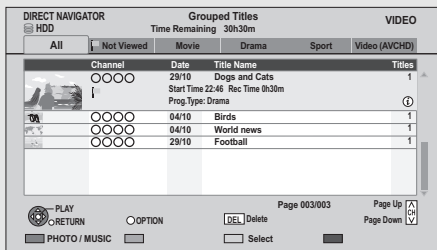


\* DivX and MKV file only

## 1 ■ HDD:

① Press **DRIVE SELECT**, then select "HDD".

② Press **DIRECT NAVIGATOR**.



## ■ Except HDD:

① Insert the media.  
 ② If the menu screen is displayed  
 Select the item, then press **OK**.

## 2 Select the title, then press

**OK**.

### ● Resume play function

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



### ■ AVCHD: If the menu screen is not displayed

Press **[PLAY/× 1.3 ▶]**.

➤ To display the menu screen (⇒ 21)

➤ About DivX VOD content (⇒ 94)



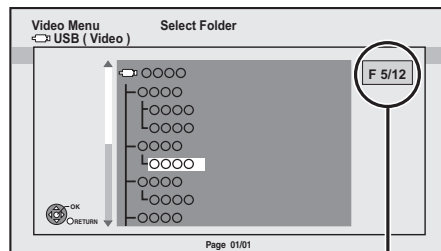
● Some DivX and MKV files may not be played back, depending on the video resolution and frame rate condition.

## Using the tree screen to find a folder

### DivX and MKV

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 and MKV title.

● You cannot select folders that contain no compatible files.

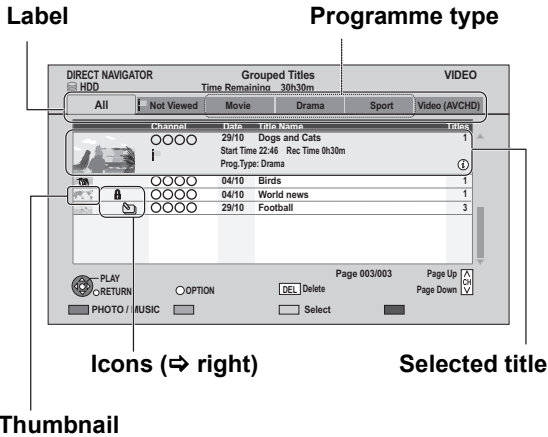
③ Select the folder, then press **[OK]**.

The file list for the folder appears.

## Using the DIRECT NAVIGATOR (VIDEO)

Press [DIRECT NAVIGATOR].

e.g., **HDD**



Playing back video

### Label

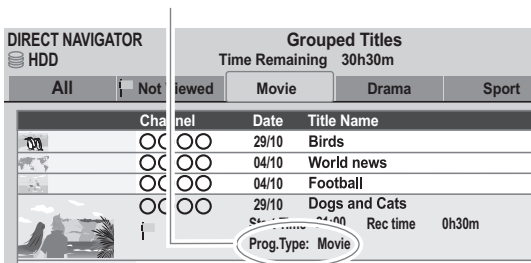
#### HDD

Titles recorded to HDD will be categorised automatically.

You can quickly find the recorded titles by selecting the label.


Select the label with [**◀**, **▶**].

To sort a selected title from the “All” label into the programme type labels, set “Prog.Type” of the title. (⇒ 47, Changing programme type of title)




- To change the displayed label, go to “Changing the programme type” on page 39.
- High Definition video (AVCHD) acquired from the SD card or USB device is sorted to “Video (AVCHD)” automatically.


## Screen icons

-  Currently recording programme


---

-  Protected title


---

-  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.)


---

-  Grouped titles



---

-  Title has not yet been played


---

-  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 (⇒ 75).


---

-   Radio programme


---

-  3D contents
  - This icon will not display even with 3D programmes when a broadcast programme is recorded.


---

-  Recorded in 1080/50p contents


---

-  Recorded in 1080/60p contents


---

-  This icon is displayed with the following titles when “Child Lock for Playback” is set to “On” (⇒ 73).
  - Title with Guidance information
  - Title restricted by Child Lock (⇒ 72)
  - PIN is required to play.


---

-  Title has been recorded in Series timer recording. (⇒ 32)


---

-  Title has been recorded in Series timer recording and has not yet been played.

---

-  Titles that may not be played back on DLNA (Client) compatible equipment.

---

-  Recording did not complete as the second timer recording has started.

## Switching to the PHOTO or MUSIC screen

### HDD

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

## Switching the appearance

### HDD

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

<b>Grouped Titles</b>	Two or more titles recorded in the daily/weekly/series timer recording mode are bundled and displayed as one item.
<b>All Titles</b>	Displays all titles.

## To view the individual titles in grouped titles

### HDD

While displaying Grouped Titles screen:  
Select the item marked with , then press [OK].

## Changing the programme type

### HDD

Programme type displayed in the label can be changed.

- ① Select the programme type, then press the “Green” button.
- ② Select the item, then press [OK].



- “All”, “Not Viewed” and “Video (AVCHD)” cannot be changed.

## Showing Information

### HDD

Select the title, then press [STATUS ].

### SD

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



- Information of a recording title cannot be displayed.

## Playback grouped titles

### HDD

The titles will be played continuously.

Select the group, then press [PLAY/×1.3 ▶].

## Editing the grouped titles

### HDD

- ① Select the title or the group, then press the “Yellow” button.

A check mark is displayed. Repeat this step.

- Press the “Yellow” button again to cancel.

- If you perform “Remove”, select the title in the group.

- ② Press [OPTION].
- ③ Select the item, then press [OK].

<b>Create Group</b>	Selected titles are bundled to form a group. Select “Create”, then press [OK].
<b>Release Grouping</b>	All the titles in the group are released. Select “Release”, then press [OK].
<b>Remove</b>	Selected titles are removed from the group. Select “Remove”, then press [OK].

## Changing 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].

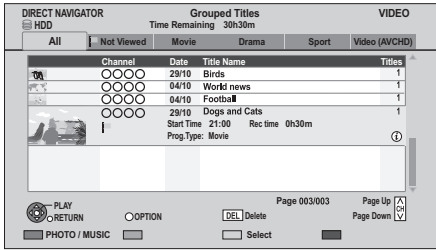
(⇒ 69, Entering text)

- Even if the group name is changed, the title names in the group will not be changed.

## Playback from Chapter View

HDD

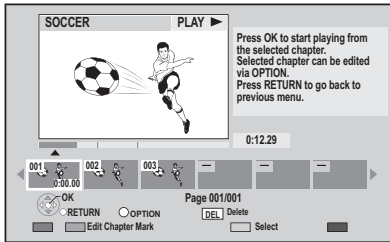
**1** Press [DIRECT NAVIGATOR].



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

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

Chapter View screen



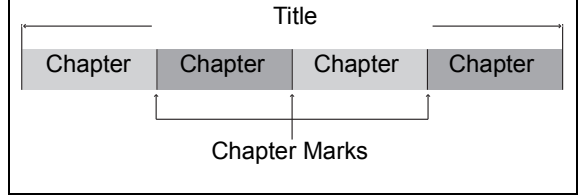
**4** Select the chapter, then press [OK].

➤ Editing chapters in Chapter View (⇒ 47)

## To create Chapter Marks

### Regarding chapters

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



During the playback or pause Press [CHAPTER].

### To delete the Chapter Mark

- 1 While paused Press [SKIP ◀◀] or [SKIP ▶▶] and skip to the location you want to delete.
- 2 Press [CHAPTER].
- 3 Select "Yes", then press [OK].



- The maximum number of chapters is approx. 1000 per title. (Depends on the state of recording.)
- When the title has the maximum number of chapters, you cannot perform the Resume play function (⇒ 37) or the "Change Thumbnail" (⇒ 47) with the title.



# Operation during play



\* DivX and MKV file only



- Depending on the media and the type of file, some operations may not be possible.
- Depending on the media, it may take time for the menu screen, pictures, sound, etc. to start.

## Showing status messages

Press **[STATUS ⓘ]** twice.

e.g.,



Title number and elapsed time during play

## Stop

Press **[STOP ■]**.

The stopped position is memorized.

- **[HDD]** Stopped position for each title is memorized.

### Resume play function

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

## Search

Press **[SLOW/SEARCH ◀◀]** or **[SLOW/SEARCH ▶▶]**.

- Press **[PLAY/×1.3 ▶]** to restart play.



- The speed increases up to 5 steps.
- Audio is heard during first level search forward.
- **DivX and MKV:** 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 and MKV:** This function is not effective.

## Quick View

Play speed is quicker than normal.

Press and hold **[PLAY/×1.3 ▶]**.

- Press again to return to normal speed.



- **DivX and MKV:** This function is not effective.

## Pause

Press **[PAUSE ||]**.

- Press **[PAUSE ||]** again or **[PLAY/×1.3 ▶]** to restart play.

## Operation during play

### Slow-motion

While paused, press [SLOW/SEARCH ◀◀] or [SLOW/SEARCH ▶▶].

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



- The speed increases up to 5 steps.
- **DivX and MKV:** This function is not effective.
- **SD** Forward direction [SLOW/SEARCH ▶▶] only.

### Frame-by-frame

While paused, press [◀] (◀◀) or [▶] (▶▶).

- Each press shows the next frame.
- Press and hold to change in succession forward or backward.
- Press [PLAY/× 1.3 ▶] to restart play.



- **DivX and MKV:** This function is not effective.
- **SD** Forward direction [▶] (▶▶) only.

### Skipping the title or chapter

Skip to the title or chapter you want to play.

During play or while paused, press [SKIP ◀◀] or [SKIP ▶▶].



- It will skip to the beginning of chapters (⇒ 40) if the title contains chapters.
- **HDD** It will not skip the title. But the title in the grouped titles during the “Playback grouped titles” (⇒ 39) will be skipped.

### Changing audio

- ① Press [OPTION].
- ② Select “Playback Settings” in “Playback Menu” (⇒ 66).
- ③ Select “Multi Audio” in the Content menu, then select the desired audio.

### Switching the subtitles

#### ■ HDD

- ① Press [STTL ⚙️].
- ② Select “On” or “Off”.
  - If you want to switch the subtitle language, select the subtitle with “Subtitle Language” in the Content menu (⇒ 66).

#### ■ DivX, MKV and AVCHD

- ① Press [OPTION].
- ② Select “Playback Settings” in “Playback Menu”.
- ③ Select “Subtitles” in the Content menu, then select “On” or “Off”.
  - You can also change the language.

### Listening to the Audio Description

#### ■ HDD

- ① Press [AD].
- ② Select “Audio Description” and set to “Automatic”.
- ③ Select “Volume”, then adjust the volume with [◀, ▶].



- When “Dolby Digital / Dolby Digital Plus”, “MPEG” or “HE-AAC” is set to “Bitstream” or “Bitstream (Dolby D)”, the Audio Description may not work. Set them to “PCM” (⇒ 74, Digital Audio Output).
- You can also set “Audio Description” active in the Setup menu. (⇒ 72)

### Aspect

You can switch the screen mode. (⇒ 82)

# Enjoying 3D programme

You can enjoy viewing 3D programmes by connecting this unit with a High Speed HDMI Cable to a 3D compatible TV.



The image is an illustration.

## Preparation

Connect 3D compatible TV to an HDMI AV OUT terminal of this unit using a High Speed HDMI Cable. (⇒ 10)

- Perform the necessary preparations for the TV.

Playback following the instructions displayed on the screen.

## 3D settings

Perform the following settings as necessary.

<b>3D Type</b>	If 3D programme cannot be played back in 3D, you may be able to play it in 3D by changing the setting. (⇒ 75)
<b>3D Playback Message</b>	Hide the 3D viewing warning screen. (⇒ 75)

## Convenient functions while viewing the 3D programme

Change this setting when the screen such as playback settings, etc., is not correctly displayed for 3D compatible programmes.

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

<b>Signal Format</b>	<b>Original</b>	Keep original picture format.
	<b>Side by side</b>	3D picture format comprising of left and right screens.
	<b>2D to 3D*</b>	Converts 2D pictures to 3D effect while playing.

<b>3D Picture Mode*</b>	<b>Normal</b>	Playback pictures with normal 3D effects.
	<b>Soft</b>	You can enjoy 3D pictures with a feeling of broadness, holding back the depth perception. ● This function cannot be enabled when "Signal Format" is set to "2D to 3D".
	<b>Manual Settings</b>	Set 3D effect manually. ● <b>Distance</b> Set the amount of depth perception. ● <b>Screen Type</b> Selects how the screen appears during 3D playback (flat or round). ● <b>Frame Width</b> Set the amount of feathering at the edge of screen. ● <b>Frame Colour</b> Set the colour of feathering at the edge of screen.

\* This function is not effective while watching broadcast.






- Depending on the contents, displayed items are different.
- Subtitles and TV Guide, etc., may not display correctly depending on the settings.
- This unit does not guarantee the playback of 3D programme types other than the Frame Sequential type or the Side-by-Side (Half) type.
- Please refrain from viewing 3D images if you do not feel well or are experiencing visual fatigue.  
In the event that you experience dizziness, nausea, or other discomfort while viewing 3D images, discontinue use and rest your eyes.
- Depending on the connected TV, the video being played back might switch to 2D video due to changes in resolution etc. Check the 3D setting on the TV.
- 3D programme might not output as settings of "HDMI Video Format" (⇒ 75).
- It may display as Side-by-Side (2 screen structure) when playback of the 3D programme is started.
- Depending on the operation, the setting of the "Signal Format" may return to "Original" and the setting of the "3D Picture Mode" may return to "Normal" when the content is switched or some other operation is performed while viewing.

# Deleting recorded titles

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




- 3 Select the title, then press  (Yellow) .  
A check mark is displayed. Repeat this step.  
• Press the “Yellow” button again to cancel.
- 4 Press  .
- 5 Select “Delete”, then press  .

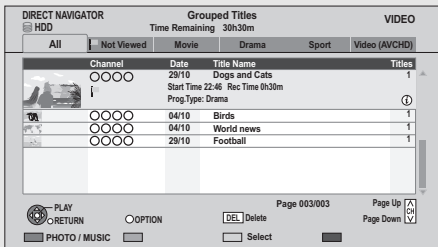
## Deleting during play

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



1 While stopped  
Press  , then select “HDD”.

2 Press  .



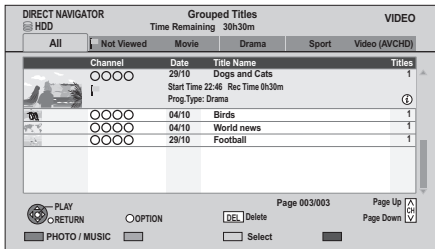
# Editing recorded titles

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



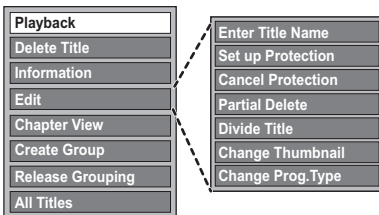
- PIN is required to edit the titles with **G** in some functions. (⇒ 38)

- 1 Press [DIRECT NAVIGATOR].
- 2 Select the title.



- **Multiple editing**  
Press the “Yellow” button.  
A check mark is displayed. Repeat this step.  
• Press the “Yellow” button again to cancel.

- 3 Press [OPTION].
- 4 Select the item, then press [OK].



- “Edit” has several functions.

## Deleting

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

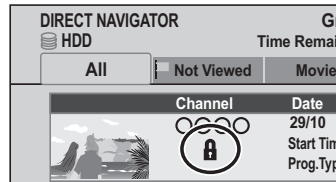
## Entering title name

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

(⇒ 69, Entering text)

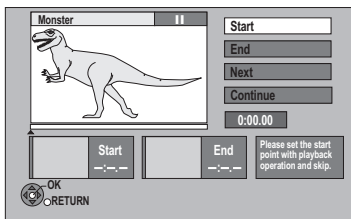
## Setting protection

Protection setting prevents the title from accidental deletion.



- ① Select “Set up Protection” or “Cancel Protection” in “Edit”, then press [OK].
- ② Select “Yes”, then press [OK].  
🔒 appears when setting the protection.

## Partial deleting

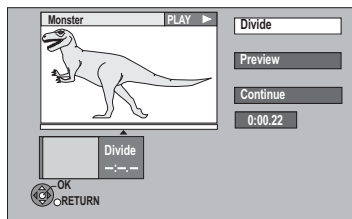


- ① Select **“Partial Delete”** in **“Edit”**, then press **[OK]**.
- ② Press **[OK]** at the start point and end point to delete.
  - Press **[PLAY/× 1.3 ▶]** to start the playback when the title is paused.
- ③ Select **“Continue”**, then press **[OK]**.
  - Select **“Next”**, then press **[OK]** to 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 **[BACK/RETURN ↵]**.



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

## Dividing title

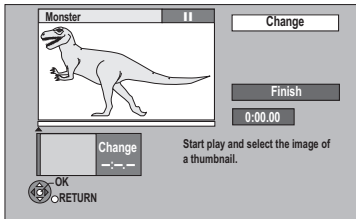


- ① Select **“Divide Title”** in **“Edit”**, then press **[OK]**.
- ② Press **[OK]** at the point to divide the title.
  - **To confirm the division point**  
Select **“Preview”**, then press **[OK]**. (The unit plays 10 seconds before and after the division point.)
  - **To change the division point**  
Restart play and select **“Divide”**, then press **[OK]** at the division point.
- ③ Select **“Continue”**, then press **[OK]**.
- ④ Select **“Divide”**, then press **[OK]**.



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

## Changing thumbnail



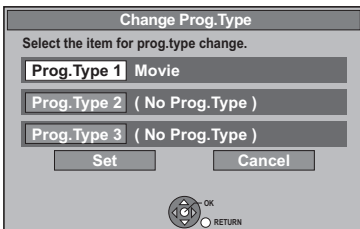
- 1 Select “Change Thumbnail” in “Edit”, then press [OK].
- 2 Press [PLAY/× 1.3 ▶] to start play.
- 3 Press [OK] at the point to use as a thumbnail.
  - To change the point  
Restart play and select “Change”, then press [OK] at the point to change.
- 4 Select “Finish”, then press [OK].



- You can find the desired point by using search function, etc.

## Changing programme type of title

Programme type information in the title can be edited.

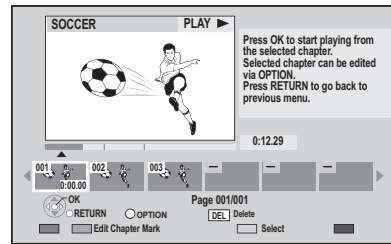


- 1 Select “Change Prog.Type” in “Edit”, then press [OK].
- 2 Select the item to change a programme type, then press [OK].
- 3 Select the programme type, then press [OK].
- 4 Select “Set”, then press [OK].

## Editing chapters

Select “Chapter View”, then press [OK].

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.
- 3 Press [BACK/RETURN ↵] to go to Chapter View screen.

### ■ To delete the chapter:

- 1 Select the chapter, then press [DEL].
  - Multiple editing  
Select the chapter, then press the “Yellow” button.  
A check mark is displayed. Repeat this step 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.

➤ Playback from Chapter View (⇒ 40)


# Playing photos



● In order to play back 3D photo (MPO), this unit should be connected to a Full HD 3D compatible TV using a High Speed HDMI cable.

## 1 ■ HDD

① Press .

② Select "Photo" in "Playback Contents", then press .

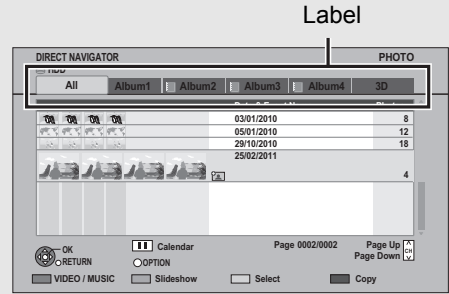
## ■ SD USB

① Insert the SD card or USB memory.

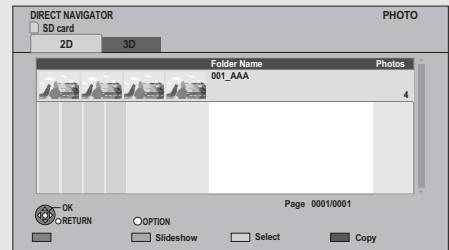
② Select "View Photos", then press .

## 2 Select the event, then press .



e.g., **HDD**



e.g., **SD**



### ● To select the label

Press [, ].



### ● Start Slideshow

- 1 Select a date or folder, then press the "Green" button.
- 2 Select "Start Slideshow" then press [OK].

### ● Switching the Calendar screen (**HDD**)

Press [PAUSE ].

## 3 Select the photo, then press .

● Press [, ] to display the previous or next photo.

### To stop the Slideshow

Press [BACK/RETURN ].

### To pause the Slideshow

Press [PAUSE ].

● Press [PAUSE ] again to restart.

### To exit the Calendar screen

Press [PAUSE ].

### ➤ Slideshow Settings (⇒ 50)



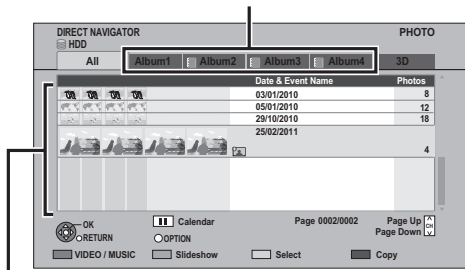
- You cannot play photos while recording or copying.
- It may take a few moments for photos to display.
- When there are many files and/or folders, some files may not be displayed or be playable.



## ■ DIRECT NAVIGATOR (PHOTO) screen

e.g., **HDD**

Album (⇒ below)



### Event

It is displayed for each recording date.

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

### Screen icons:

	<b>Album (HDD)</b> Placing photos in albums of your choice makes it easier to find them. (⇒ 52)
<b>3D</b> (Label)	3D photos (MPO) are automatically sorted. Select from this label to playback in 3D. (It will playback in 2D when selected from other labels)
	Photo protected
	<b>HDD</b> New photo which is stored and not viewed

## Switching to the VIDEO or MUSIC screens

### HDD

- ① While the DIRECT NAVIGATOR (PHOTO) screen displayed  
Press the “Red” button.
- ② Select “VIDEO” or “MUSIC”, then press [OK].

## Photo play option

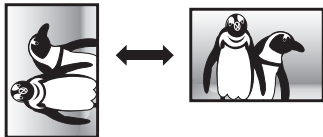
- ① While displaying a photo  
Press [OPTION].
- ② Select the item, then press [OK].

### Photo Menu

#### ●Start Slideshow

You can start a slideshow.

#### ●Rotate RIGHT, Rotate LEFT



●Rotation information will not be stored depending on the media.

#### ●Information

Information (shooting date etc.) is shown.

### Aspect

You can switch the screen mode. (⇒ 82)

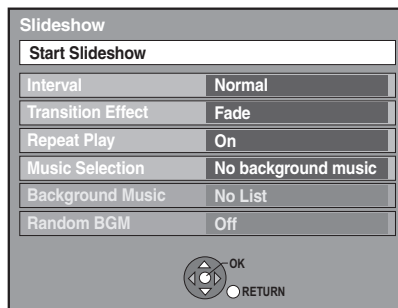
### Graphic Display Level

You can change the pop-up level of the screen display, etc., during the 3D photo playback.

## Slideshow Settings

You can set the items for slideshow.

While displaying DIRECT NAVIGATOR (PHOTO)  
Press the “Green” button.



#### ●Start Slideshow

You can start a slideshow.

#### ●Interval

You can setup the time until the next photo is to display.

#### ●Transition Effect

Effect for the next photo to display can be set.

- This function is not available during the 3D photo playback.

#### ●Repeat Play

You can setup to playback repeatedly.

#### ●Music Selection

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

- This function is not available during the 3D photo playback.

#### ●Background Music

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

- This function is not available during the 3D photo playback.

#### ●Random BGM

You can playback the BGM in random order.

- This function is not available during the 3D photo playback.

# Editing photos



1

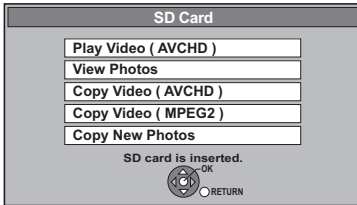
■ **HDD**

- ① Press [FUNCTION MENU].
- ② Select “Photo” in “Playback Contents”, then press [OK].

■ **SD**

- ① Insert the SD card.

e.g.,

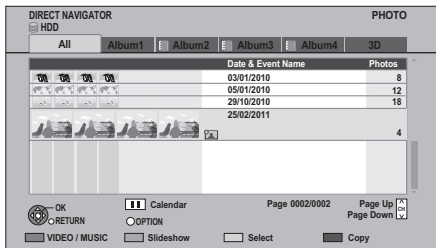


- ② Select “View Photos”, then press [OK].

2

- **Editing the event:**  
Select the event, then press [OPTION].

e.g., **HDD**



■ **Editing the photo:**

- ① Select the event, then press [OK].
- ② Select the photos to edit, then press [OPTION].

● **Multiple editing**

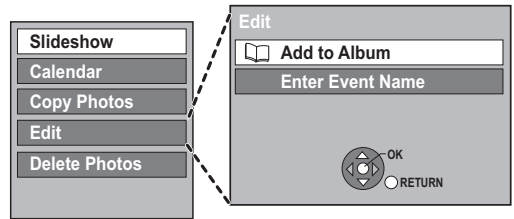
Select the item, then press the “Yellow” button. (Repeat this step.)  
A check mark is displayed.

- Press the “Yellow” button again to cancel.

3

Select the item, then press [OK].

e.g., **HDD**



Photo

## Editing photos

### Add to Album

#### HDD

- ① While selecting “All” label:  
Select “Add to Album” in “Edit”, then press [OK].
- ② Select the destination album, then press [OK].
- ③ Press [OK].

### Combine Events

#### HDD

- ① While selecting album label and select multiple events:  
Select “Combine Events” in “Edit”, then press [OK].
- ② Select “Yes”, then press [OK].

### Remove from Album

#### HDD

- ① While selecting album label:  
Select “Remove from Album” in “Edit”, then press [OK].
- ② Select “Yes”, then press [OK].

### Enter Album name

#### HDD


- While selecting album label:  
Select “Enter Album Name” in “Edit”, then press [OK].  
(⇒ 69, Entering text)

### Enter Event Name

- Select “Enter Event Name” in “Edit”, then press [OK].  
(⇒ 69, Entering text)

### Setting protection

#### SD

- ① While selecting photo:  
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 photo may be deleted by another unit.

### Deleting

- ① While selecting “All” or “2D” label:  
Select “Delete Photos”, then press [OK].
- ② Select “Yes”, then press [OK].

# Copying photos



## Selecting and copying the photos

**HDD** → **SD**  
**SD** **USB** → **HDD**

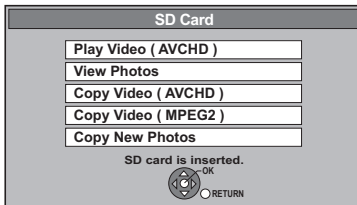
**1**

■ **HDD**

- ① Press [FUNCTION MENU].
- ② Select “Photo” in “Playback Contents”, then press [OK].

■ **SD** **USB**

- ① Insert the SD card or USB memory.  
e.g., **SD**



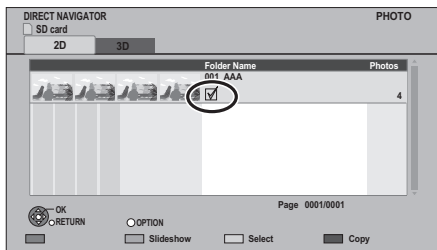
- ② Select “View Photos”, then press [OK].

**2**

Select the event or the photo, then press the “Yellow” button.

A check mark is displayed. Repeat this step.

e.g., **SD**



- Press the “Yellow” button again to cancel.

**3**

Press the “Blue” button.

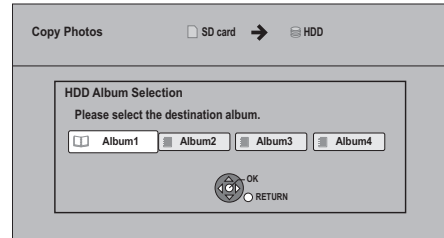
**4**

When copy to HDD:

Select “Yes” or “No”, then press [OK].

- If you select “Yes”:

Select the album, then press [OK].



- You can categorise and manage the events and photos on the HDD by copying to the album. (⇒ 49)

**5**

Select “Yes”, then press [OK].

Copying starts.

### To stop copying

Press and hold [BACK/RETURN ↵] for 3 seconds.



- The name of the copied photos will be changed.
- If the number of files/folders to be copied exceeds the maximum (⇒ 97), copying will stop partway through.

## Copying automatically

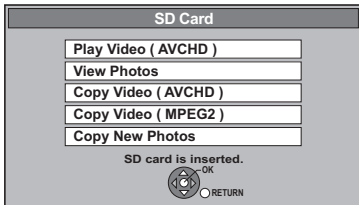
**SD** **USB** → **HDD**

Newly added photos will automatically be copied to the HDD.

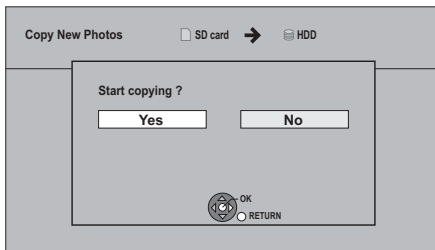
### 1 While stopped

Insert the **SD** card or **USB** memory.

e.g., **SD**



### 2 Select “Copy New Photos”, then press [OK].



### 3 Select “Yes”, then press [OK].

Copying starts.

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

#### To stop copying

Press and hold [BACK/RETURN ↵] for 3 seconds.



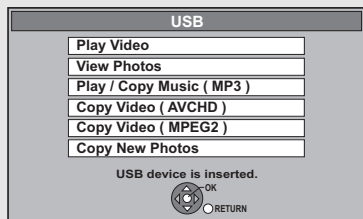
- Photos without shooting date will be categorised using the creation date.
- If the space on the destination drive runs out or the number of files/folders to be copied exceeds the maximum (⇒ 97), copying will stop partway through.
- The name of the copied photos will be changed.

# Playing music/Copying music to HDD



## 1 While stopped Insert a USB memory.

e.g.,



## 2 Select “Play / Copy Music (MP3)”, then press [OK].

Playback will start.

### ■ To copy MP3 to HDD

## 3 Press [Blue].

## 4 Select “Copy”, then press



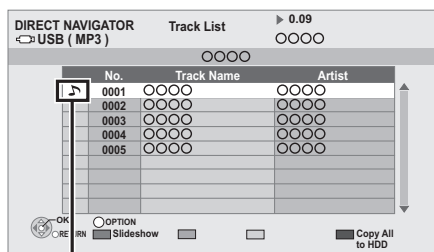
Copying starts.

- 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.

## To play other music (track)

Select the item, then press [OK].

e.g.,



Playing track

## To stop copying

Press and hold [BACK/RETURN ↵] for 3 seconds.

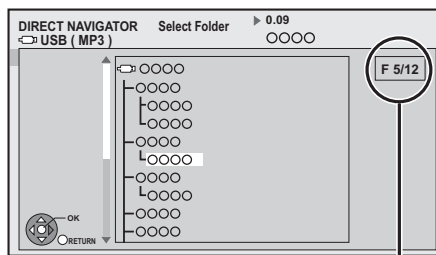


- The track/artist name will be displayed if the information is contained in ID3 tag of the MP3 file.
- If there is a large amount of photo data etc. within a MP3 file, play may not be possible.
- While copying, no other operations can be performed. Timer recordings will not proceed.
- The maximum number of tracks on HDD: 40000 (Depends on the remaining capacity.)

## Using the tree screen to find a folder

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

### 2 Select “Select Folder”, then press [OK].



Selected folder No. /Total folder  
If the folder has no track, “-” is displayed as folder number.

### 3 Select the folder, then press [OK].

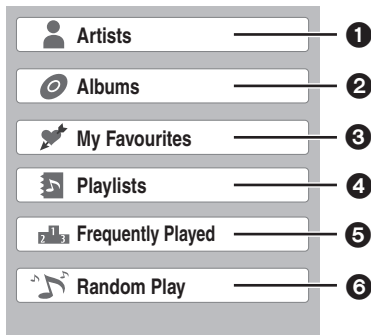
## Playing music recorded on HDD

**HDD**

- 1 When the HDD is selected Press [FUNCTION MENU].
- 2 Select "Music" in "Playback Contents", then press [OK].



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



- 1 Categorised by artist
- 2 Categorised by album
- 3 Tracks registered in "My Favourites"
- 4 Tracks registered in "Playlists"
- 5 Tracks most often played recently (up to 30 tracks)
- 6 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].

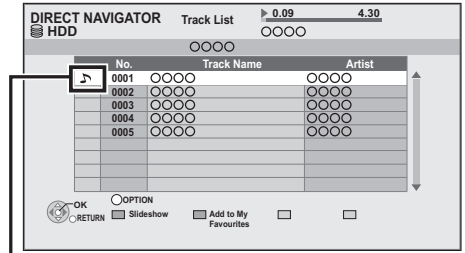
■ When "Albums" is selected

- 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].



Playing track

## Switching to the VIDEO or PHOTO screens

- 1 While the DIRECT NAVIGATOR (Music Menu) screen is displayed



Press the "Red" button.

- 2 Select "VIDEO" or "PHOTO", then press [OK].

## Operations during music play

**HDD USB**

<b>Stop</b>	Press [STOP ■].
<b>Pause</b>	Press [PAUSE ■■]. ● Press [PAUSE ■■] again or [PLAY/× 1.3 ▶] to restart play.
<b>Search</b>	Press [SLOW/SEARCH ◀◀] or [SLOW/SEARCH ▶▶]. ● Press [PLAY/× 1.3 ▶] to restart play.
<b>Skip</b>	During play or while paused, press [SKIP ◀◀] or [SKIP ▶▶].



## Useful functions during music play

**HDD** **USB**

### Registering a track to the “My Favourites”

**HDD**

While the Track List screen is displayed

**Select the track, then press the “Green” button.**

- Up to 99 tracks can be registered.

### Showing Information

**HDD**

While the Track List screen is displayed

- ① **Select the track.**
- ② **Press [OPTION].**
- ③ **Select “Information”, then press [OK].**

### Repeat Play Random

Refer to “Repeat Play” or “Random” in “Play menu” (⇒ 66).

### Sound Effects

Refer to “Sound Effects” in “Sound menu” (⇒ 67).

## Displaying photos (Slideshow)

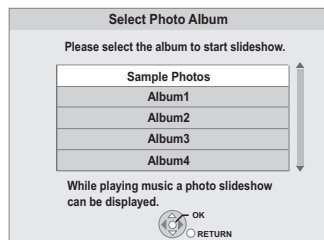
Photos stored on the “Album” of the HDD can be played back as slideshow during playback of the music.

While playing the music

**Press the “Red” button.**

### • To change the photos to display

- ① While slideshow playing  
Press [OPTION].
- ② Select “Select Photo Album”, then press [OK].
- ③ Select the album, then press [OK].  
e.g.,



### To end the slideshow

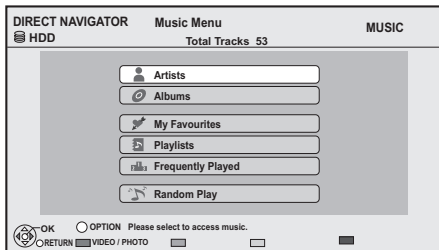
Press [BACK/RETURN ↵].

- **How to create the photo album (⇒ 52, Add to Album)**
- **To play music continuously even if the Power off link works (⇒ 62)**

# Editing music/playlist

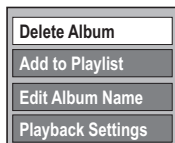


- 1 Press [FUNCTION MENU].
- 2 Select “Music” in “Playback Contents”, then press [OK].



•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”



## Deleting all tracks

- While displaying the “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 the “Artists” screen
  - ① Select “Delete All Tracks”, then press [OK].
  - ② Select “Delete”, then press [OK].

## Deleting albums

- While displaying the “Album View” or “Albums” screen
  - ① Select “Delete Album”, then press [OK].
  - ② Select “Delete”, then press [OK].

## Deleting

- While displaying the “Track List” screen
  - ① Select “Delete”, then press [OK].
  - ② Select “Delete”, then press [OK].

## Editing the 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 the “Playlists” screen
  - ① Select “Remove All Tracks”, then press [OK].
  - ② Select “Remove”, then press [OK].
- While displaying the “Music Menu” screen
  - ① Select “Clear My Favourites” or “Clear Frequently Played”, then press [OK].
  - ② Select “Clear”, then press [OK].

## Removing tracks

- While displaying the “My Favourites”, “Track List” or “Playlists” or “Frequently Played” screen
  - ① Select “Remove”, then press [OK].
  - ② Select “Remove”, then press [OK].

The selected track is removed.

## Add to playlist

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

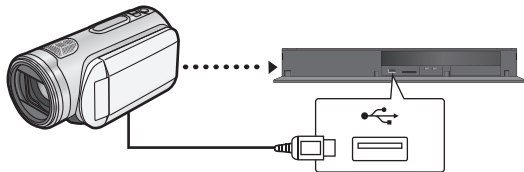
- ① Select “Add to Playlist”, then press [OK].
- ② Select the playlist, then press [OK].
- New playlist cannot be added.
- Up to 999 tracks can be registered to each playlist.

# Copying the HD Video or the SD Video



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

e.g., Connecting to the Panasonic video camera



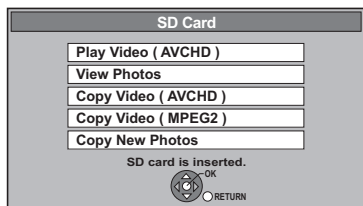
**USB connection cable**  
(specified cable such as accessories of the USB equipment)

## Copying HD Video (AVCHD format)

It is possible to copy the HD video (AVCHD format) recorded on the Panasonic video camera, etc. to the HDD.

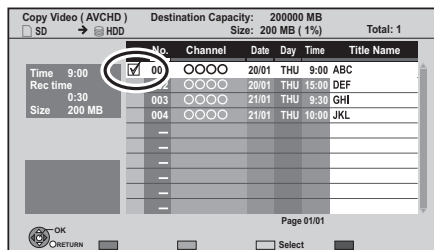
**SD** **USB**, video camera, etc. → **HDD**

- 1**
  - **From video equipment**  
**Connect the video camera.**
    - Make the video camera ready for data transfer on the video camera.
  - **From an SD card**  
**Insert an SD card.**  
e.g.,



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

- 3** Press [OK].
- 4** Select the title, then press the “Yellow” button.  
A check mark is displayed. Repeat this step. e.g., **SD**



- Press the “Yellow” button again to cancel. (All the recordings on the same date become a title.)
- **Screen icons**
  - N** (NTSC) Title recorded using a different encoding system from that of the TV system currently selected on the unit.
  - P** (PAL)
  - Titles displaying these marks cannot be selected.

- 5** Press [OK].
- 6** Select “Start”, then press [OK].

- It may take time for the copying to start.

### To stop copying

Press and hold [BACK/RETURN ↵] for 3 seconds.



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

## Copying SD Video (MPEG2 format)

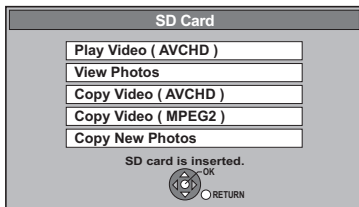
It is possible to copy the SD video (MPEG2 format) recorded on the Panasonic video camera, etc. to the HDD.

**SD** **USB**, video camera, etc. → **HDD**

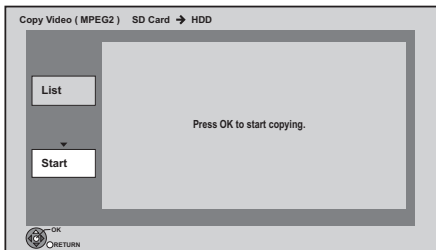
- 1 ■ **From video equipment**  
**Connect the video camera.**
  - Make the video camera ready for data transfer on the video camera.

- **From an SD card**  
**Insert an SD card.**

e.g.,



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



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

- To edit the copying list (⇒ right)

- 3 **Select “Start”, then press [OK].**

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

### To stop copying

Press and hold [BACK/RETURN ↵] for 3 seconds.



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

## Editing the copying list

Select “List”, then press [▶] (right) after step 2 (⇒ left).

- ① **Select the title.**

(When deleting multiple files on the copying list)

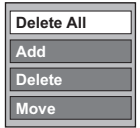
**Press the “Yellow” button.**

A check mark is displayed. Repeat this step until you select all necessary items.

- Press the “Yellow” button again to cancel.

- ② **Press [OPTION].**

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



<b>Delete All</b>	All titles that you registered to copy are deleted. <b>Select “Yes”, then press [OK].</b>
<b>Add</b>	Add new items to the copying list. <ol style="list-style-type: none"> <li>1 <b>Select the title, then press the “Yellow” button.</b> A check mark is displayed. Repeat this step until you select all necessary items. ● Press the “Yellow” button again to cancel.</li> <li>2 <b>Press [OK].</b></li> </ol>
<b>Delete</b>	<b>Select “Yes”, then press [OK].</b>
<b>Move</b>	Move selected items or change the order of items on the copying list. <b>Select the destination, then press [OK].</b>

- ④ **Press [◀].**

Data size of each registered item

No.	Size	Title
New Item		
Total=0		

Page 01/01

### Size:

Data size recorded to the HDD

- 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 HDD, etc.

- **About screen icons (⇒ 59, step 4)**

# Enjoying VIERA CAST

You can access a selection of Internet services from the Home screen with VIERA CAST, such as YouTube. (Current as of August 2011)

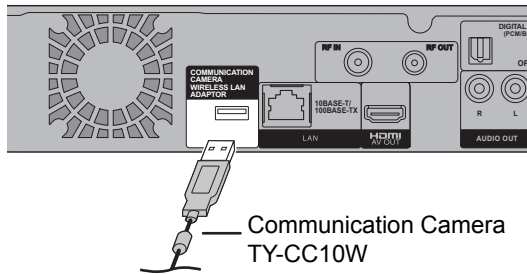
## Preparation

- Network connection (⇒ 12)
- Network Easy Setting (⇒ 15, 76)

## ■ To enjoy video communication (e.g., Skype™)

- Connect this unit with optional Communication Camera (TY-CC10W or compatible equipment). Depending on the area, this optional camera may not be available. Please consult your local Panasonic dealer for advice.

e.g., **This unit's rear panel**



–When this unit is connected by wireless LAN connection, connect the Communication Camera via the USB port on the front of this unit.

- For operating method refer to the following website.  
<http://panasonic.jp/support/global/cs/>  
(This site is in English only.)
- Cannot be used while recording or copying.

## 1 Press [VIERA CAST].

The message is displayed. Please read these instructions carefully and then press [OK].

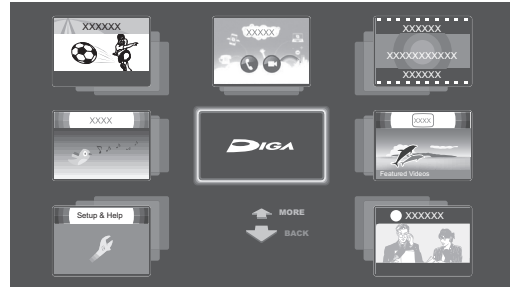
- The video communication service can be accessed directly by pressing [S] button.

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

- Operable buttons:  
[▲, ▼, ◀, ▶], [OK], [BACK/RETURN ↵], colour buttons and number buttons

### VIERA CAST Home screen

e.g.,



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

## To exit from VIERA CAST

Press [EXIT].



- When playing content from an SD card or USB device VIERA CAST cannot be accessed.
- In the following cases, settings are possible using "Internet Content Settings" (⇒ 77)
  - When restricting the use of VIERA CAST.
  - When the audio is distorted.
- If using slow Internet connection, the video may not be displayed correctly. A high-speed Internet service with a speed of at least 6 Mbps is recommended.
- Be sure to update the software (firmware) when a software (firmware) update notice is displayed on the screen. If the software (firmware) is not updated, you will not be able to use the VIERA 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 contents may be inappropriate for some viewers.
- Some contents of VIERA CAST may only be available for specific countries and may be presented in specific languages.
- If timer recording starts, VIERA CAST will stop.

# VIERA Link functions

**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 Set “VIERA Link” to “On” (⇒ 75). (The default setting is “On”.)
- 2 Set the “HDAVI Control” operations on the connected equipment (e.g., TV).
  - Set the input channel on the VIERA to suit the terminal to be used as “HDAVI Control”.
- 3 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 TV will automatically switch the input channel and display the corresponding action. Additionally when the TV is off, the TV 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, etc.

## Playing music continuously even after turning off power to the TV\*2

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

When the unit is directly connected to an amplifier/receiver.

- ① **While playing music**  
Press [OPTION].
- ② **Select “TV Power Off”, then press [OK].**

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

## PAUSE LIVE TV\*1

You can operate this unit with the TV remote control. Refer to “PAUSE LIVE TV” on page 26.

## Direct TV Recording\*1

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

Refer to the TV operating instructions for operation.

## Easy control only with VIERA remote control<sup>※2</sup>

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

### Using the OPTION menu

- ① Press [OPTION] on the TV remote control.
- ② Select the item, then press [OK].

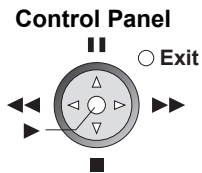
e.g.,



### ■ Control Panel

Using the Control Panel, you can operate with the TV remote control.

Select "Control Panel" from the OPTION menu.



- This unit supports "HDAVI Control 5" function. "HDAVI Control 5" is the newest standard (current as of December, 2010) for Panasonic 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.

<sup>※1</sup> This function is available with the TV that supports "HDAVI Control 3" or later.

<sup>※2</sup> This function is available with the TV that supports "HDAVI Control 2" or later.

# DLNA functions

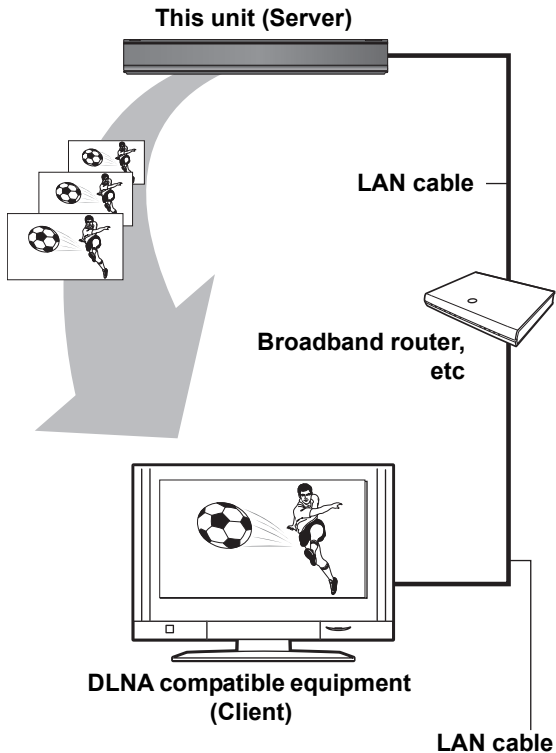
## Playing contents from other equipment (Server)

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

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

e.g.,

Convenient functions



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

### Preparation

- Network connection (⇒ 12)
- Network Easy Setting (⇒ 15, 76)
- When DLNA (Server) Function is deactivated, make the settings. (⇒ 77, Home Network ( DLNA ) Server Settings)

- 1 Operate the playback equipment (Client) to display the list of titles on this unit.**
  - Refer to their respective operating instructions.
- 2 Select the item to playback (folder), then press [OK].**



- Ensure that the router for your home network has adequate security system to prevent unauthorized access.
- The DLNA compatible device that is to be connected to the unit should be connected to the same hub or broadband router as the unit.
- Files not on the HDD cannot be played back.
- Playing back 3D programme recorded on this unit may not work properly.
- 3D photos copied to this unit cannot be played back in 3D.
- Editing is not possible.
- Following titles can not be played back:
  - A title with remote access restriction
  - A title currently being recorded on this unit
  - A title with audio only format
  - A title with incompatible format
- Playback via DLNA compatible equipment may not be performed when this unit is in the following conditions:
  - While simultaneously recording 2 programmes
  - 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.
- If the DLNA compatible equipment is not capable of outputting HE-AAC audio format, etc., sound may not be played back.

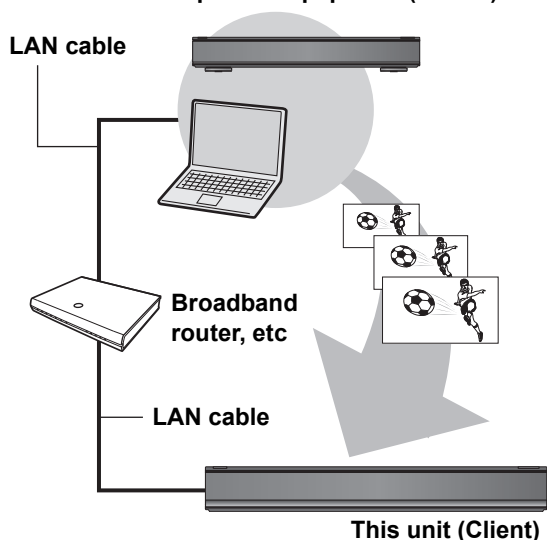


## Playing contents on other equipment (Client)

You can enjoy viewing video, photos and music saved on a DLNA Certified media server (such as a PC with Windows 7 installed etc.) connected via a network with this unit. You also can enjoy viewing them with Panasonic DLNA compatible recorders (DIGA).

e.g.,

### DLNA compatible equipment (Server)



### Preparation

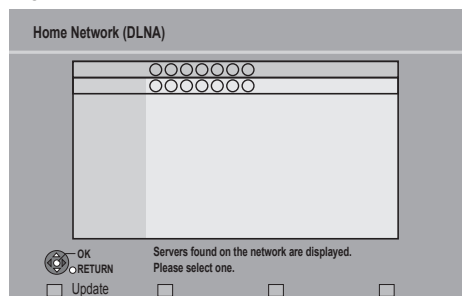
- Network connection (⇒ 12)
- Network Easy Setting (⇒ 15, 76)
- Perform Home Network settings of the DLNA compatible equipment (Server).
  - **When connected to a PC with Windows 7 installed**  
Add the contents and folder to the Windows Media® Player library.  
Playlist of Windows Media® Player can play back only the contents that are stored in the libraries.  
Regarding setting method of Windows 7 refer to its instructions or help.
  - **When connected to a Panasonic DLNA compatible recorder (DIGA)**  
When a message requesting operation of the equipment to be registered is displayed, perform steps 1-4.
    - The countries where DIGA is available are limited. Refer to following site for availability.  
<http://panasonic.jp/support/global/cs/>

**For details about the setting and operation method of connected equipment, and compatible equipment, refer to the following Website and the operating instructions for each item of equipment.**  
<http://panasonic.jp/support/global/cs/>  
 (This site is in English only.)

- 1 Press [FUNCTION MENU].
- 2 Select “Home Network (DLNA)” in “Network”, then press [OK].

- A list of equipment connected via the network is displayed.
- This list can be updated by pressing the “Red” button.

e.g.,



- 3 Select the equipment to playback the contents, then press [OK].

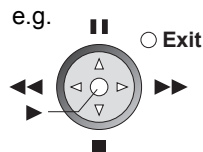
- 4 Select the item to playback (folder), then press [OK].

- Menu structure will be different depending on the equipment connected to this unit. Select the contents by repeating the operation.
- Convenient functions can be used by pressing [OPTION] depending on the contents.

### Control Panel

Control Panel is displayed once the playback starts. Operation can be performed with [▲, ▼, ◀, ▶], [OK] and [EXIT].

- Press [OK] if the Control Panel is not displayed.
- Press [BACK/RETURN ↵] to hide the Control Panel.



- You may not be able to use the Control Panel even if you use the Panasonic DLNA compatible equipment.
- Depending on the contents and the connected equipment, playback may not be possible.
- While playing back the 3D programme, you cannot set “3D Settings”. (⇒ 43)
- Items displayed in grey on the display cannot be played back by this unit.
- Depending on the performance of the connected PC, video frames may be dropped during playback, or video may not playback at all. (⇒ 92)

# Playback menu

## Common procedures

- 1 Press [OPTION].
- 2 Select "Playback Settings" in "Playback Menu" or select "Playback Settings", then press [OK].

e.g.,

Content	Multi Audio	eng (MPEG)
Play	Subtitle Language	eng
Picture	Audio Channel	LR
Sound		
Other		

Menu	Item	Setting
------	------	---------

- The menu is not displayed when playing photos.

- 3 Select the menu, then press [▶] (right).
- 4 Select the item, then press [▶] (right).
- 5 Select the setting.

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

### To clear the Playback menu

Press [EXIT].

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

## Content menu—Setting the content

### Video

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

### Soundtrack

Show or change the soundtrack.

### Subtitles

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

### Multi Audio

Switch in the case of multiple audio.

### Subtitle Language

Select the subtitle language in the case of multiple languages.

### Audio Channel

Change audio (LR/L/R) during playback.

### Audio attribute

<input checked="" type="checkbox"/> Digital/ <input checked="" type="checkbox"/> Digital+/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 to play random or not.

## Picture menu—Change the picture quality

### Mode

Select the picture quality mode during play.

<b>Normal</b>	Default setting
<b>Soft</b>	Soft picture with fewer video artifacts
<b>Fine</b>	Details are sharper
<b>Cinema</b>	Mellows movies, enhances detail in dark scenes.
<b>Cartoon</b>	A mode suitable for viewing animations.

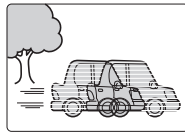
### Advanced Settings

<b>HD optimizer</b>	It will compensate the mosaic noise in the video and haze around the characters precisely.
<b>Chroma Process</b>	You can enjoy high definition and full texture video by processing the HDMI colour signals in high precision during playback.
<b>Detail Clarity</b>	The picture becomes sharp and detailed.
<b>Super Resolution</b>	Standard picture quality video is corrected to sharp and crisp picture quality when it is output as 1080i/1080p from the HDMI terminal.

### Progressive

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

<b>Auto</b>	Automatically detects the film and video content, and appropriately converts it.
<b>Video</b>	Select when using “Auto”, and the content is distorted.
<b>Film</b>	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

- This function is effective when “Digital Audio Output” is set to “PCM”. (⇒ 74)

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

### Dialogue Enhancer

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

## Other menu—Change the display position

### Position

Change where this menu screen appears on your TV.

# Format an SD card

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

The contents are deleted when you format a card even if you have set protection.

- 1** While stopped  
Press [DRIVE SELECT] to select the SD drive.
- 2** Press [FUNCTION MENU].
- 3** Select “Others”, then press [OK].
- 4** Select “Card Management”, then press [OK].
- 5** Select “Format Card”, then press [OK].
- 6** Select “Yes”, then press [OK].
- 7** Select “Start”, then press [OK].
- 8** Press [OK].



- Do not disconnect the AC mains lead while **formatting**. This can render the card unusable.
- When a card has been formatted using this unit, it may not be possible to use it on any other equipment.

# Entering text

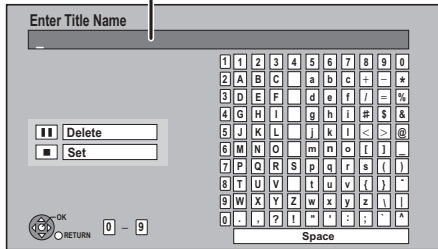
## Preparation

- Show the Enter Title Name screen, etc.

## 1 Select a character, then press [OK].

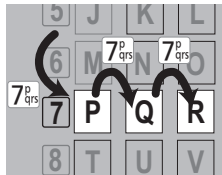
Repeat this step to enter other characters.

**Name field:** shows the text you have entered  
e.g.,



- **To delete a character**  
Select the character in the name field, then press [PAUSE II].
- **To enter characters with number buttons**  
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 [STOP ■] (Set).

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

### To end partway

Press [BACK/RETURN ↵].  
Text is not added.



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

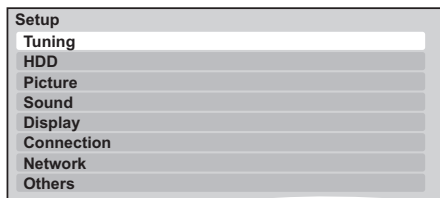
# Changing the unit's settings (Setup)

You can change the unit's settings of Tuning, Sound, Display, Connection, Network etc. in the Setup menu.

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

## Common procedures

- 1 Press [DRIVE SELECT] to select the HDD drive.
- 2 Press [FUNCTION MENU].
- 3 Select "Setup", then press [OK].



- 4 Select the menu, then press [OK].
- 5 Select the item, then press [OK].
- 6 Select the option, then press [OK].

- Follow the instruction on the screen if the operation method is different.
- Depending on the connection or the status of this unit some items cannot be selected or changed.

### About the PIN for parental control

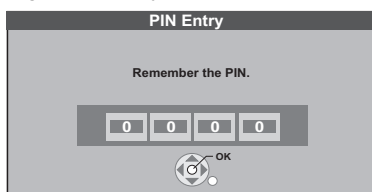
PIN is required to change the following settings. Enter the 4-digit PIN following the on-screen instructions.

- The PIN is common for the following items.
  - Auto Setup
  - Child Lock
  - Child Lock for Playback
  - Lock (Internet Content Settings)

PIN can be changed via the "PIN Entry" in "Others". (⇒ 79)

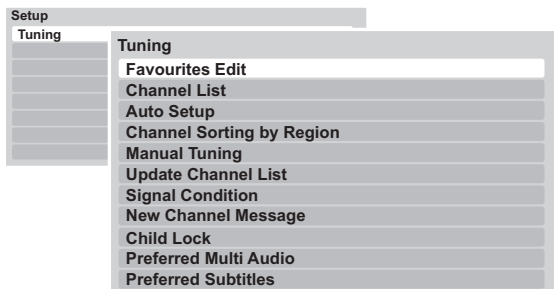
- ① Select the number, then press [▶] (right).
  - You can also use the number buttons.
- ② Repeat step ① to enter 4-digit PIN.
- ③ Press [OK] to confirm.

e.g., PIN Entry



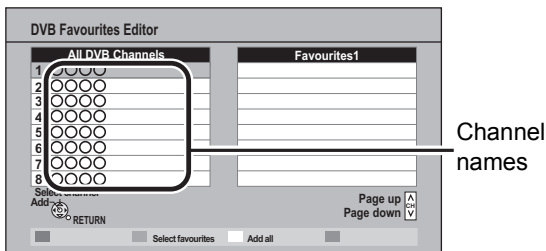
- Make a note of PIN in case you forget it.

## Tuning



### Favourites Edit

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



**After editing as follows, save the Favourites.**

Press [BACK/RETURN ↵], then press [OK].

#### To select the other Favourites list

Press the "Green" button.

#### To add channels to the Favourites list

- ① Select the channel in the "All DVB Channels" column, then press [OK]. Repeat this step.
  - "Yellow": Add all the available channels to the Favourites. (This function is available only when there are no channels in the "Favourites".)

#### To change the order of the channels list

- ① Select the channel in the "Favourites" column to move, then press the "Green" button.
- ② Select the new position, then press the "Green" button.

#### To delete channels

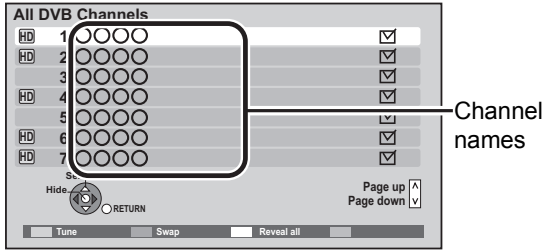
- ① Select the channel in the "Favourites" column, then press [OK].
  - "Yellow": Delete all channels.

#### To change the name of the Favourites list

- ① Press the "Red" button in the "Favourites" column.
- ② Press [▲, ▼, ◀, ▶] to select a character, then press [OK]. Repeat this step to enter other characters.
  - "Red": Delete a character.
  - "Blue": Delete all characters.
- ③ Press [BACK/RETURN ↵].

## ■ Channel List

You can edit the Channel List.



### ● 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, then press the “Green” button.
- ② Enter the channel number to reassign with the number buttons.
- ③ Press [OK].
  - If another channel is already assigned to the channel number, the two channels will be switched.

### ● To set the channel manually

Press the “Red” button.

“DVB Manual Tuning” screen appears. (⇒ right, Manual Tuning)

## ■ Auto Setup

You can restart the Auto Setup.

PIN is required when you have locked channels. (⇒ 72, Child Lock)

Select “Yes”, then press [OK].



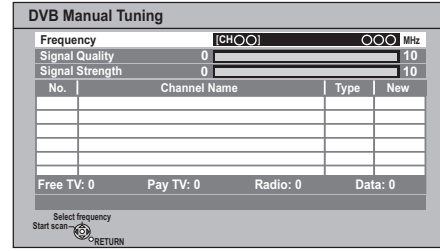
- The timer recording programmes are cancelled.
- If you perform “Channel Sorting by Region” (⇒ below), you can sort the channel list best suited to your region after Auto tuning is finished.

## ■ Channel Sorting by Region

If you want to sort the channel list best suited to your region, follow the on-screen instructions to select the region you live in.

## ■ Manual Tuning

You can set each channel manually.

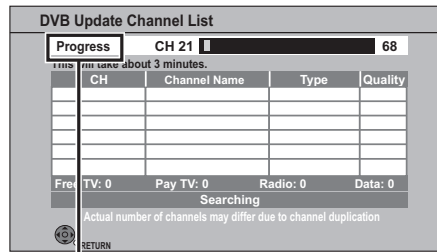


- ① Select the frequency with [▲, ▼].
  - Adjust the frequency by checking the signal strength and signal quality displays.
- ② Press [OK] to start scan.
  - The set channel is displayed in the table.

## ■ Update Channel List

You can update the channels to the latest one.

- This takes about 3 minutes.

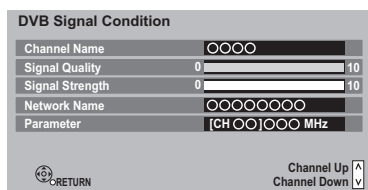


“Finished” is displayed when the search is finished. Press [BACK/RETURN ⇐].

# Changing the unit's settings (Setup)

## ■ Signal Condition

You can check the quality and strength of signals.  
Press [ $\wedge$   $\vee$  CH] to select the channel.



### Signal Quality

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

### Signal Strength

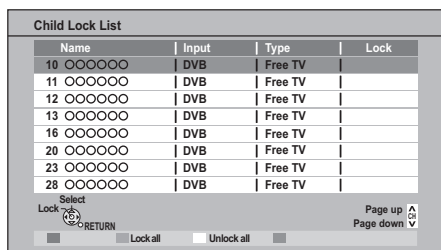
0: Signal strength is 0%.  
10: Signal strength is 100%.  
● When the signal is too strong (red bar), reduce the signal amplification at your aerial.

## ■ New Channel Message

Set whether to obtain the information automatically when a new digital channel is added.

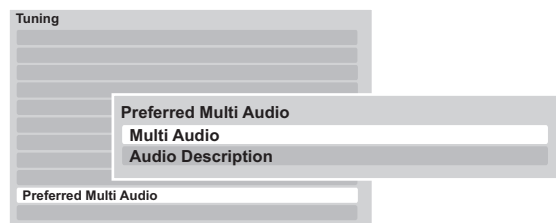
## ■ Child Lock

You can restrict the viewing programmes unsuitable to children.  
You can lock each channel.  
PIN is required to change. (⇒ 70)



- ① Select the channel to lock.
- ② Press [OK].
  - **G** is displayed.
  - Press [OK] again to cancel.
  - “Green”: Lock all channels.
  - “Yellow”: Unlock all channels.

## ■ Preferred Multi Audio



### ➤ Multi Audio

Choose the audio language for broadcast. If the selected language is not available, then the original language will be selected.

### ➤ Audio Description

Select whether the Audio Description is set to be active or not.



- When “Dolby Digital / Dolby Digital Plus”, “MPEG” or “HE-AAC” is set to “Bitstream” or “Bitstream (Dolby D)”, the Audio Description may not work. Set them to “PCM” (⇒ 74, Digital Audio Output).

## ■ Preferred Subtitles

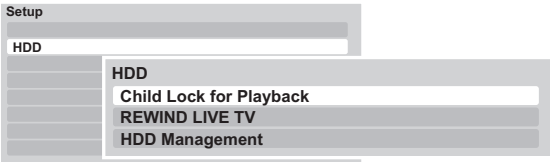
Choose the subtitle language for broadcast. If the selected language is not available, then the original language will be selected.



- After performing “Update Channel List” or “Manual Tuning” if the channel number has already been assigned, channel number for the newly tuned channel will be assigned from 800ch onward.



## HDD



### ■ Child Lock for Playback

You can restrict playback of the following titles:

- Titles that are recorded with guidance information
- Titles restricted by Child Lock (⇒ 72)

(Titles with **G** icon in DIRECT NAVIGATOR, etc.)

- PIN is required to change. (⇒ 70)

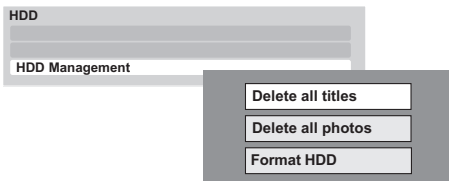
### ■ REWIND LIVE TV

Turn on/off the REWIND LIVE TV function.

- When “Automatic Standby” is set to “Off” (⇒ 78), “On” cannot be selected.

### ■ HDD Management

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



#### ➤ Delete all titles

Delete all titles (video) on the HDD.

- Delete does not work if one or more titles are protected.

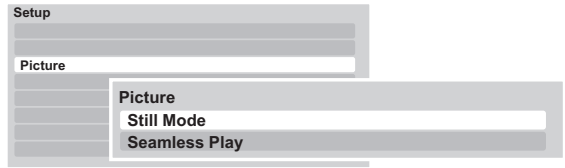
#### ➤ Delete all photos

Delete all photos on the HDD.

#### ➤ Format HDD

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

## Picture



### ■ Still Mode

Select the type of picture shown when you pause play.

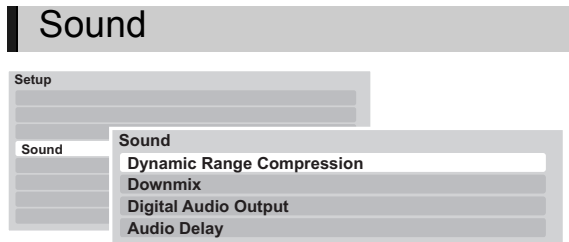
Automatic	
<b>Field</b>	Select if jittering occurs when “Automatic” is selected. (The picture is coarser.)
<b>Frame</b>	Select if small text or fine patterns cannot be seen clearly when “Automatic” is selected. (The picture is clearer and finer.)

### ■ Seamless Play

The segments can be played back seamlessly.

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

# Changing the unit's settings (Setup)



## ■ Dynamic Range Compression

To lower the dynamic range for playback. (e.g., at night)

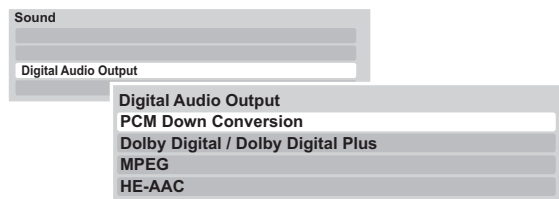
- This does not work depending on broadcasts and recorded titles.

## ■ Downmix

Select the downmix system of multi-channel to 2-channels sound.

- Select "Surround encoded", when the connected equipment supports the virtual surround function.
- There is no effect on "Bitstream" via HDMI AV OUT and DIGITAL AUDIO OUT terminal.
- The audio will be output in "Stereo" during AVCHD playback.

## ■ 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 when the signals have a sampling frequency of over 96 kHz.
- 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 / Dolby Digital Plus

- When using the DIGITAL AUDIO OUT terminal, there are following restrictions.
  - When "Bitstream" is selected, Dolby Digital Plus audio is output as Dolby Digital.
  - When "PCM" is selected, audio is output as Down-mixed 2ch PCM.

### ➤ MPEG

### ➤ HE-AAC

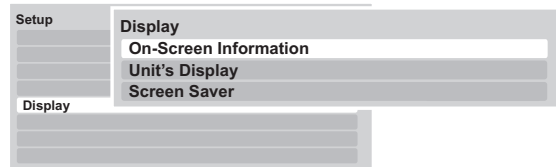
Select the audio signal to output.

- Select "PCM" when the connected equipment cannot decode the respective audio format.
- Not making the proper settings may result in noise.

## ■ Audio Delay

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

# Display



## ■ On-Screen Information

Select the approximate time until the channel information screen (⇒ 24) disappears automatically.

## ■ Unit's Display

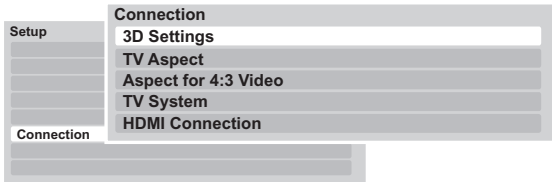
Changes the brightness of the unit's display.

## ■ Screen Saver

This is to prevent burn-in on the screen.

- If "On" is selected, 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.

## Connection



### 3D Settings



#### 3D Type

If 3D programme cannot be played back in 3D, you may be able to play it in 3D by changing the setting.

- Change the settings for 3D on the TV also when “Side by side” is selected.

#### 3D Playback Message

Set to display or hide the 3D viewing warning screen when playing back the 3D programme.

### TV Aspect

Set to match the type of TV connected.

#### 16:9

When connected to a 16:9 widescreen TV.

#### 4:3

When connected to a 4:3 aspect TV, side picture is trimmed for 16:9 picture. The pictures may be shown in the letterbox style depending on the content.



#### Letterbox

When connected to a 4:3 aspect TV, black bands appear for 16:9 picture.



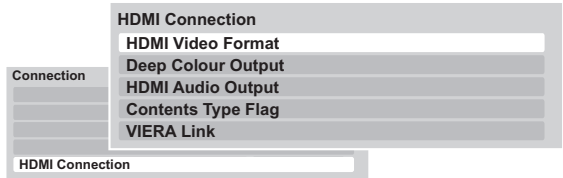
### Aspect for 4:3 Video

To play a 4:3 title, set how to show pictures on a 16:9 widescreen TV.

### TV System

Set in accordance with the TV System for the connected TV.

### HDMI Connection



#### HDMI Video Format

You can only select items compatible with the connected equipment.

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

#### Deep Colour Output

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

#### HDMI Audio Output

Select “Off” when connected to an amplifier 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.

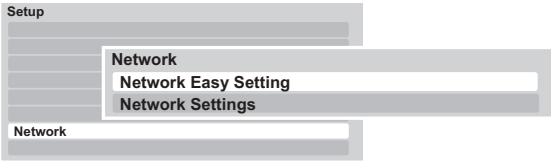
#### VIERA Link

Set to use “HDAVI Control” function when connected to a device that supports “HDAVI Control”.

- Select “Off” when you do not want to use “HDAVI Control”.

# Changing the unit's settings (Setup)

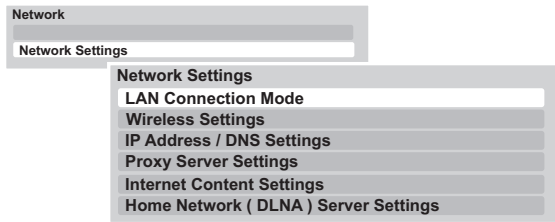
## Network



### ■ Network Easy Setting

Press [OK] to start Network Easy Setting. (⇒ 15)

### ■ Network Settings



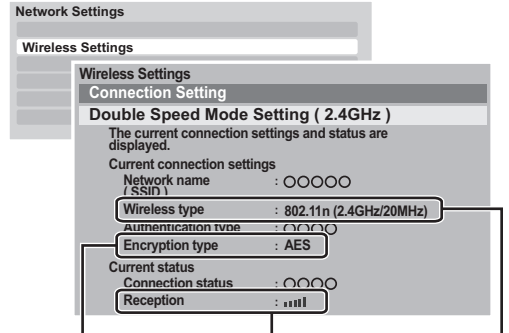
#### ➤ LAN Connection Mode

Select connection method.

- “Wireless” is enabled only when the Wireless LAN adaptor DY-WL10 (optional) is connected.

#### ➤ Wireless Settings

This allows the Wireless router and connection settings to be set and the current connection settings and connection state to be checked when a wireless connection is used.



Encryption type      Reception  
Type of Wireless router

#### ➤ Connection Setting

The Wireless router connection wizard will be displayed.

#### ➤ Double Speed Mode Setting ( 2.4GHz )

When a 2.4 GHz wireless format is used, this setting sets the connection speed.

- If you connect using the “Double Speed Mode (40MHz)”, 2 channels use the same frequency band, and there is consequently a greater risk of reception interference. This can cause the connection speed to drop or the connection to become unstable.

## ➤ IP Address / DNS Settings

Check the connection of the network or set the IP address and DNS.

- Press [OK] to show the respective setting.



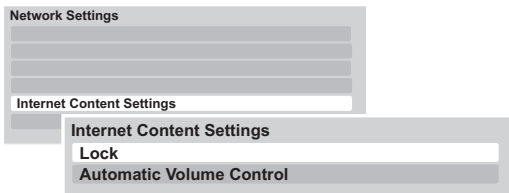
- "Connection Speed Setting" is enabled only when "Connection Speed Auto-configure" is turned "Off".

## ➤ 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. (⇒ 70)

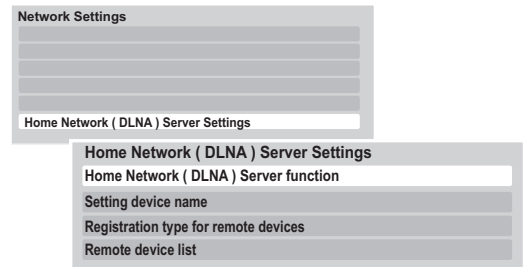
### ➤ Automatic Volume Control

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 ) Server Settings

You can set the DLNA (Server) function. (⇒ 64)



### ➤ Home Network ( DLNA ) Server function

You can switch between enable/disable of the DLNA (Server) function.

- If "On" is selected, "Power Save in Standby" is fixed to "Off". (⇒ 78)
- This cannot be set to "On" if the connection with the wireless broadband router is not encrypted in the wireless connection.

### ➤ Setting device name

It is also possible to change the name of this unit on the network.

- **Select from a preset list**  
Select the preset name, then press [OK].
- **Create name**  
Enter the name. (⇒ 69, Entering text)

### ➤ Registration type for remote devices

<b>Automatic</b>	All connected devices on the same network can access this unit.
<b>Manual</b>	Only registered devices can access this unit.

### ➤ Remote device list

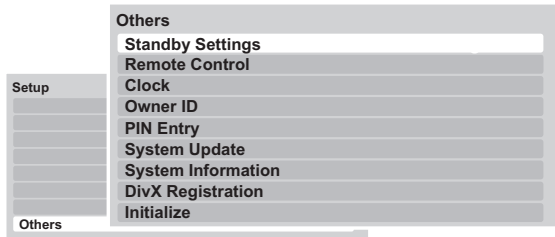
- This function cannot be enabled when "Automatic" is selected in "Registration type for remote devices". (⇒ above)
- **To register equipment manually**
  - 1 Select the device name or the MAC Address for the device you want to register, then press [OK].
  - 2 Select "Yes", then press [OK].
- **To deregister equipment**
  - 1 Select the registered equipment, then press [OK].
  - 2 Select "Yes", then press [OK].



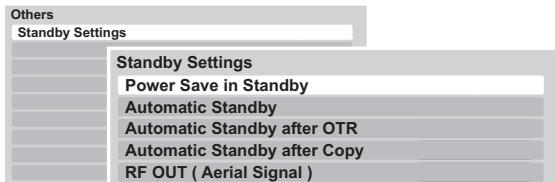
- The maximum number of equipment that can be registered is 16.

# Changing the unit's settings (Setup)

## Others



### Standby Settings



#### Power Save in Standby

<b>On</b>	It will go into the "Power Save in Standby" mode.
<b>On Timer</b>	"Power Save in Standby" is activated when the set time comes. ● If the clock has not been set, "Power Save in Standby" is activated at all hours.
<b>Off</b>	It is possible to start quickly from the standby mode. (Quick Start mode)

- This function cannot be enabled when the DLNA function is enabled in "Home Network ( DLNA ) Server function". (⇒ 77)
- The setting may be changed to "Off" automatically when the setting for video communication is changed. (⇒ 61)

#### Automatic Standby

Set the time to turn the unit to standby mode automatically.

After the unit has finished operating, the unit will be turned to standby mode once the set time has passed.

- When "REWIND LIVE TV" is set to "On" (⇒ 73), "Off" cannot be selected.

#### Automatic Standby after OTR

If "On" is selected, this unit is turned to standby mode when it is not operated for approximately 5 minutes after completing "Automatic Stop" or "Recording Time" (⇒ 27).

#### Automatic Standby after Copy

If "On" is selected, this unit is turned to standby mode when it is not operated for approximately 5 minutes after completing copy. (⇒ 59, 60)

#### RF OUT ( Aerial Signal )

Set whether to output the aerial signal or not from RF OUT while in standby mode (when "Power Save in Standby" is activated).

- If "On" is selected, the aerial signal is output from this unit.

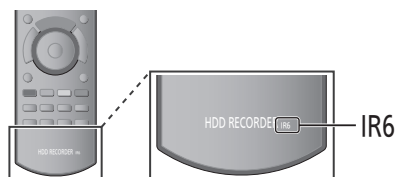
### Remote Control

Change the remote control code on the main unit and the remote control if you place other Panasonic products close together.

- Use "Set Code 1", the factory set code, under normal circumstances.

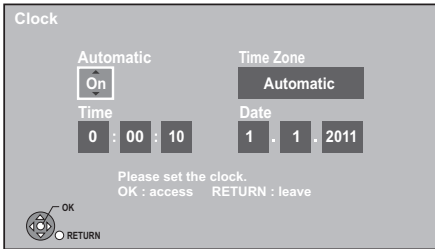
- ① Select the code, then press [OK].
- ② While pressing [OK], press and hold the number button ([1] to [6]) for more than 5 seconds.
- ③ Press and hold [OK] for more than 5 seconds.
- ④ Press [OK].

- 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 "Set Code 4", "Set Code 5" or "Set Code 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”.

### ● Time Zone

When the time is not correct, set “Time Zone”.  
(GMT - 6 to + 6)

### ● 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.

## ■ Owner ID

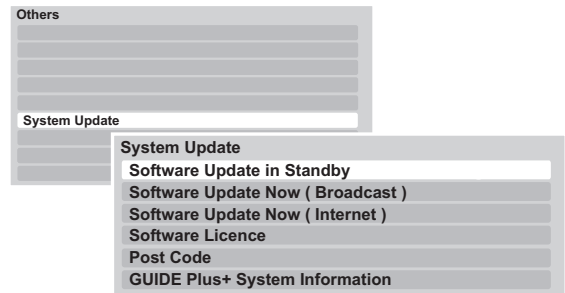
In order to prevent another person from using this unit if it is stolen, you can set a PIN and input your personal information (NAME, HOUSE NO, POSTCODE).

**Once the PIN has been set, you cannot return to the factory preset. Make sure not to forget this.**

## ■ PIN Entry

You can set/change the PIN for parental control.  
(⇒ 70)

## ■ System Update



### ➤ Software Update in Standby

When you set this unit to standby mode, software (firmware) updates (⇒ 81) are downloaded automatically.

### ➤ Software Update Now ( Broadcast )

Software of this unit will be updated from broadcasts if update information is detected.  
(⇒ 81)

### ➤ Software Update Now ( Internet )

Software of this unit will be updated from Internet if update information is detected. (⇒ 81)

### ➤ Software Licence

Information about the software licence is displayed.

### ➤ Post Code

Input the postal code which is necessary to download area specific information of GUIDE Plus+ system.

### ➤ Guide Plus+ System Information

You can check the condition of GUIDE Plus+ system of this unit.

# Changing the unit's settings (Setup)

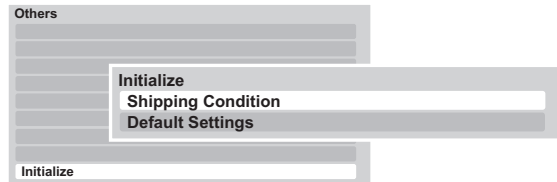
## ■ System Information

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

## ■ DivX Registration

You need this registration code to purchase and play DivX Video-on-Demand (VOD) content (⇒ 94).

## ■ 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, the PIN number for parental control, parental control settings, remote control code, etc. return to the factory presets.

## Language code list

Enter the code with the number buttons.

Abkhazian:	6566	Gujarati:	7185	Rhaeto-Romance:	
Afar:	6565	Hausa:	7265	Romanian:	8277
Afrikaans:	6570	Hebrew:	7387	Russian:	8285
Albanian:	8381	Hindi:	7273	Samoa:	8377
Amharic:	6577	Hungarian:	7285	Sanskrit:	8365
Arabic:	6582	Icelandic:	7383	Scots Gaelic:	7168
Armenian:	7289	Indonesian:	7378	Serbian:	8382
Assamese:	6583	Interlingua:	7365	Serbo-Croatian:	8372
Aymara:	6589	Irish:	7165	Shona:	8378
Azerbaijani:	6590	Italian:	7384	Sindhi:	8368
Bashkir:	6665	Japanese:	7465	Sinhalese:	8373
Basque:	6985	Javanese:	7487	Slovak:	8375
Bengali, Bangla:		Kannada:	7578	Slovenian:	8376
	6678	Kashmiri:	7583	Somali:	8379
Bhutani:	6890	Kazakh:	7575	Spanish:	6983
Bihari:	6672	Kirghiz:	7589	Sundanese:	8385
Breton:	6682	Korean:	7579	Swahili:	8387
Bulgarian:	6671	Kurdish:	7585	Swedish:	8386
Burmese:	7789	Laotian:	7679	Tagalog:	8476
Byelorussian:	6669	Latin:	7665	Tajik:	8471
Cambodian:	7577	Latvian, Lettish:	7686	Tamil:	8465
Catalan:	6765	Lingala:	7678	Tatar:	8484
Chinese:	9072	Lithuanian:	7684	Telugu:	8469
Corsican:	6779	Macedonian:	7775	Thai:	8472
Croatian:	7282	Malagasy:	7771	Tibetan:	6679
Czech:	6783	Malay:	7783	Tigrinya:	8473
Danish:	6865	Malayalam:	7776	Tonga:	8479
Dutch:	7876	Maltese:	7784	Turkish:	8482
English:	6978	Maori:	7773	Turkmen:	8475
Esperanto:	6979	Marathi:	7782	Twi:	8487
Estonian:	6984	Moldavian:	7779	Ukrainian:	8575
Faroese:	7079	Mongolian:	7778	Urdu:	8582
Fiji:	7074	Nauru:	7865	Uzbek:	8590
Finnish:	7073	Nepali:	7869	Vietnamese:	8673
French:	7082	Norwegian:	7879	Volapük:	8679
Frisian:	7089	Oriya:	7982	Welsh:	6789
Galician:	7176	Pashto, Pushto:	8083	Wolof:	8779
Georgian:	7565	Persian:	7065	Xhosa:	8872
German:	6869	Polish:	8076	Yiddish:	7473
Greek:	6976	Portuguese:	8084	Yoruba:	8979
Greenlandic:	7576	Punjabi:	8065	Zulu:	9085
Guarani:	7178	Quechua:	8185		



# Software (Firmware) Update

Software of this unit can be updated automatically by the following methods when this unit is in the standby mode or when it is 3 a.m.

(⇒ 79, Software Update in Standby)

- From broadcasts
- From Internet\*

## ●To update the Software (Firmware) immediately, use the following function:

### –Software Update Now ( Broadcast ) (⇒ 79)

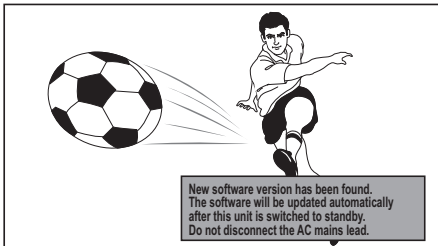
Software of this unit will be updated from broadcasts if update information is detected.

### –Software Update Now ( Internet )\* (⇒ 79)

Software of this unit will be updated from Internet if update information is detected.

- \* Network connection and setting are required. (⇒ 12, 15)

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



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

## ■ The unit's display during the update

e.g.,



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

**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.**



- It may take up to a few hours until the update is completed depending on the network or broadcast environment.
- If the timer recording is scheduled within the following time at the start of the download, the download will not be executed.
  - From broadcast: Within 5 hours
  - From Internet: Within 1 hour
- You can also download the latest software (firmware) from the following website.  
<http://panasonic.jp/support/global/cs/>
- If you do not want to perform the software (firmware) update, set the "Software Update in Standby" to "Off". (⇒ 79)

# Other Settings

## Switching 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, then press [OK].

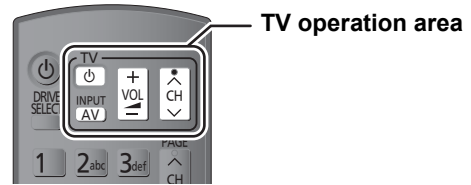
<b>Normal</b>	Normal output
<b>Side cut</b>	The black bars on the right and left sides of the 16:9 image disappear and the image is enlarged.
<b>Zoom</b>	The black bars on the top and bottom sides of the 4:3 image disappear and the image is enlarged.



- This function does not work when watching 3D programme or playing back 3D title or 3D photo.
- It may also be adjusted using the screen mode of the TV etc.
- The screen mode is switched to "Normal" in the following situations:
  - when you change the channel
  - when you start or end the playback of a title
  - when the unit is turned off or on
- When "TV Aspect" (⇒ 75) is set to "4:3" or "Letterbox", the "Zoom" effect is disabled.

## TV operation setting

The TV can be operated from the TV operation area of the remote control. Perform the setting if you cannot operate the TV with the buttons in the TV operation area.



- 1 While pressing [TV], enter the code (⇒ 83) with the number buttons.
- 2 Point the remote control at the TV.  
**Test by turning on the TV and changing channels.**
  - Repeat the procedure until you find the code that allows correct operation.
  - If the brand of your TV is not listed or the code number is invalid for the TV, this remote control is not compatible with your TV.



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

## Manufacturer and Code No.

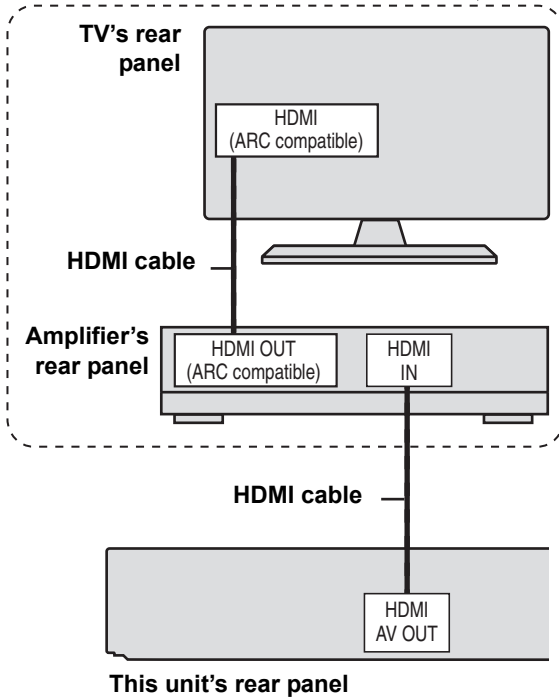
Brand	Code	Brand	Code
Panasonic	01/02/03/04	NEC	36
AIWA	35	NOBLEX	33
AKAI	27/30	NOKIA	25/26/27/60/61
BEKO	05/71/72/73/74	NORDMENDE	10
BENQ	58/59	OLEVIA	45
BRANDT	10/15	ONWA	30/39/70
BUSH	05	ORION	05
CENTREX	66	PEONY	49/69
CURTIS	05	PHILCO	41/48/64
DAEWOO	64/65	PHILIPS	05/06/46
DESMET	05	PHONOLA	05
DUAL	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	05/28/79	WHITE	05
MITSUBISHI	05/19/20/47	WESTINGHOUSE	
MIVAR	24	YAMAHA	18/41

# Other Connections

## Amplifier connections

3D programmes can be played back when this unit is connected to a 3D compatible amplifier and a 3D compatible TV using a High Speed HDMI cable.

- You will not be able to view 3D programmes with this connection if your amplifier is not 3D compatible.



Convenient functions

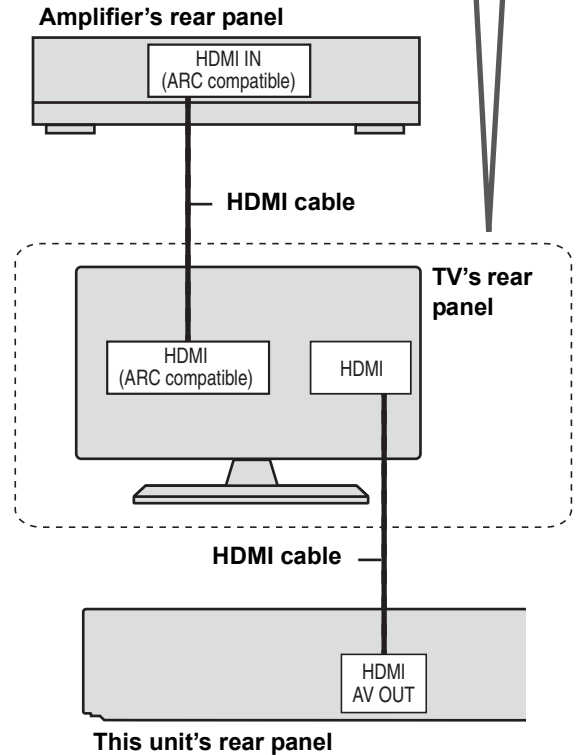


- Linked operation is possible by connecting to a TV or amplifier compatible with VIERA Link.
- When using a TV or an amplifier that does not display "ARC compatible" on the HDMI terminal (not compatible with ARC), it is necessary to connect the TV and the amplifier with a digital audio cable to enjoy the TV audio on the amplifier.

## When connecting an amplifier not compatible with 3D

3D programmes can be played back when this unit is connected to a 3D compatible TV using a High Speed HDMI cable.

- The audio can only be up to 5.1ch.

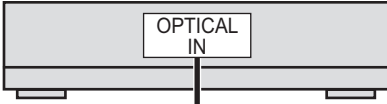


- Linked operation is possible by connecting to a TV or amplifier compatible with VIERA Link.
- When using a TV or an amplifier that does not display "ARC compatible" on the HDMI terminal (not compatible with ARC), it is necessary to connect the TV and the amplifier with a digital audio cable to enjoy the TV audio on the amplifier.

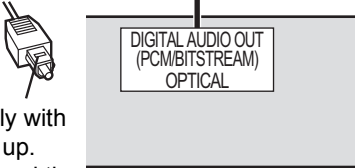
## When using DIGITAL AUDIO OUT terminal

- Set "HDMI Audio Output" to "Off" (⇒ 75).

### Amplifier's rear panel



### Optical digital audio cable



Insert fully with this side up. Do not bend the cable sharply.

### This unit's rear panel



- When you use the optical digital audio cable, insert the tip correctly into the terminal.

## When using AUDIO OUT terminal

- Connect to terminals of the same colour.

### Amplifier's rear panel



### Audio cable



### This unit's rear panel

# 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.

## SET □

("□" stands for a number.)

- The remote control and main unit are using different codes. Change the code on the remote control.



Unit's display

**Press and hold [OK] and the indicated number button at the same time for more than 5 seconds. (⇒ 78)**

## GUIDE

- TV Guide data is being downloaded.

## FINISH

- The software (firmware) update is complete. (⇒ 81)

## HARD ERR

- If there is no change after turning the unit on and off, consult the dealer where the unit was purchased.

## 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. (⇒ 35)

## REMOVE

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

## START

- Update of the software (firmware) is started. You cannot operate the unit until the update is complete. (⇒ 81)

## SW-DL

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

## UNSUPPORT

- You tried to operate with a non-compatible media.

## UPD □/□

("□" stands for a number.)

- The software (firmware) is being updated. You cannot operate the unit until the update is complete. (⇒ 81)

## U59

- The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the cooling fan on the rear of the unit.

## U61

- 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.

## U76

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

## 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 (⇒ 88). If the service number does not disappear, do the following.
  1. Disconnect the plug from the household mains socket, wait a few seconds, then reconnect it.
  2. Press [⏻/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 [BACK/RETURN ↵] at the same time until "X HOLD" disappears. (⇒ 20)

# Troubleshooting guide

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

Updating to the latest software (firmware) may solve the problem. (⇒ 81)

## The followings do not indicate a problem with this unit:

- HDD rotating sounds.
- Poor reception due to atmospheric conditions.
- Image disturbance during search.
- Interruptions in reception due to periodic 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 does not work.

One of the unit's safety devices may have been activated.

Reset the unit as follows:

- ① Press [⏻/⏪] on the main unit to switch the unit to standby.
  - If the unit does not switch to standby, press [⏻/⏪] 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 [⏻/⏪] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer.

## Power

### The unit is turned off automatically.

- If you connected this unit to a "HDAVI Control" compatible TV, 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". (⇒ 74)

### "0:00" is flashing on the unit's display.

- Set the clock. (⇒ 79)

### 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". (⇒ 78)

## TV screen and video

### Screen size is wrong.

- Check the "TV Aspect" or "Aspect for 4:3 Video". (⇒ 75)
- Adjust the aspect ratio setting on TV. Refer to your TV's operating instructions.
- If the 16:9 aspect ratio image is output to a 4:3 TV and the image will be stretched vertically, set "TV Aspect" to "4:3". (⇒ 75)
- If you connect to 4:3 TV, set "HDMI Video Format" to "576p/480p". (⇒ 75)

### The black screen appears on the TV.

- This phenomenon may occur, depending on the TV setting, when "Power Save in Standby" is set to "Off". Depending on the TV, this phenomenon may be prevented by reconnecting to a different HDMI input terminal.

### 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" is set to "On"). (⇒ 74)

### There is a lot of image lag when playing video.

- Set "HD optimizer" in the Picture menu to "Off". (⇒ 67)
- Set "Audio Delay". (⇒ 74)

### The images from this unit do not appear on the TV. The picture is distorted during play, or video will not play correctly.

- Check the connection and the TV's input settings.
- An incorrect resolution is selected in "HDMI Video Format". Reset the setting as follows:
  - ① While the unit is on, press and hold [OK], the "Yellow" button and the "Blue" button on the remote control at the same time for more than 5 seconds.  
–"00 RET" is displayed on the unit's display.
  - ② Repeatedly press [▶] (right) on the remote control until "04 PRG" is displayed on the unit's display.
  - ③ Press and hold [OK] on the remote control for at least 3 seconds.  
Set the item again. (⇒ 75)  
–When Dolby Digital Plus audio is not output in bitstream, select "Yes" in "Default Settings" and make proper settings. (⇒ 80)
- Picture may not be seen when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.
- The picture may be distorted or a black screen may appear between scenes recorded with different aspect ratios.
- Set "Deep Colour Output" or "Contents Type Flag" to "Off". (⇒ 75)

### 3D programme is not output correctly.

- Check the settings on this unit and the TV. (⇒ 43)
- When a non-3D compatible amplifier/receiver is connected between this unit and a TV, 3D programme is not output. (⇒ 84)
- When the amplifier/receiver which is connected between this unit and a TV is off, 3D programme is not output. (⇒ 84)
- When "HDMI Audio Output" is set to "Off", 3D programme may not be output correctly. (⇒ 75)

### The same video is displayed in each left and right half of the screen.

- This is a 3D programme of the Side-by-Side type. Change the setting as follows if connecting with a 3D compatible TV:
  - ① Press [OPTION].
  - ② Select "3D Settings", then press [OK].
  - ③ Select "Side by side" in "Signal Format", then press [OK].

### TV reception is not displayed.

- Broadcast signals are not output from this unit's RF OUT terminal. Select "On" in "RF OUT ( Aerial Signal)". (⇒ 78)

## Sound

### No sound. Distorted sound.

- Check the connections or amplifier's settings. (⇒ 10, 84)
- Select the audio with "Multi Audio". (⇒ 25, 42)
- To output audio from a device connected with an HDMI cable, set "HDMI Audio Output" to "On". (⇒ 75)

### Cannot change audio channel.

- You cannot change the audio channel if "Digital Audio Output" is set to "Bitstream". (⇒ 74)

## Operation

### The remote control does not work.

- The remote control and main unit are using different codes. Change the code on the remote control.



Press and hold [OK] and the indicated number button at the same time for more than 5 seconds. (⇒ 78)

- Software (firmware) is updating when “UPD □/□” is displaying on the unit’s display. Wait until the update is completed. (⇒ 81)
- The HOLD function is activated. (⇒ 20)

### The unit is on but cannot be operated.

- Drive has not been selected properly.

### Cannot tune channels.

- Check the connections.

### Startup is slow.


- Startup takes time in the following situations:
  - The clock is not set.
  - Immediately after a power failure or the AC mains lead is connected.
  - When the “Power Save in Standby” is activated. (⇒ 78)

## Recording, timer recording and copying

### Cannot record.

- Some broadcasts are copyright protected.

### Timer recording does not work properly.

- Refer to “Notes on timer recording” (⇒ 36)
- Failed timer recordings are displayed in grey with  on the Timer Recording screen. (⇒ 35) When you programme a timer recording, check the screen icons. If “!” is displayed, this timer programme may not be recorded because:
  - there is not enough space left.
  - the number of possible titles has reached its maximum.
  - programmes are deactivated, etc.

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

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

### Auto Renewal Recording does not work properly.

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

## Play

### You have forgotten your PIN number for parental control.

- Refer to “To reset the PIN number for parental control”. (⇒ 92)

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

- Image may not be played back smoothly in case of titles recorded with HD quality or AVCHD format titles.

### The resume play function does not work.

- **SD** Memorized positions are cancelled when the unit is turned off. (**HDD** will not be cancelled)

## Edit

### Cannot edit.

- You may not be able to edit on the HDD if there is no available space. Delete any unwanted titles to create empty space. (⇒ 44)

## Photo

### **The contents of the SD card cannot be read.**

- Remove the card from the slot and then insert again. If this does not solve the problem, 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.

### **Photos do not playback normally.**

- The images that were edited on the PC, such as PROGRESSIVE JPEG, etc., may not play back. (⇒ 97)

## USB

### **This unit does not recognize the USB connection correctly.**

- If USB device is connected to this unit while using a video communication the connection will not be recognized. Press [EXIT] and reconnect USB device.
- If inserted during playback the USB device may not be recognized by this unit. Disconnect and reconnect the USB device. If it still does not recognize the connection, turn this unit off and on again.
- USB devices connected using a USB extension cable other than the supplied with the Wireless LAN Adaptor DY-WL10 (optional) or a USB hub may not be recognized by this unit.

## TV Guide

### **The TV Guide System does not receive any data.**

- 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 channels.**

- Some channels are not supported by the TV Guide system.

### **The TV Guide information is not displayed properly.**

- Set the clock correctly. (⇒ 79)
- There was a programme change, or TV Guide information from a broadcast 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.

## Broadcast

### **After the Auto Setup, there are channels that cannot be seen.**

- The Auto Setup was started and interrupted. Do Auto Setup again. (⇒ 71)

### **Picture regularly breaks up on some channels.**

- Adjust the aerial reception with "Manual Tuning". (⇒ 71)

### **Picture very infrequently breaks up on some or all channels.**

- Electrical atmospheric interference caused by local or distant lightening storms or heavy rain with wind in "leafy" locations may cause pictures to break up and audio to mute or distort momentarily.

## VIERA Link

### VIERA Link does not work.

- Some functions may not work depending on the version of “HDAVI Control” of the connected 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. (⇒ 12, 15, 64, 77)
- It may not be possible to connect depending on the types of the equipment or the status of the equipment.

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

- Use 802.11n (2.4 GHz or 5 GHz) Wireless router. Set the encryption mode on the Wireless router.
  - To check the encryption type of your wireless connection (⇒ 76, Wireless Settings)Simultaneous use with a microwave, cordless telephone etc. at 2.4 GHz may result in connection interruptions or other problems.
- On the “Wireless Settings” screen (⇒ 76), the continuous lighting of at least 4 “Reception” indicators is the target for a stable connection. If 3 or fewer indicators are lit or the connection is being interrupted, change the position or angle of your Wireless router and see if the connection state improves. If there is no improvement, connect to a wired network and perform the “Network Easy Setting” (⇒ 15) again.

## To reset this unit

### To return all the settings to the factory preset

- Perform “Shipping Condition” or “Default Settings”. (⇒ 80)

### To reset the PIN number for parental control

- The PIN number for parental control returns to the factory preset (“0000”).
  - ① While the unit is on, press and hold [OK], the “Yellow” button and the “Blue” button on the remote control at the same time for more than 5 seconds.
    - “00 RET” is displayed on the unit’s display.
  - ② Repeatedly press [▶] (right) on the remote control until “03 VL” is displayed on the unit’s display.
  - ③ Press [OK] on the remote control.
    - “INIT” is displayed on the unit’s display.

# Unit care

## 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.

### ■ 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.

### ■ HDD is a very special device that is easily susceptible to damage

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

## 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 VCR, etc.

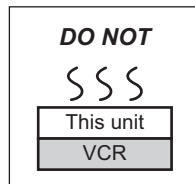
### ● Place in an area where condensation does not occur. Conditions where condensation may occur

- When there is an extreme change in temperature (moving from a very hot location to a very cold location, or vice versa, or when subjected to an air conditioner or when cooled air directly impacts the unit).
- When 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/vapour, etc. gets inside the unit.



## When moving the unit

- ① Turn the unit off. (Wait until "BYE" disappears from the display.)
- ② Remove the AC mains lead from the household mains socket.
- ③ Move only after the unit has come to a complete stop (approx. 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.)

## Cleaning

- 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.

### ■ 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).

# Regarding DivX

## ABOUT DIVX VIDEO:

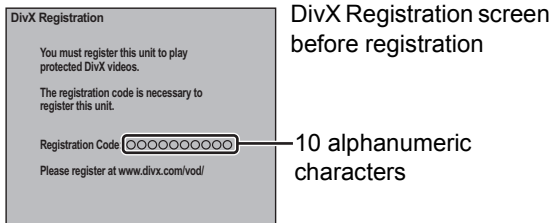
DivX® is a digital video format created by DivX, LLC, a subsidiary of Rovi Corporation. This is an official DivX Certified® device that plays DivX video. Visit [divx.com](http://divx.com) for more information and software tools to convert your files into DivX videos.

## ABOUT DIVX VIDEO-ON-DEMAND:

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

### ■ Display the unit's registration code.

- 1 Press [DRIVE SELECT] to select the HDD drive.
- 2 Press [FUNCTION MENU].
- 3 Select "Setup", then press [OK].
- 4 Select "DivX Registration" in "Others", then press [OK].



- After playing DivX VOD content for the 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.

### To cancel the unit's registration

Select "Yes" in "DivX Registration".

Use the deregistration code to cancel the registration in [www.divx.com](http://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.

# Operations that can be performed simultaneously

## Operations that can be performed while recording programme

(○: Possible, -: Impossible)

Playback of HDD	○
Playback of AVCHD title on SD Card	○
Playback of photo	-
Playback of music recorded on HDD	○
Playback of USB memory	-

## Starting the timer recording while executing other operation

(○: Possible, -: Impossible)

Executing operation	Starting of the timer recording
Recording the title*	○
Playing the title	○
Editing the title	○
Copying HD Video (AVCHD format)	-
Executing PAUSE LIVE TV/ REWIND LIVE TV*	○
Editing photo	-
Copying photos	-
Editing music	○
Copying music	-
Formatting	-

\* The operation will terminate when simultaneous recording is being done and timer recording starts.

# 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. 2.2 kg  
 Power supply: AC 220 to 240 V, 50 Hz  
 Power consumption: Typical Approx. 13 W\*  
 Max Approx. 17 W  
 “Power Save in Standby” is activated and “RF  
 OUT ( Aerial Signal )” is set to “Off”  
 Approx. 0.2 W  
 “Power Save in Standby” is not activated  
 Approx. 4.0 W

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

\* Without any external devices (USB memory, SD card, etc.)

## ■ TV system

Tuner System: DVB-T, T2  
 Country: UK  
 Channel Coverage: UHF 21~68

## ■ Video

Video system: PAL/NTSC  
 Recording system: MPEG2, MPEG-4 AVC/H.264

## ■ Audio

Recording system:  
 Dolby Digital (Max 5.1ch)  
 Dolby Digital Plus (Max 5.1ch)  
 MPEG (2ch)  
 HE-AAC (Max 5.1ch)  
 Audio out: Audio Out L/R (pin jack)  
 Output level: Full scale: 2.0 Vrms at 1 kHz  
 Output impedance: Less than 1 kΩ  
 Digital audio out:  
 Optical terminal (PCM, Dolby Digital, MPEG)  
 HDMI terminal (PCM, Dolby Digital, MPEG,  
 Dolby Digital Plus)

## ■ HDMI Output

19 pin type A: 1 pc  
 ● This unit supports “HDAVI Control 5” function.

## ■ Other terminals

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

## ■ Internal HDD capacity

320 GB

## ■ SD Card

Compatible media: SD Memory Card\*<sup>1</sup>  
 Format: FAT12, FAT16, FAT32\*<sup>2</sup>, exFAT\*<sup>3</sup>  
 Data that can be played: JPEG, MPO,  
 AVCHD format, MPEG-2

- \*<sup>1</sup> Includes SDHC/SDXC cards.  
 Includes miniSD™ cards (need a miniSD™ adaptor).  
 Includes microSD™/microSDHC™/microSDXC™ cards (need a microSD™ adaptor).  
 \*<sup>2</sup> Not support long file name  
 \*<sup>3</sup> SDXC only

## ■ USB device

USB standard: USB 2.0 High Speed  
 Format: FAT12, FAT16, FAT32  
 Data that can be played: MP3, JPEG, MPO,  
 DivX, MKV

## About recorded titles

### ■ Recording quality and approximate recording times

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

HD quality	79 hours
SD quality	154 hours

- **Recording time may vary depending on the bit rate of broadcasting:**  
 – High Definition (HD) quality: estimated bit rate is 8 Mbps  
 – Standard Definition (SD) quality: estimated bit rate is 4 Mbps
- **Regarding recording time remaining:**  
 Remaining time 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.

### ■ Maximum number of titles that can be recorded

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



## About JPEG/MPO/MP3/DivX/ MKV/MPEG2/AVCHD files

### ■ JPEG/MPO

Playable media: HDD, SD Card, USB device

Compatible pixels:

Between 34×34 and 8192×8192 pixels  
(Sub sampling is 4:2:2 or 4:2:0)

Files: JPEG conforming DCF  
(Design rule for Camera File system)  
MPO conforming MPF  
(Multi Picture Format)

Maximum numbers of folders and files:

Media	Maximum folders	Maximum files
HDD	–	20000
SD Card	500	10000
USB device	500	10000

- JPEG files must have the extension “.JPG” or “.jpg”.
- MPO files must have the extension “.MPO” or “.mpo”.
- This unit is not compatible with MOTION JPEG or PROGRESSIVE JPEG.

### ■ MP3

Playable media: HDD, USB device

Compression rate: 32 kbps to 320 kbps

Sampling rate: 16 kHz, 22.05 kHz, 24 kHz,  
32 kHz, 44.1 kHz, 48 kHz

Maximum numbers of folders and files:

Media	Maximum folders	Maximum files
HDD	–	40000
USB device	300	3000

- MP3 files must have the extension “.MP3” or “.mp3”.

### ■ DivX

Playable media: USB device

Maximum number of folders: 300 folders  
(including the root folder)

Maximum number of files: 200 files

### ● Support version

#### Extension

Files must have the extension “.DIVX”, “.divx”, “.AVI” or “.avi”.

#### Picture resolution

Up to 1920×1080 pixels

#### 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.

### ■ MKV

Playable media: USB device

MPEG-4 AVC (H.264) profile is up to High Profile, Level 4.  
AAC-LC, MP3, Dolby Digital audio and PCM can be decoded.

Maximum number of folders: 300 folders  
(including the root folder)

Maximum number of files: 200 files

- MKV files must have the extension “.MKV” or “.mkv”.

### ■ SD-Video (Standard Definition)

Playable media: SD Card<sup>\*1</sup>, USB device<sup>\*2</sup>

Codec: MPEG2

File Format:

SD-Video format<sup>\*3</sup> used on Standard Definition  
Camera (Panasonic and some other's)

<sup>\*1</sup> Video Recording conversion and transfer is possible from SD card to HDD.

After Video recording transfer to HDD is completed, the playback becomes possible.

<sup>\*2</sup> Video Recording conversion and transfer is possible from USB device to HDD.

After Video recording transfer to HDD is completed, the playback becomes possible.

<sup>\*3</sup> SD-Video Entertainment Video Profile

### ■ HD-Video (High Definition)

Playable media: SD Card, USB device<sup>\*</sup>

Codec: MPEG-4 AVC/H.264

File Format: AVCHD format conforming

<sup>\*</sup> 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.

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These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



#### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

#### [Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



#### Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Cd

## Sales and Support Information

### Customer Communications Centre

- For customers within the UK: 0844 844 3899
- For customers within Ireland: 01 289 8333
- For further support on your product, please visit our website:  
[www.panasonic.co.uk](http://www.panasonic.co.uk)

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- Also available through our Internet is direct shopping for a wide range of finished products. Take a browse on our website for further details.

## Digital Switchover for Terrestrial broadcasts

Starting in late 2007 and ending in 2012, TV services in the UK will go completely digital, TV region by TV region. If you have any questions, please call Digital UK on **08456 50 50 50** or visit [www.digitaluk.co.uk](http://www.digitaluk.co.uk) Digital Switchover will cover a period of several weeks.

When it starts you will lose all Analogue TV channels and some Digital TV channels will be missing.

You will need to retune this unit each time this happens to recover your digital channels.

- To retune this unit → “Auto Setup” in “Tuning” (⇒ 71)
- Due to the digital reception technologies involved, quality of the digital signals may be relatively low in some cases, despite good reception of analogue channels.

Pursuant to at the directive 2004/108/EC, article 9(2)

Panasonic Testing Centre  
Panasonic Marketing Europe GmbH  
Winsbergring 15, 22525 Hamburg, Germany



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