

# Panasonic®

Model No.

TH-P65VT20D  
TH-P65VT20K  
TH-P65VT20M  
TH-P65VT20P  
TH-P65VT20T

## Operating Instructions

Plasma Television



# VIERA



Thank you for purchasing this Panasonic product. Please read these instructions before operating your set and retain them for future reference. The images shown in this manual are for illustrative purposes only.

English

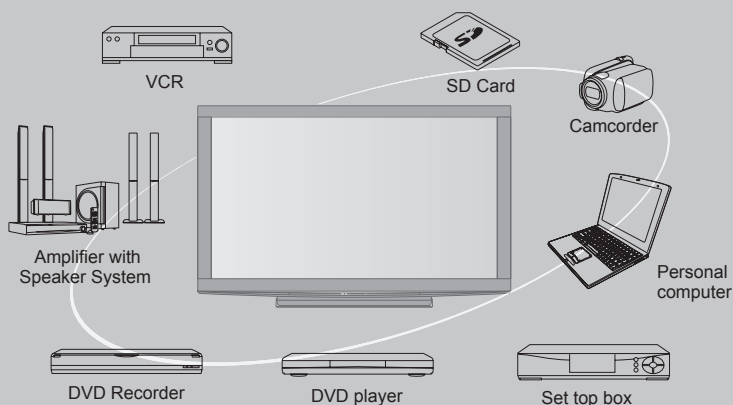
TQBC2560

# Enjoy viewing 3D images and experience an amazing level of multimedia excitement

Sharp pictures with HDMI terminal

Create home theatre and DVD recorder link-ups with "VIERA Link" without complicated settings!

## Enjoy rich multimedia



## Standard accessories

Check that you have the accessories and items shown ☒

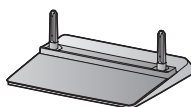
- ☐ Remote Control  
● N2QAYB000488



- ☐ Batteries for the Remote Control (2)  
● R6 (AA)



- ☐ Pedestal  
➔ p. 6



- ☐ Operating Instructions

- ☐ 3D Eyewear set  
➔ p. 22



- ☐ Mains Lead  
➔ p. 8



(TH-P65VT20K  
TH-P65VT20M  
TH-P65VT20P)



(TH-P65VT20D)



(TH-P65VT20T)

- ☐ Screwdriver  
(for replacing the battery of the 3D Eyewear)  
● + (#0)  
➔ p. 23



### Caution

- This product contains possibly dangerous parts (such as plastic bags), which can be breathed in or swallowed by young children accidentally. Keep these parts out of reach of young children.

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(Warning / Caution)

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Quick Start Guide

## Basic Features

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Basic

## Advanced Features

- How to Use VIERA TOOLS ..... 29
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Advanced

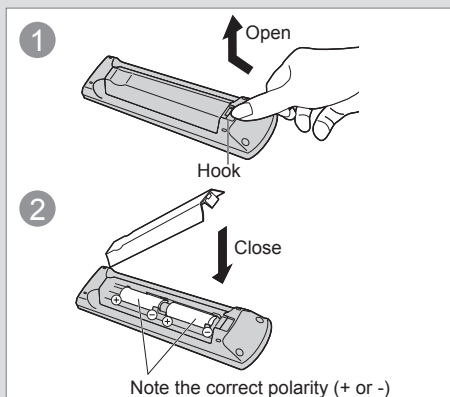
## Technical

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Technical

This product is licensed under the AVC patent portfolio license for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC Standard ("AVC Video") and/or (ii) decode AVC Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See <http://www.mpegla.com>.

### Inserting and removing remote's batteries



#### Caution

- Incorrect installation may cause battery leakage and corrosion, resulting in damage to the remote control.
- Do not mix old and new batteries.
- Do not mix different battery types (such as alkaline and manganese batteries).
- Do not use rechargeable (Ni-Cd) batteries.
- Do not burn or breakup batteries.
- Batteries must not be exposed to excessive heat such as sunshine, fire or the like.
- Do not disassemble or modify the remote control.

# Safety Precautions

## Warning

### Handling the mains plug and lead

- Insert the mains plug fully into the socket outlet. (If the mains plug is loose, it could generate heat and cause fire.)
- Ensure that the mains plug is easily accessible.
- Ensure the earth pin on the mains plug is securely connected to prevent electrical shock.
- Do not touch the mains plug with a wet hand. (This may cause electrical shock.)
- Do not use any mains lead other than that provided with this TV. (This may cause fire or electrical shock.)
- Do not damage the mains lead. (A damaged lead may cause fire or electrical shock.)
  - Do not move the TV with the lead plugged in the socket outlet.
  - Do not place a heavy object on the lead or place the lead near a high-temperature object.
  - Do not twist the lead, bend it excessively, or stretch it.
  - Do not pull on the lead. Hold onto the mains plug body when disconnecting lead.
  - Do not use a damaged mains plug or socket outlet.

**If you find any abnormality, remove the mains plug immediately!**

**AC 220 - 240 V, 50 / 60 Hz  
(TH-P65VT20P:  
AC 110 - 240 V, 50 / 60 Hz)**

### Power source

- This TV is designed to operate on AC 220 - 240 V, 50 / 60 Hz  
(TH-P65VT20P: AC 110 - 240 V, 50 / 60 Hz)

### Do not remove covers and NEVER modify the TV yourself

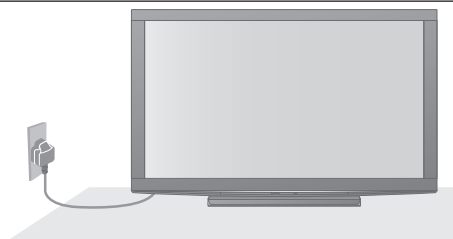
- Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside. (High-voltage components may cause serious electrical shock.)
- Have the TV checked, adjusted, or repaired at your local Panasonic dealer.

### Do not expose to rain or excessive moisture

- To prevent damage which might result in electric shock or fire, do not expose this TV to rain or excessive moisture. This TV must not be exposed to dripping or splashing water and objects filled with liquid, such as vases, must not be placed on top of or above the TV.

### Do not expose to direct sunlight and other sources of heat

- Avoid exposing the TV to direct sunlight and other sources of heat. To prevent fire never place any type of candle or naked flame on top or near the TV.



- Mains plug types vary between countries.

### Do not insert foreign objects into the TV

- Do not allow any objects to drop into the TV through the air vents. (Fire or electrical shock may result.)

### Do not place the TV on sloped or unstable surfaces

- The TV may fall off or tip over.

### Use only the dedicated pedestals / mounting equipment

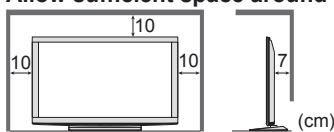
- Using an unapproved pedestal or other fixtures may make the TV unstable, risking injury. Be sure to ask your local Panasonic dealer to perform setup.
- Use approved pedestals (p. 6) / wall-hanging brackets (p. 7).

### Do not allow children to handle SD Card

- As with any small object, SD Cards can be swallowed by young children. Please remove SD Card immediately after use and store out of reach of children.

## Caution

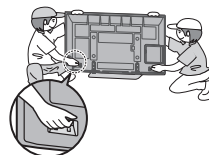
- **This appliance is intended for use in tropical climates**
- **When cleaning the TV, remove the mains plug**
  - Cleaning an energized TV may cause electrical shock.
- **When the TV is not going to be used for a long period of time, remove the mains plug**
  - This TV will still consume some power even in the Off mode, as long as the mains plug is still connected to a live socket outlet.
- **Transport only in upright position**
  - Transporting the TV with its display panel facing upward or downward may cause damage to the internal circuitry.
- **Allow sufficient space around the TV for radiated heat**



Minimum distance

- When using the pedestal, keep a space between the bottom of the TV and the surface where the TV is set.
- In case of using Wall-hanging bracket, follow the manual of it.

- **Do not block the rear air vents**
  - Blocked ventilation by newspapers, table cloths, curtains, etc. may cause overheating, fire or electrical shock.
- **Do not apply strong force or impact to the display panel**
  - This may cause damage resulting in injury.
- **Do not expose your ears to excessive volume from the headphones**
  - Irreversible damage can be caused.
- **The TV is heavy. Handle the TV by 2 or more people.**  
**Support as shown to avoid injury by the TV tipping or falling.**



### Note

- **Auto power standby function**
  - The TV will automatically go to Standby mode in the following conditions:
    - no signal is received and no operation is performed for 30 minutes in TV mode
    - "Off Timer" is active (p. 14)
    - no operation is performed for the period selected in "Auto Standby" (p. 36)
- **Keep the TV away from these types of equipment**
  - Electronic equipment  
In particular, do not place video equipment near the TV. Electromagnetic interference may distort images / sound.
  - Equipment with an infrared sensor  
This TV also emits infrared rays. This may affect operation of other equipment.

## Do not display a still picture for a long time

This causes the image to remain on the plasma screen ("image retention").  
This is not considered a malfunction and is not covered by the warranty.

Typical still images

- Programme number and other logos
- Image displayed in "4:3" mode
- Video game
- Computer image



To prevent image retention, contrast is lowered automatically after a few minutes if no signals are sent or no operations are performed. (p. 76)

# Accessories / Options

## Attaching the pedestal

### Warning

**Do not disassemble or modify the pedestal.**

- Otherwise the TV may fall over and become damaged, and personal injury may result.

### Caution

**Do not use the pedestal for any other TV or displays.**

- Otherwise the TV or the display may fall over and become damaged, and personal injury may result.

**Do not use the pedestal if it becomes warped or physically damaged.**

- If you use the pedestal while it is physically damaged, personal injury may result. Contact your nearest Panasonic dealer immediately.

**During set-up, make sure that all screws are securely tightened.**

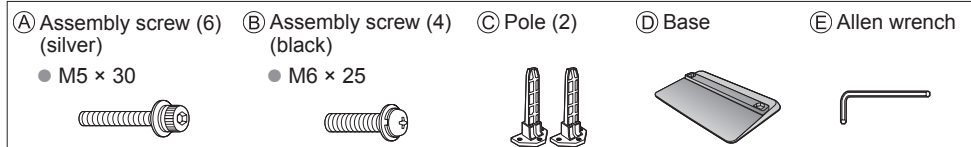
- If insufficient care is taken to ensure screws are properly tightened during assembly, the pedestal will not be strong enough to support the TV, and it might fall over and become damaged, and personal injury may result.

**Ensure that the TV does not fall over.**

- If the TV is knocked or children climb onto the pedestal with the TV installed, the TV may fall over and personal injury may result.

**Two or more people are required to install and remove the TV.**

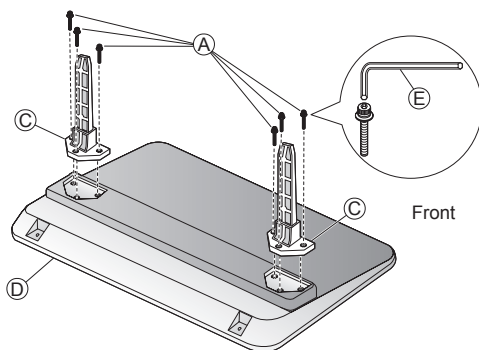
- If two or more people are not present, the TV may be dropped, and personal injury may result.



### Assembling the pedestal

Use the assembly screws (A) to fasten the poles (C) to the base (D) securely.

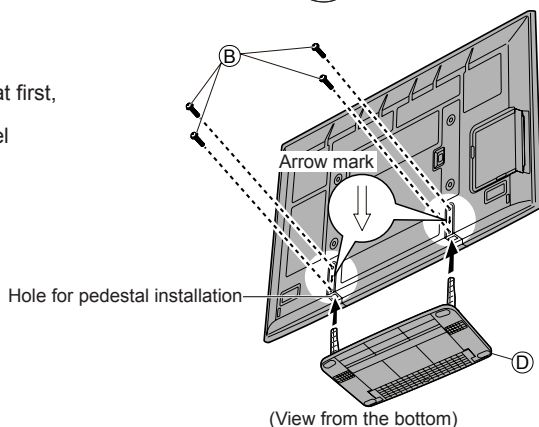
- Use the allen wrench (E) to tighten the screws.
- Make sure that the screws are securely tightened.
- Forcing the assembly screws the wrong way will strip the threads.



### Securing the TV

Insert the pole into the TV, and then fasten securely with the assembly screws (B).

- Tighten the four assembly screws loosely at first, then tighten them firmly to fix securely.
- Carry out the work on a horizontal and level surface.



## Optional accessories

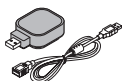
Please contact your nearest Panasonic dealer to purchase the recommended optional accessories. For additional details, please refer to the manual of the optional accessories.

- ☐ 3D Eyewear set
- TY-EW3D10W



- If you need 3D Eyewears additionally, please purchase this optional accessory.

- ☐ Wireless LAN Adaptor and Extension cable



Please refer to the following web site for usable Wireless LAN Adaptor. (English only)

<http://panasonic.jp/support/global/cs/tv/>

- Additional information for Wireless LAN Adaptor and access point may also be on this web site.

### Caution

- To use the Wireless LAN Adaptor, an Access Point needs to be obtained.
- It is recommended to use the Wireless LAN Adaptor with the extension cable.
- To avoid radio wave interference, keep the TV away from the devices such as other wireless LAN devices, microwaves and the devices that use 2.4 GHz and 5 GHz signals when using the Wireless LAN Adaptor. Otherwise malfunction may occur.
- Depending on the area, this optional accessory may not be available.

- ☐ Communication Camera

- TY-CC10W

TH-P65VT20D  
TH-P65VT20K  
TH-P65VT20P  
TH-P65VT20T

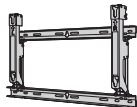


### Caution

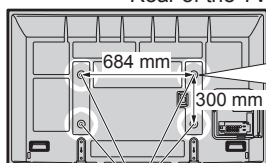
- This camera can be used on VIERA CAST (p. 59).
- Please also read the manual of the camera.
- Depending on the area, this optional accessory may not be available. For details, consult your local Panasonic dealer.

- ☐ Wall-hanging bracket

- TY-WK6P1RW

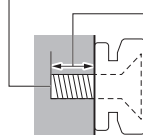


Rear of the TV



Holes for wall-hanging bracket installation

Screw for fixing the TV onto the wall-hanging bracket (not supplied with the TV)



Depth of screw:  
minimum 14 mm,  
maximum 30 mm

[View from the side]

### Warning

- Using other wall-hanging brackets, or installing a wall-hanging bracket by yourself have the risk of personal injury and product damage. In order to maintain the unit's performance and safety, be absolutely sure to ask your dealer or a licensed contractor to secure the wall-hanging brackets. Any damage caused by installing without a qualified installer will void your warranty.
- Carefully read the instructions accompanying optional accessories, and be absolutely sure to take steps to prevent the TV from falling off.
- Handle the TV carefully during installation since subjecting it to impact or other forces may cause product damage.
- Take care when fixing wall brackets to the wall. Always ensure that there are no electrical cables or pipes in the wall before hanging bracket.
- To prevent fall and injury, remove the TV from its fixed wall position when it is no longer in use.

# Basic Connection

External equipment and cables shown are not supplied with this TV.

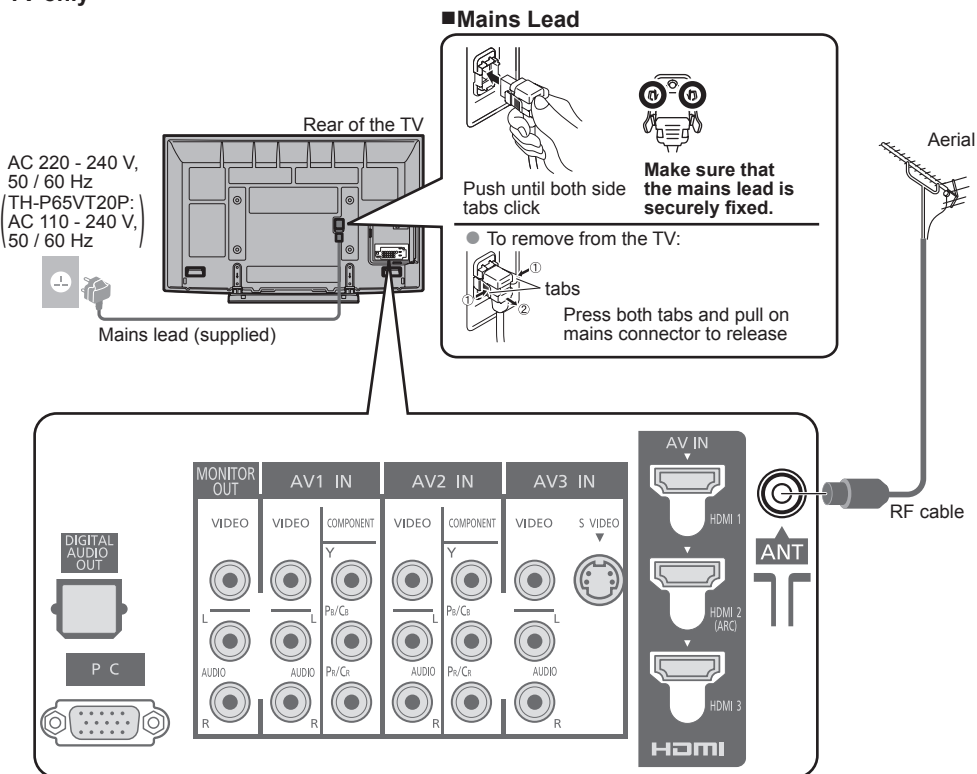
Please ensure that the unit is disconnected from the mains socket before attaching or disconnecting any leads.

When disconnecting the mains lead, be absolutely sure to disconnect the mains plug at the socket outlet first.

There are some restrictions on placement for viewing 3D images. For details ➔ p. 21 and p. 26

## Connecting aerial

### TV only



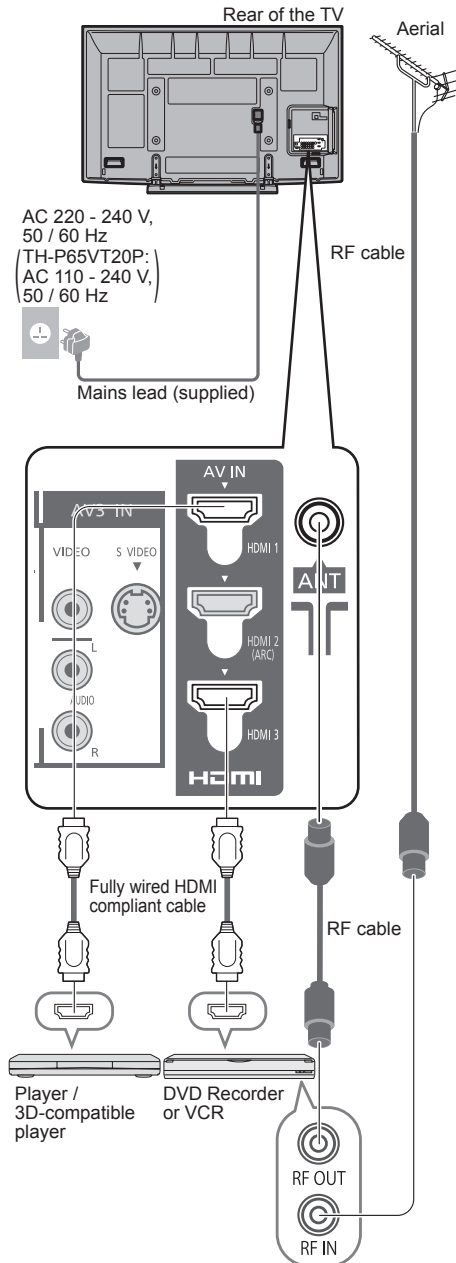
### Note

- Do not put the RF cable close to the mains lead to avoid noise.
- Do not place the RF cable under the TV.
- To obtain optimum quality picture and sound, an aerial, the correct cable (75  $\Omega$  coaxial) and the correct terminating plug are required.
- If a communal aerial system is used, you may require the correct connection cable and plug between the wall aerial socket and the TV.
- Your local Television Service Centre or dealer may be able to assist you in obtaining the correct aerial system for your particular area and the accessories required.
- Any matters regarding aerial installation, upgrading of existing systems or accessories required, and the costs incurred, are the responsibility of you, the Customer.
- VIERA Link connection ➔ p. 61
- Other equipment connection ➔ p. 66 and p. 67
- Read the manual of the equipment, too.



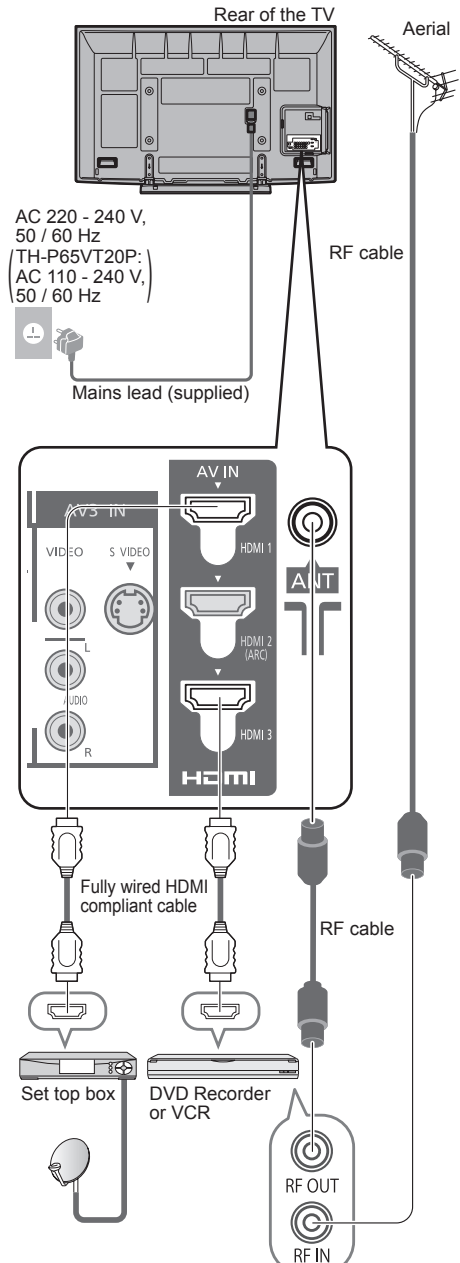
## Connecting DVD Recorder / VCR and Player

### TV, DVD Recorder / VCR and Player



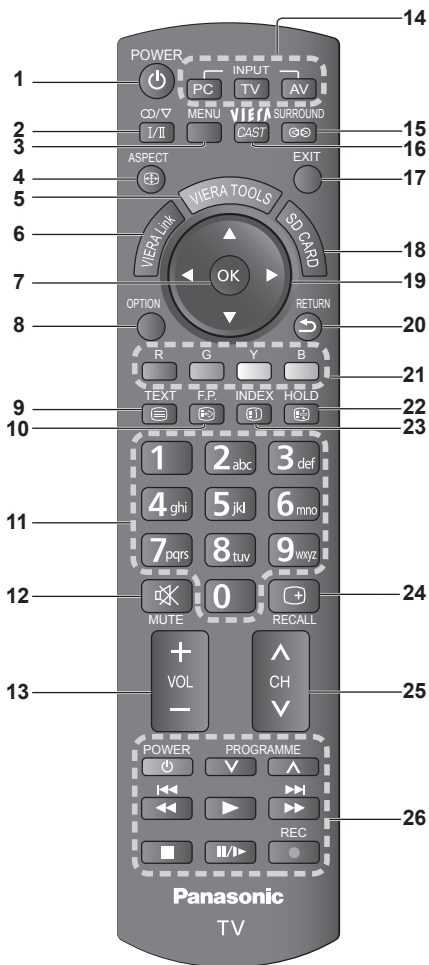
## Connecting DVD Recorder / VCR and Set top box

### TV, DVD Recorder / VCR and Set top box



# Identifying Controls

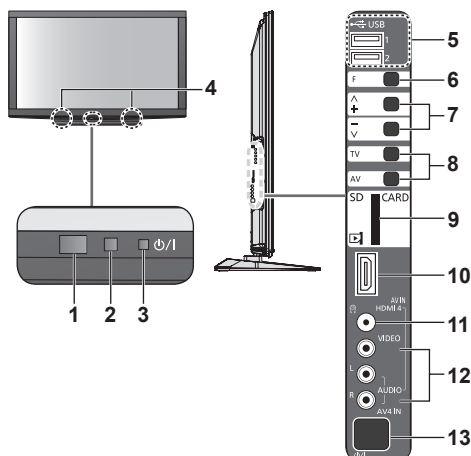
## Remote control



- 1 Standby On / Off switch**
  - Switches TV On or Off standby
- 2 Sound Selection**
  - Changes multiplex sound mode (if available) (p. 69)
- 3 Main Menu (p. 30)**
  - Press to access Picture, Sound and Setup Menus
- 4 Aspect (p. 16)**
  - Changes aspect ratio from Aspect Selection list
  - Also possible by pressing this button repeatedly until you reach the desired aspect

- 5 VIERA TOOLS (p. 29)**
  - Displays some special feature icons and accesses easily
- 6 VIERA Link (p. 63)**
  - Accesses VIERA Link Menu
- 7 OK**
  - Confirms selections and choices
  - Press after selecting channel positions to quickly change programme
- 8 Option Menu (p. 15)**
  - Easy setting for viewing and sound options
- 9 Teletext (p. 17)**
  - Switches to teletext mode
- 10 Favourite Page (p. 17)**
  - Calls up the teletext page stored in blue button.
- 11 Numeric buttons**
  - Changes channel and teletext pages
  - When in Standby mode, switches TV On
- 12 Sound Mute**
  - Switches sound mute On or Off
- 13 Volume Up / Down**
- 14 Input mode selection**
  - PC - switches to PC input mode (p. 19)
  - TV - switches to TV mode (p. 14)
  - AV - switches to AV input mode from Input Selection list (p. 19)
- 15 Surround (p. 33)**
  - Switches surround sound setting
- 16 VIERA CAST (p. 59)**
  - Displays VIERA CAST home screen
- 17 Exit**
  - Returns to the normal viewing screen
- 18 Media Player (p. 44)**
  - Switches to SD Card and USB device viewing / listening mode.
- 19 Cursor buttons**
  - Makes selections and adjustments
- 20 Return**
  - Returns to the previous menu / page
- 21 Coloured buttons**
  - Used for the selection, navigation and operation of various functions
- 22 Hold**
  - Freeze / unfreeze picture (p. 14)
  - Holds the current teletext page (teletext mode) (p. 17)
- 23 Index (p. 17)**
  - Returns to the teletext index page (teletext mode)
- 24 Programme Information (p. 15)**
- 25 Channel Up / Down**
  - Selects channel in sequence
- 26 Connected equipment operations (p. 20)**

## TV



### 1 Remote control signal receiver

- Do not place any objects between the TV remote control signal receiver and remote control.

### 2 C.A.T.S. (Contrast Automatic Tracking System) sensor

- Senses brightness to adjust picture quality when "Eco Mode" in the Picture Menu is set to "On" (p. 32)

### 3 Power LED

- Standby: red / On: green
- When using the remote control, indicates the TV has received a command.

### 4 Infrared transmitter for 3D Eyewear

- Do not place any objects between the transmitter and 3D Eyewear.

### 5 USB1 / 2 port

### 6 Function Select

- Volume / Contrast / Brightness / Colour / Sharpness / Tint (NTSC mode) / Bass ("Music" or "Speech" mode in the Sound Menu) / Treble ("Music" or "Speech" mode in the Sound Menu) / Balance / Auto Tuning (p. 37)

### 7 Increases or decreases the channel position by one. When a function is already displayed, press to increase or decrease the selected function. When in standby mode, switches TV on.

### 8 Changes the input mode

### 9 SD Card slot

### 10 HDMI4 terminal

### 11 Headphones jack

### 12 AV4 terminals

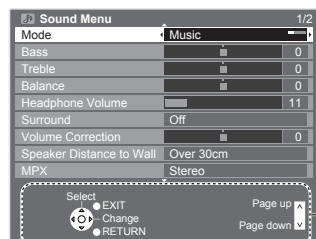
### 13 Mains power On / Off switch

- Switch On to turn on the TV or turn the TV to Standby mode by the remote control.

## Using the On Screen Displays

Many features available on this TV can be accessed via the On Screen Display menu.

Example (Sound Menu):



Operation guide will help you.

## How to use remote control



Open the Main Menu



Move the cursor / select the menu item



Move the cursor / adjust levels / select from a range of options



Access the menu / store settings after adjustments have been made or options have been set

RETURN



Return to the previous menu

EXIT



Exit the menu system and return to the normal viewing screen

# Auto Tuning

Search and store TV channels automatically.

- These steps are not necessary if the setup has been completed by your local dealer.



## 1 Plug the TV into mains socket and switch On



של/

- You can now use the remote control to turn On the TV or switch the TV to standby mode. (Power LED: On)



## 2 Select your language



① select

② store

## 3 Select your area



② start Auto Tuning

① select

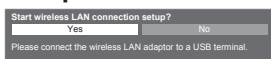
**Auto Tuning starts**



When selecting CATV/Other, press the OK button, and then select the Channel Plan from Indian CATV, South Africa, American System, American CATV or Japan.

- Auto Tuning will start to search for TV channels and store them. The sorted channel order depends upon the TV signal, the broadcasting system and reception conditions.

## 4 Setup the wireless LAN connection



- For details ➔ p. 13



① select

② confirm

## 5 Select "Home"



① change

② confirm

**Auto Tuning is complete**

### \*Viewing environment mode

Home : Recommended mode for viewing at home. Select "Home" for optimal picture / power consumption. "Viewing Mode" is set as "Normal" (p. 32).

Shop : Demonstration mode to explain main features of this TV (for in-store display). "Viewing Mode" is set as "Dynamic" (p. 32).

### To return to viewing environment selection mode if you selected "Shop"



- To change viewing environment mode later on, reset all settings by accessing Shipping Condition. ➔ "Shipping Condition" (p. 43)

## Setup the wireless LAN connection

Setup the wireless LAN connection to enable the network service functions.

- To setup the wireless LAN connection, the wireless LAN Adaptor is required. Confirm the encryption key, settings and positions of your access point before starting setup. For details, read the manual of the access point.
- Please note that this TV does not support wireless public access points.

Start wireless LAN connection setup?  
☒ Yes ☐ No  
 Please connect the wireless LAN adaptor to a USB terminal.

You can setup the wireless LAN connection later

➔ "Network Setup" (p. 53)

- To skip this step

EXIT

➔ or select "No"

Connection Type  
 Please select network connection type.  
☒ WPS (Push button)  
☐ Search for access point

### WPS (Push button)

#### WPS(Push button)

1) Please press the 'WPS' button on the access point until its light flashes.

2) When the light is flashing select 'Connect' on TV.

If you are unsure, please check the instruction manual of the access point.

Connect

### Search for access point

Available Access Points				
No.	SSID	Encryption Type	Encryption	Encryption
1	Access Point A	TKIP (WEP40)	8	
2	Access Point B	TKIP (WEP40)	8	
3	Access Point C	TKIP (WEP40)	8	

Encryption Key Setting  
 Connection will be made with the following settings:-  
 SSID : Access Point A  
 Authentication type : WPA-PSK  
 Encryption type : TKIP  
 Please input the encryption key.  
 Encryption key

Access Point Settings  
 Encryption key

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9	*	#
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

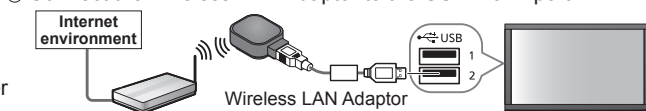
Access Point Settings  
 Encryption key is set to:-  
 XXXXXXXX  
 Select 'Yes' to confirm.  
 Select 'No' to change.  
☒ Yes ☐ No

Wireless LAN connection setup is completed

OK

- If the connection is failed, check the encryption key, settings or positions of your access point. For details, read the manual of the access point.
- If connection to the access point is successful, we recommend you perform the "Connection Test" to confirm connection to the internet has been made. The "Connection Test" can be found in the Network Setup menu (p. 55).

① Connect the Wireless LAN Adaptor to the USB 1 or 2 port



Access point  
 ② select "Yes"  
 ③ access

Select the connection type

② confirm  
 ① select

- If your access point supports WPS (Push button), then select this option. If not, select "Search for access point".

Press the WPS button on the access point until the light flashes. And then, press the OK button to connect the Wireless LAN Adaptor and the access point.

OK

- Ensure that your access point supports WPS for this method.
- WPS: Wi-Fi Protected Setup™

Access points found automatically are listed.

Select your desired access point. ● To search access points again

② access  
 ① select

- For the information of the highlighted access point



Access the encryption key input mode

OK

- If the selected access point is not encrypted, the confirmation screen will be displayed. It is recommended to select the encrypted access point.

Enter the encryption key of the access point.

Set characters one by one

① select  
 ② set  
 Store  
 RETURN

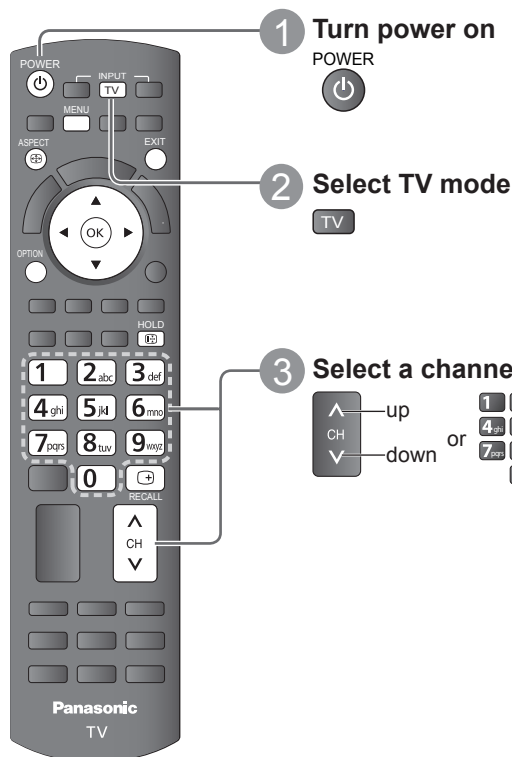
- You can set characters by using numeric buttons.

Select "Yes"

① select  
 ② set

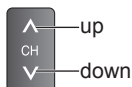
- To re-enter the encryption key, select "No".

# Watching TV



- Mains power On / Off switch should be On (p. 11).

## 3 Select a channel



- To select the two-digit channel number, e.g. 39  
 ➔ 3 → 9 (in a short time)
- If one-digit channel number, e.g. 3  
 ➔ 3 → CH- (quickly changes the channel)

## Note

- When the TV is switched to standby, there will be a clicking sound after a short delay. This is normal.

## Other useful functions

### Hold

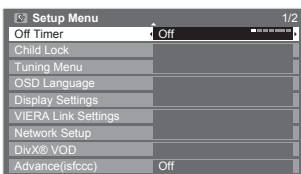


Freeze / unfreeze picture

### Off Timer

Turn the TV off automatically after a fixed period of time (Off / 15 / 30 / 45 / 60 / 75 / 90 minutes)

#### MENU



Select "Off Timer" and set the time

- To cancel ➔ Set to Off or turn the TV off.
- To display the remaining time ➔ Information banner
- When the remaining time is within 3 minutes, the remaining time will flash on screen.

Other useful functions

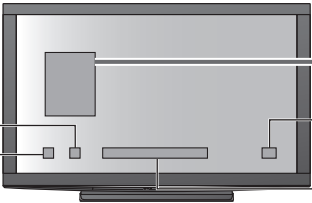
Display information banner



**Display information banner**  
● Also appears when changing channels

TV	Input mode
1 BBC	Channel position / Name
CH08	Channel number
5.5MHz	Sound system
PAL	Colour system
16:9	Aspect ratio

⊞, I, II, ▽ Audio mode (p. 69)  
⊞ Sound mute On



1 - 90 Off Timer remaining time  
● For settings ➔ p. 14

**Teletext**  
(varies depending on the broadcasters)  
Teletext service available

● To set display timeout  
➔ "Banner Display Timeout" (p. 35)

EXIT  
● To hide ➔

Display the selectable settings for the current programme



**Check or change the current programme status instantly**

● To change

➔

⬆ ⬇ ⬅ ➡  
OK  
② change  
① select

**Channel Colour Set**  
Sets colour density  
➔ Picture Menu (p. 32)

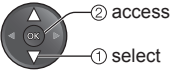
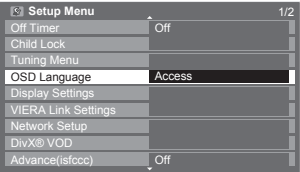
**MPX**  
Selects multiplex sound (if available)  
➔ Sound Menu (p. 33)

**Teletext Character Set**  
Sets the teletext language  
➔ Setup Menu (p. 35)

**Volume Correction**  
Adjusts volume of individual programme or input mode ➔ Sound Menu (p. 33)

Change OSD language

You can change language for on screen displays.



# Watching TV

## Other useful functions

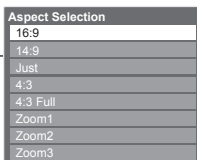
### Change aspect ratio

Enjoy viewing the picture at its optimum size and aspect.

ASPECT



#### Display Aspect Selection list



While the list is displayed, select the mode

#### To change the mode using the ASPECT button only



Press repeatedly until you reach the desired mode

16:9



Directly displays the image at "16:9" without distortion (anamorphic).

14:9



Displays the image at the standard "14:9" without distortion.

Just



Displays a "4:3" image full-screen. Stretching is only noticeable at the left and right edges.

4:3



Displays the image at the standard "4:3" without distortion.

4:3 Full



Displays a "4:3" image enlarged horizontally to fit the screen.  
● HD signal only

Zoom1



Displays a "16:9" letterbox or "4:3" image without distortion.

Zoom2



Displays a "16:9" letterbox (anamorphic) image full-screen without distortion.

Zoom3



Displays a "2.35:1" letterbox (anamorphic) image full-screen without distortion. At "16:9", displays the image at its maximum (with slight enlargement).

#### Note

- Only "16:9" and "4:3" are available in PC input mode.
- Aspect is fixed to "16:9" when "Viewing Mode" is set to "Game" in the Picture Menu.
- Not available in teletext service and 3D images.
- Aspect mode can be memorized separately for SD (Standard definition) and HD (High definition) signals.



# Viewing Teletext

Teletext services are the text information provided by the broadcasters.  
The features may vary depending on the broadcasters.


## What is FASTEXT mode?

In FASTEXT mode, four differently coloured subjects are situated at the bottom of the screen. To access more information about one of these subjects, press the appropriately coloured button. This facility enables fast access to information on the subjects shown.


## What is List mode?

In List mode, four differently coloured page numbers are situated at the bottom of the screen. Each of these numbers can be altered and stored in the TV's memory. ("Store frequently viewed pages" ➔ p. 18)





**To change mode ➔** "Teletext" in the Setup Menu (p. 35)







**1 Switch to Teletext**

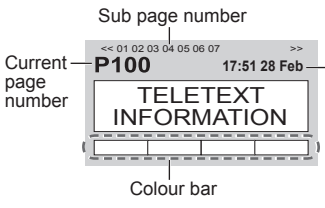
**TEXT**  ● Displays Index (content varies depending on the broadcasters)

**2 Select the page (up to page 899)**

 or  or  or   
(Corresponds to the colour bar)








**To adjust contrast**  
➔  (press three times) ➔  As the blue bar is displayed

**To return to TV** ➔  or 



Sub page number  
Current page number  
Time / date  
TELETEXT INFORMATION  
Colour bar

## Functions (Teletext mode)

Hold	Reveal hidden data
 <b>Stop automatic updating</b> (If you wish to hold the current page without updating) <b>To resume</b> ➔ 	 ➔  Reveal hidden words e.g. quiz page answers <b>To hide</b> ➔ 
INDEX	Call up a favourite page
 <b>Return to the main index page</b>	 <b>View a favourite page stored</b> ● Call up the page stored in "blue". ● Factory setting is "P103".

# Viewing Teletext

## Functions (Teletext mode)

### View in multi window

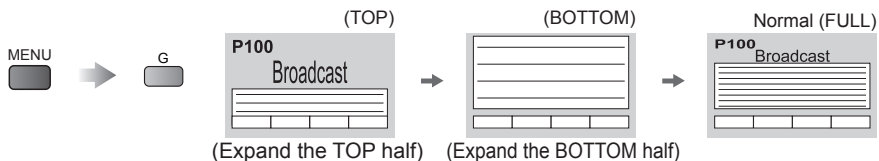
#### Watch TV and Teletext in two windows at once

MENU (press twice) →  Select teletext only or picture / teletext



- Operations can be made only in Teletext screen.

### FULL / TOP / BOTTOM

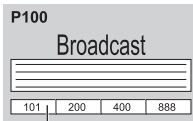


### Store frequently viewed pages

#### Store frequently viewed pages in the colour bar (List mode only)

 → Corresponding colour button (As page is displayed)

OK press and hold



The number changes to white.

#### To change stored pages



Colour button you want to change



Enter new page number



press and hold

### View sub page

#### View sub page (Only when teletext is more than one page)



<<01 02 03 04 05

Appears at top of the screen

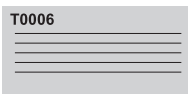
#### To view specific sub page



Enter the 4-digit number

example: P6

0 0 0 6



- Sub pages:

The number of sub pages varies depending on the broadcasters.

It may take some time for searching, during which time you can watch TV.

### Watch TV while waiting for update

#### View the TV picture while searching for a teletext page

Teletext automatically updates itself when new information becomes available.



Appears when updating is completed

View the updated page



Changes to TV screen temporarily (You cannot change the programme.)

- The news page provides a function that indicates arrival of latest news ("News Flash").

# Watching External inputs

Connect the external equipment (VCRs, DVD equipment, PC, etc.) and you can watch through the input.

- To connect the equipment ➔ p. 9, 66 and p. 67

The Remote Control is capable of operating some functions of selected external equipment. For details, see the manual of the equipment or ask your local dealer.



## 1 Display the input selection menu

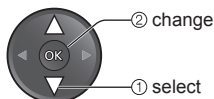
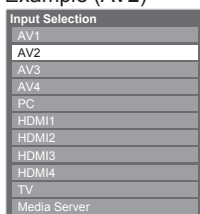
AV

- When viewing PC ➔ PC ( ➔ skip to 3)

## 2 Select the input mode of the connected equipment

- You can also select the input using the AV button on the remote control or the side panel of the TV (p. 11). Press the button repeatedly until the desired input is selected.
- You can label or skip each input mode ➔ "Input Labels" (p. 42). Skipped inputs will not be displayed when the AV button is pressed.

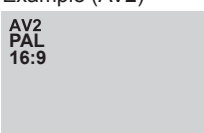
Example (AV2)



## 3 View

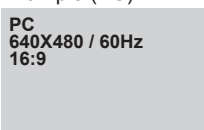
The selected mode is displayed on the screen.

Example (AV2)



- If the external equipment has an aspect adjustment function, set to "16:9".

Example (PC)



- You can also listen to PC sound with the audio cable connected. (To connect ➔ p. 66 and p. 67)
- You can setup some functions ➔ PC Setup (p. 34) in the Setup Menu and Advanced Picture Settings (p. 39).
- For HDMI-compatible PC (p. 70 and p. 71), possible to connect to HDMI terminals (HDMI1 / HDMI2 / HDMI3 / HDMI4) by using HDMI cable.




To return to TV




# Watching External inputs



## Operating the equipment with the TV remote control

The equipment connected to the TV can be directly operated with the below buttons of this TV remote control.

	<b>Standby</b> Set to Standby mode / Turn on
	<b>Play</b> Playback videocassette / DVD
	<b>Stop</b> Stop the operation
	<b>Rewind / Skip / Search</b> VCR: Rewind, view the picture rapidly in reverse DVD / video content: Skip to the previous track or title Press and hold to search backward
	<b>Fast-forward / Skip / Search</b> VCR: Fast-forward, view the picture rapidly forward DVD / video content: Skip to the next track or title Press and hold to search forward
	<b>Pause</b> Pause / Resume DVD: Press and hold to play at slow speed
	<b>Programme Up / Down</b> Select programme
	<b>Record</b> Start recording

### How to change the code for each equipment

Each type of Panasonic equipment has its own remote control code.  
Please change the code for each equipment you want to operate.  
If you operate the connected equipment in VIERA Link (p. 64), select the code "73".  
Press and hold  during the following operations

Enter the appropriate code (see table below)  ➔ Press 

Type of equipment	Code
DVD Recorder / DVD Player	70 (default)
Player theatre / Blu-ray Disc theatre	71
VCR	72
The equipment using in VIERA Link ➔ "VIERA Link Control" (p. 64)	73

- Note
- Confirm if the remote control works correctly after changing the code.
  - The codes may be reset to default values if batteries are replaced.
  - Some operations may not be possible on some equipment models.

# Viewing 3D images

You can enjoy viewing 3D images with contents or programmes corresponding to the 3D effect by wearing the 3D Eyewear (supplied).

This TV supports "Frame Sequential\*1", "Side by Side\*2" and "Top and Bottom\*3" 3D formats.

\*1: The 3D format that the images for the left and right eyes are recorded with the high definition quality and alternately played back

\*2, \*3: Other available 3D formats

● How to use the 3D Eyewear ➔ p. 22 - 24

● How to view the 3D images ➔ p. 25

## Warning

### Small Parts

- 3D Eyewear contains small parts (battery and specialised band, etc.) and must be kept out of reach of small children to avoid accidental ingestion.

### Disassembly

- Do not disassemble or modify the 3D Eyewear.

### Lithium Battery

- Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

## Caution

To enjoy 3D images safely and comfortably, please read these instructions fully.

### 3D Eyewear

- Do not drop, exert pressure on, or step on the 3D Eyewear.
- Always store the 3D Eyewear in the case provided when not in use.
- Be careful of the tips of the frame when putting on the 3D Eyewear.
- Be careful not to trap a finger in the hinge section of the 3D Eyewear.
- Pay special attention when children are using the 3D Eyewear.

3D Eyewear should not be used by children younger than 5 - 6 years old, as a guideline.

All children must be fully supervised by parents or guardians who must ensure their safety and health throughout the using 3D Eyewear.

### Viewing 3D Content

- Do not use the 3D Eyewear if you have a history of over-sensitivity to light, heart problems, or have any other existing medical conditions.
- Please stop using the 3D Eyewear immediately, if you feel tired, are not feeling well or experience any other uncomfortable sensation.
- Take an appropriate break after viewing a 3D movie.
- Take a break of between 30 - 60 minutes after viewing 3D content on interactive devices such as 3D games or computers.
- Be careful not to strike the TV screen or other people unintentionally. When using the 3D Eyewear the distance between the user and screen can be misjudged.
- The 3D Eyewear must only be worn when viewing 3D content.
- If you do not look toward the TV screen for a while when viewing 3D images, the 3D Eyewear may be turned off automatically.
- If you suffer from any eyesight problems (short / far-sighted, astigmatism, eyesight differences in left and right), please ensure to correct your vision before using the 3D Eyewear.
- Stop using the 3D Eyewear if you can clearly see double images when viewing 3D content.
- Do not use the 3D Eyewear at a distance less than the recommended distance.  
The recommended viewing distance is 3 times of image height (2.4 m or more).  
When the top and bottom area of the screen is blackened, such as movies, view the screen at a distance 3 times further than the height of the actual image. (That makes the distance closer than above recommended figure.)

### 3D Eyewear Use

- Before using the 3D Eyewear, ensure no breakable objects surrounding the user to avoid any accidental damage or injury.
- Remove the 3D Eyewear before moving around to avoid falling or accidental injury.
- Always put the 3D Eyewear in the case (supplied) after use.
- Use the 3D Eyewear only for the intended purpose and nothing else.
- Do not use 3D Eyewear in the condition of high temperature.
- Do not use if the 3D Eyewear is physically damaged.
- Do not use any devices that emit the infrared signals near the 3D Eyewear, as this may cause the 3D Eyewear false operations.
- Do not use devices (such as mobile phones or personal transceivers) that emit strong electromagnetic waves near the 3D Eyewear as this may cause the 3D Eyewear to malfunction.
- Stop using the 3D Eyewear immediately if a malfunction or fault occurs.
- Stop using the 3D Eyewear immediately if you experience any redness, pain, or skin irritation around the nose or temples.
- In rare cases, the materials used in the 3D Eyewear may cause an allergic reaction.

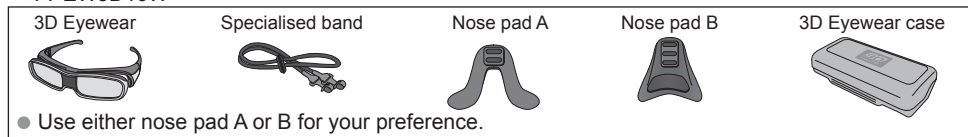
### Lithium Battery

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

# Viewing 3D images

## 3D Eyewear

3D Eyewear set  
● TY-EW3D10W

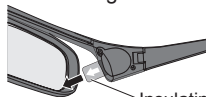


- 3D Eyewear can be worn over vision correction glasses.

### Part names and functions

#### Battery cover

- When using for the first time, remove the insulating sheet.



Pull the insulating sheet

Insulating sheet

- To replace the battery ➔ "Replacing the battery" (p. 23)

#### Infrared receiver

Receives infrared signals from the TV.

- 3D Eyewear is controlled by receiving infrared signals from the TV, which allows you to view 3D images.

#### Note

- Do not soil the infrared receiver section or attach stickers etc. to it.

#### Nose pad installation section

If required, attach the nose pad.

- To attach the nose pad ➔ "Attaching the nose pad" (p. 24)

#### Specialised band attaching parts

If required, attach the specialised band.

- To attach the band  
➔ "Attaching the specialised band" (p. 24)

#### Lenses - Liquid Crystal Shutter

Controls the images for 3D viewing.

- The left and right liquid crystal shutters are alternately opened and closed in time with the images on the TV screen to achieve the 3D effect.

#### Note

- Do not apply pressure to or scratch the surface of the liquid crystal shutter.

#### Power button of the 3D Eyewear

(bottom side of the 3D Eyewear)

Switches the 3D Eyewear on or off.

- Press the button for about 1 second to turn the power on. The indicator lamp lights for about 2 seconds and then goes off.
- To turn the power off, press the button for about 1 second again. The indicator lamp flashes 3 times, then the 3D Eyewear turns off.

Power button



Indicator lamp

#### Note

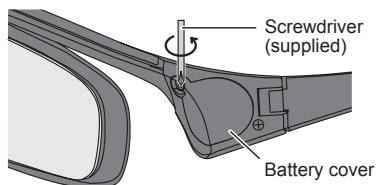
- If the 3D Eyewear does not receive any signals from the TV for about 5 minutes, the 3D Eyewear will be turned off automatically.

## Replacing the battery

When the battery is running low, the indicator lamp flashes 5 times on turning the 3D Eyewear on. In this case, early battery replacement is recommended.

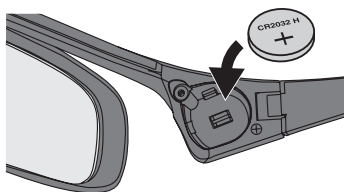
- Dispose of the old batteries as non-burnable rubbish, or in line with the waste disposal regulations in your local area.

- ① Loosen the screw and remove the battery cover using the supplied screwdriver

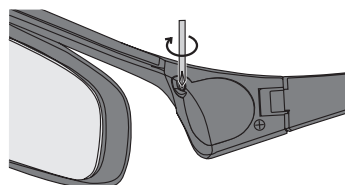
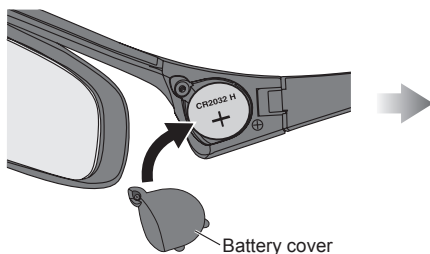


- ② Replace the battery

- Use the specified type of battery (coin-shaped lithium battery CR2032).
- Note the correct polarity (+ or -).



- ③ Replace and fasten the battery cover



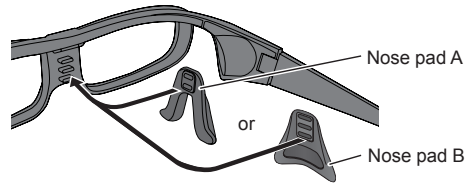
- Make sure that the screw is tightened.

# Viewing 3D images

## Attaching the nose pad

Use either nose pad A or B for your preference.

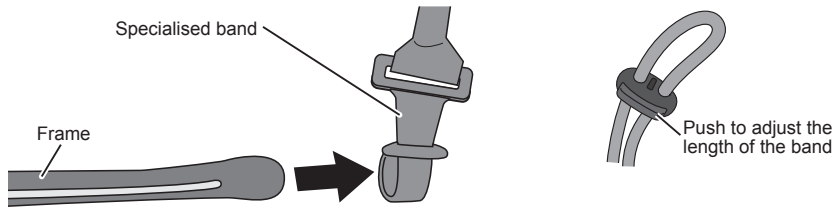
- If you put the 3D Eyewear on vision correction glasses, the nose pad is recommended to be removed.
- You can select the positions of the nose pad A from the 2 levels of height. Use upper 2 protrusions or lower 2 protrusions on the 3D Eyewear to attach the nose pad A.
- Use all 3 protrusions on the 3D Eyewear to attach the nose pad B.



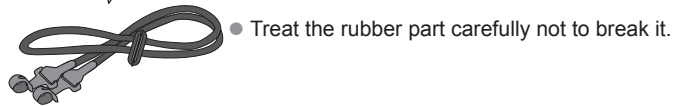
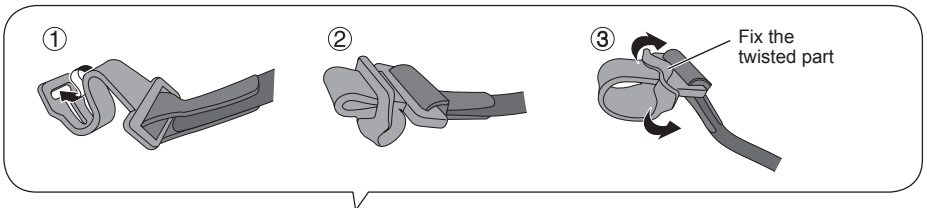
## Attaching the specialised band

If the 3D Eyewear slips out of place, use the supplied specialised band to hold it in place.

- Attach the band to the left and right tips of the frame, and adjust the length.



When the end of the specialised band is straightened, form a loop at the end of the band, and fix the twisted part.



## Storing and cleaning the 3D Eyewear

- Use the supplied 3D Eyewear case to store the 3D Eyewear.
- Avoid storing the 3D Eyewear in hot or highly humid locations.
- Use a clean, soft and dry cloth to wipe the 3D Eyewear. Otherwise, dirt or dust may scratch the eyewear.
- Do not use benzene, thinner, or wax on the 3D Eyewear, as doing so may cause the paint to peel off.
- Do not submerge the 3D Eyewear in liquid such as water when cleaning.



## To view the 3D images

### To view the contents of the Frame Sequential format (ex. 3D-compatible Blu-ray Disc, etc.) with 3D effect

Connect the 3D-compatible player via an HDMI cable (p. 9, 66 and p. 67) and playback the contents.

- Use fully wired HDMI compliant cable.
- For the settings of the player, read the manual of the player.
- If input mode is not switched automatically, select the input mode connected to the player (p. 19).
- If you use the non 3D-compatible player, the images will be displayed without 3D effect.

### To view the contents or programmes of “Side by Side” or “Top and Bottom” with 3D effect

Select suitable picture format in “3D Picture Format” (p. 28) before viewing.

- You can view the contents with 3D effect even if you use the non 3D-compatible player.
- Please consult the suppliers of contents or programmes for availability of this service.

#### ① Turn the 3D Eyewear on

- Press the power button on the 3D Eyewear for about 1 second. (p. 22)

#### ② Put on the 3D Eyewear

- If the 3D Eyewear slips out of place, hold it in place using the specialised band, and adjust the length of the band. (p. 24)

#### ③ Watch the 3D images

- Safety precautions will be displayed on the first 3D image detection. Select “Yes” or “No” to continue to view 3D images.

If you select “Yes”, this message will be displayed again in the same condition after Mains power On / Off switch is next turned On. Select “No” if you do not wish to display this message again.

Example:

<b>Safety Precautions</b>	
To enjoy 3D images safely and comfortably, please read the Operating Instructions fully.	
Please stop using the 3D Eyewear immediately, if you feel tired, are not feeling well or experience any other uncomfortable sensation.	
Always put the 3D Eyewear in the case provided after use.	
Would you like to display this message again later?	
Yes	No

### To turn the 3D Eyewear off

After using the 3D Eyewear, press the power button on the 3D Eyewear for about 1 second to turn it off. (p. 22)

#### Note

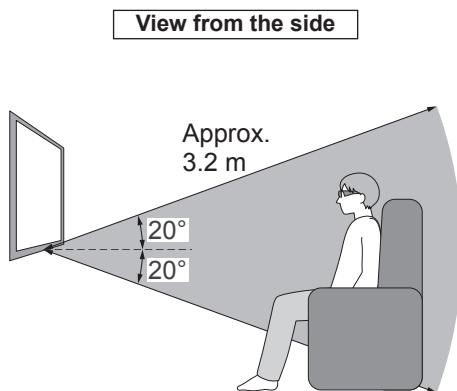
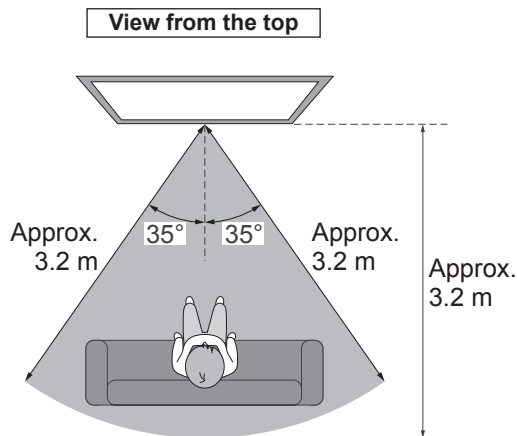
- The 3D image or 3D effect is not available while VIERA CAST home screen (p. 59) is displayed. As for the contents of the Frame Sequential format, no images will be displayed in this condition.
- If the room is lit by fluorescent lights (50 Hz) and light appears to flicker when using the 3D Eyewear, switch off the fluorescent light.
- 3D content will not be correctly visible if the 3D Eyewear is worn upside down or back-to-front.
- Do not wear the 3D Eyewear when watching anything other than 3D images. Liquid crystal displays (such as computer screens, digital clocks or calculators, etc.) may be difficult to see while wearing the 3D Eyewear.
- Do not use the 3D Eyewear as sunglasses.
- 3D effects may be perceived differently depending on the person.

# Viewing 3D images

## Available range for the 3D Eyewear

If the 3D Eyewear is placed outside the available area for about 5 minutes, the 3D Eyewear will be turned off automatically.

● : Available area to use the 3D Eyewear

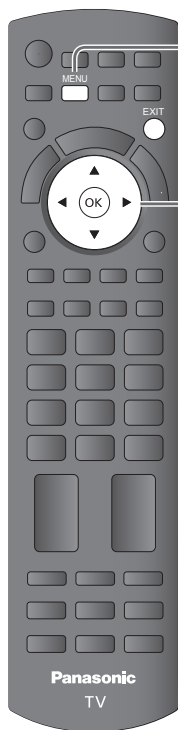


### Note

- The range may be shortened depending on the obstacles between the infrared sensors on the TV and the 3D Eyewear, the dirt of the infrared sensors or the surrounding environment.
- If you do not look toward the TV screen for a while when viewing 3D images, the 3D Eyewear may be turned off automatically even if in the available area.

## 3D Settings

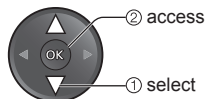
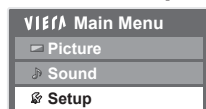
If the 3D images are not displayed correctly or seem unusual, please adjust and setup the 3D settings.



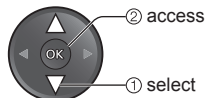
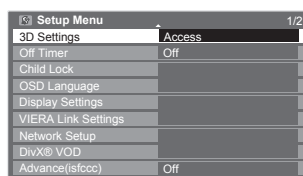
### 1 Display the menu



### 2 Select "Setup"

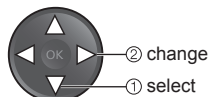
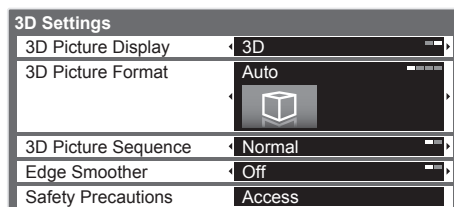


### 3 Select "3D Settings"



- You can also access 3D Settings menu directly by using VIERA TOOLS.  
➔ "How to use VIERA TOOLS" (p. 29)

### 4 Select one of the following functions and set (see next page)



To return to TV



# Viewing 3D images

## 3D Picture Display (2D / 3D)

Sets the TV to 3D or 2D mode

- Select "2D" to view 3D picture in 2 dimensional without wearing the 3D Eyewear.

## 3D Picture Format (Auto / Side by Side / Top and Bottom / Original)

Selects 3D picture format to suit the format of the source signal

- When receiving the Frame Sequential format (ex. playback of the 3D-compatible Blu-ray Disc with the 3D-compatible player) via an HDMI cable, the 3D images will be displayed correctly regardless of the setting of "3D Picture Format". (when "3D Picture Display" is set to "3D")

Auto (default)

: 3D images are automatically displayed according to the signal.

- This is available when the 3D-compatible player is connected via an HDMI cable.
- This mode may not work properly depending on the signal. In this case, select the appropriate picture format.

Side by Side / Top and Bottom : One of the formats of the 3D standard

- Select these formats as necessary.













Original

: Displays the input signal as it is.

- Use to identify the format type of the input signal.

## Table of images that can be seen for each 3D Picture Format and the input signal format

If the picture appears to be abnormal, refer to the table below to choose the correct 3D picture format setting.

3D Picture Format Input signal format	Auto	Side by Side	Top and Bottom	Original
Side by side	 *1	 Normal*2		
Top and bottom	 *1		 Normal*2	
Normal format (2D)	 Normal			 Normal

\*1 When the input signal is not recognized correctly

\*2 When "3D Picture Display" is set to "3D", the images will be displayed with 3D effect. When set to "2D", displayed without 3D effect.

- Depending on the player or broadcasts, the image may be different from the above illustrations.

## 3D Picture Sequence (Normal / Reverse)

Selects "Reverse" if you feel that the sense of depth is unusual.

## Edge Smoother (Off / On)

Select "On" if you feel the contoured parts of an image are not smooth enough.

(for "Side by Side" or "Top and Bottom" format)

## Safety Precautions

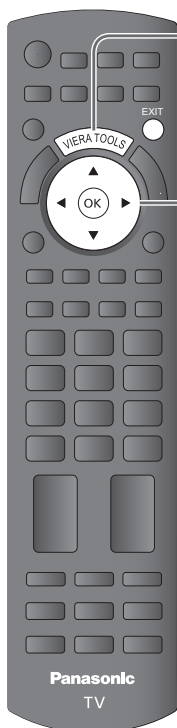
Displays the precautions for viewing 3D images.

### Note

- These settings will not be memorized when changing the input mode or channel.
- When viewing the 3D-compatible 24p source movie, you can reduce juddering noises by setting "3D 24p Film Display" in "Other Settings" (p. 36).

# How to Use VIERA TOOLS

You can access some special features easily by using the VIERA TOOLS function.



## 1 Display icons of the feature



## 2 Select a feature



- ① select
- ② access

## 3 Follow the operation of each feature

- VIERA Link Control ➔ "VIERA Link Control" (p. 64)



When two or more compatible equipment are connected, a selection screen will be displayed.

Please select the correct description and access.

- Photo ➔ "Photo mode" (p. 46)



When two or more available devices are connected, a selection screen will be displayed.

Please select the correct description and access.

- Video ➔ "Video mode" (p. 48)



When two or more available devices are connected, a selection screen will be displayed.

Please select the correct description and access.

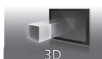
- Music ➔ "Music mode" (p. 50)



When two or more available devices are connected, a selection screen will be displayed.

Please select the correct description and access.

- 3D ➔ "3D Settings" (p. 27)



- VIERA CAST ➔ "VIERA CAST™" (p. 59)



- Media Server ➔ "Using DLNA® features" (p. 56)



### Note

- If the selected feature is not available, the demonstration to explain how to use it can be displayed. Press the OK button to view the demonstration after selecting the unavailable feature.

### To return to TV



# How to Use Menu Functions

Various menus allow you to make settings for the picture, sound, and other functions.

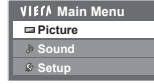


## 1 Display the menu

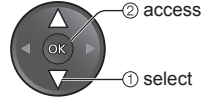


- Displays the functions that can be set (varies according to the input signal)

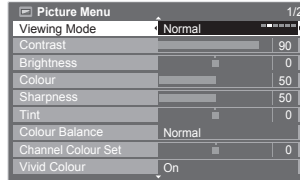
## 2 Select the menu



(example)



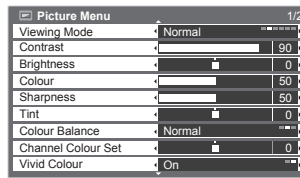
## 3 Select the item



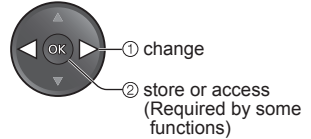
(example)



## 4 Adjust or select



(example)



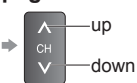
**To return to TV at any time**



**To return to the previous screen**

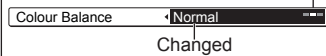


**To change menu pages**

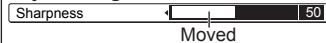


### Choose from among alternatives

Number and positions of alternatives



### Adjust using the slide bar

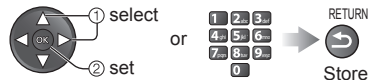


### Go to the next screen



Displays the next screen

### Enter characters by free input menu



- To delete a character → R

- To delete all characters → B

Every press changes the character by one. Leave it for a second to set the character, or press OK or any numeric button within a second.

See the table below for the corresponding characters for each numeric button.

Numeric buttons	Characters	Numeric buttons	Characters
1	. ! : # + - * _ ( )	6 m n o	6 M N O
2 a b c	2 A B C	7 p q r s	7 P Q R S
3 d e f	3 D E F	8 t u v	8 T U V
4 g h i	4 G H I	9 w x y z	9 W X Y Z
5 j k l	5 J K L	0	Space 0

Overview

VIERA Main Menu

Picture

Sound

Setup

Picture

(p. 32 and p. 33)

Picture Menu

1/2

Viewing Mode

Normal

Contrast

90

Brightness

0

Colour

50

Sharpness

50

Tint

0

Colour Balance

Normal

Channel Colour Set

0

Vivid Colour

On

Picture Menu

2/2

Reversal Film Effect

Off

Eco Mode

Off

P-NR

Off

3D-COMB

On

Panel

On

Advanced Settings

Access

Reset to Defaults

Reset

Sound

(p. 33 and p. 34)

Sound Menu

1/2

Mode

Music

Bass

0

Treble

0

Equalizer

Access

Balance

0

Headphone Volume

12

Surround

Off

Volume Correction

0

Speaker Distance to Wall

Over 30cm

Sound Menu

2/2

MPX

Stereo

SPDIF Selection

Auto

HDMI1 Input

Digital

Reset to Defaults

Reset

Setup

(p. 34 - 36)

Setup Menu

1/2

3D Settings

Access

PC Setup

Access

Off Timer

Off

Child Lock

Access

Tuning Menu

Access

OSD Language

Access

Display Settings

Access

VIERA Link Settings

Access

Network Setup

Access

Setup Menu

2/2

DivX® VOD

Access

Advance(isfcc)

On

System Menu

Access

Other Settings

Access

Tuning Menu

Channel List Edit

Access

Auto Tuning

Access

Manual Tuning

Access

(p. 34)

Display Settings

Teletext

FASTTEXT

Teletext Character Set

English

Side Panel

High

Input Labels

Access

Banner Display Timeout

3 seconds

Playing Time Display

On

(p. 35)

VIERA Link Settings

VIERA Link

On

HDMI Content Type

Off

Power on Link

Off

Power off Link

On

Standby Power Save

Off

Intelligent Auto Standby

Off

(p. 35)

System Menu

Shipping Condition

Access

Software Licence

Access

System Information

Access

(p. 35)

Other Settings

1/2

AV Colour System

Auto

Colour Matrix

SD

Intelligent Frame Creation

Off

24p Smooth Film

Off

3D 24p Film Display

60Hz

Resolution Enhancer

Off

Auto Standby

Off

Power Save

Off

16:9 Overscan

On

Other Settings

2/2

SD Card LED

On

DVI Input Setting

Normal

(p. 36)



● Depending on the received signals, available items are varied.

## Menu list

Menu	Item	Adjustments / Configurations (alternatives)
Picture	Viewing Mode	<p>Basic picture mode (<b>Dynamic / Normal / Cinema / THX (True Cinema) / Game / Photo / Professional1 / Professional2</b>)</p> <p>In each Viewing Mode and input, Contrast, Brightness, Colour, Sharpness, Tint, Colour Balance, Vivid Colour, Eco Mode, P-NR and 3D-COMB can be adjusted and stored to suit your particular viewing requirement.</p> <ul style="list-style-type: none"> <li>● Set for each input signal.</li> </ul> <p>Dynamic : Provides enhanced picture contrast and sharpness when viewing in a bright room</p> <p>Normal : Recommended for viewing under normal ambient room lighting conditions.</p> <p>Cinema : For watching movies in a darkened room with improving the performance of contrast, black and colour reproduction</p> <p>THX : Precisely reproduces the original quality of the image without any revision.</p> <p>(True Cinema) ● “True Cinema” is displayed instead of “THX” in the mode of 3D, PC input, Media Player and Network service operations.</p> <p>Game : Fast response signal specifically to provide suitable images for playing games</p> <ul style="list-style-type: none"> <li>● Not valid on TV mode</li> <li>● A continuous record of time spent using Game mode can be displayed in the top right of the screen.</li> <li>➔ “Playing Time Display” (p. 35)</li> </ul> <p>Photo : Set “Reversal Film Effect” to “On” to provide the suitable image quality for photos</p> <ul style="list-style-type: none"> <li>● For HDMI input, Media Player and Network service operations</li> </ul> <p>Professional: Allows you to set the professional picture settings in “Advanced Settings”, “Lock Settings” and “Copy Adjustment”</p> <p>1 / 2</p> <ul style="list-style-type: none"> <li>➔ p. 39 and p. 40</li> <li>● This mode is available only when “Advance(isfccc)” in the Setup Menu is set to “On”.</li> <li>● Not valid on VIERA CAST</li> <li>● If the certified professional dealer sets these modes, “Professional1” and “Professional2” may be displayed as “isf Day” and “isf Night”.</li> </ul>
	Contrast, Brightness, Colour, Sharpness	Increases or decreases the levels of these options according to your personal preference
	Tint	<p>The picture hue can be adjusted to suit your taste.</p> <ul style="list-style-type: none"> <li>● For NTSC signal, Component or HDMI input</li> <li>● Not valid when “Viewing Mode” for HDMI input is set to “Photo”</li> </ul>
	Colour Balance	<p>Allows you to set the overall colour tone of the picture (<b>Cool / Normal / Warm</b>)</p> <ul style="list-style-type: none"> <li>● Not valid when “Viewing Mode” is set to “THX (True Cinema)”, “Professional1” or “Professional2”</li> </ul>
	Channel Colour Set	<p>Colour density varying between broadcast channels can be adjusted to three levels for each reception channel</p> <ul style="list-style-type: none"> <li>● Select the channel you want to adjust and set this function.</li> </ul>
	Vivid Colour	<p>Automatically adjusts colours to vivid ones (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>● Not valid on PC signal</li> <li>● Not valid when “Viewing Mode” is set to “Professional1” or “Professional2”</li> </ul>
	Reversal Film Effect	<p>Provides the picture effect such as the reversal film (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>● This function is available when “Viewing Mode” is set to “Photo”.</li> </ul>
	Eco Mode	<p>Automatically adjusts the screen brightness appropriately as the surrounding light level lowers to reduce the power consumption (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>● Not available in shop mode (Dynamic picture mode)</li> </ul>



Menu	Item	Adjustments / Configurations (alternatives)
Picture	<b>P-NR</b>	Picture Noise Reduction Automatically reduces unwanted picture noise and flicker noise in the contoured parts of a picture ( <b>Off / Min / Mid / Max</b> ) ● Not valid on PC signal
	<b>3D-COMB</b>	Makes still or slow moving pictures look more vivid ( <b>Off / On</b> ) ● Occasionally, while viewing still or slow moving pictures, colour patterning may be seen. Set to "On" to display sharper and more accurate colours. ● For PAL or NTSC signal reception only ● Not valid on Component, S-Video, PC, HDMI and Media Player
	<b>Panel</b>	Turns the screen off when you select "Off" ( <b>Off / On</b> ) ● The sound is active even if the screen turns off. ● Press any buttons to turn the screen on. ● This function is effective in reducing power consumption when listening to a sound without watching the TV screen.
	<b>Advanced Settings</b>	Sets the detailed picture settings (p. 39)
	<b>Reset to Defaults</b>	Press the OK button to reset the present Picture Viewing Mode of the selected input to the default settings.
Sound	<b>Mode</b>	Selects basic sound mode ( <b>Music / Speech / User</b> ) ● The selected mode affects all input signals. Music : Improves sound quality for watching music videos, etc. Speech : Improves sound quality for watching news, drama, etc. ● In Music and Speech modes, you can adjust "Bass" and "Treble" settings, and those settings will be stored for each mode. User : Adjusts the sounds manually by using the equalizer to suit your favourite sound quality. ● For the User mode, "Equalizer" will appear on the Sound Menu instead of "Bass" and "Treble". Select the "Equalizer" and adjust the frequency. ➔ "Equalizer" (below)
	<b>Bass</b>	Increases or decreases level to enhance or minimise lower, deeper sound output
	<b>Treble</b>	Increases or decreases level to enhance or minimise sharper, higher sound output
	<b>Equalizer</b>	Adjusts the frequency level to suit your favourite sound quality ● This function is available when "Mode" is set to "User". ● Select the frequency and change the frequency level by using the cursor button. ● If you want to enhance the bass sound, raise the level of the lower frequency. If you want to enhance the treble sound, raise the level of the higher frequency. ● To reset the levels of each frequency to the default settings, select the "Reset to Defaults" by using cursor button, and then press the OK button.
	<b>Balance</b>	Adjusts the volume level of right and left speakers
	<b>Headphone Volume</b>	Adjusts the volume of the headphones
	<b>Surround</b>	Surround sound settings ( <b>Off / V-Audio / V-Audio Surround / V-Audio ProSurround</b> ) V-Audio : Provides a dynamic enhancer to simulate improved spatial effects V-Audio Surround : Provides a dynamic enhancer of width and depth to simulate improved spatial effects V-Audio ProSurround : Provides a three-dimensional sound space with digital reverb effects ● Switching is also possible by the Surround button on the remote control (p. 10).
	<b>Volume Correction</b>	Adjusts the volume of individual channel or input mode
	<b>Speaker Distance to Wall</b>	Adjusts the low frequency sound ( <b>Over 30cm / Up to 30cm</b> ) ● If the back space between the TV and wall is over 30 cm, "Over 30cm" is recommended. ● If the back space between the TV and wall is within 30 cm, "Up to 30cm" is recommended.
	<b>MPX</b>	Selects multiplex sound mode (if available) (p. 69) ● Normally : Stereo ● Stereo signal cannot be received: Mono ● M1 / M2 : Available while mono signal is transmitted

Menu	Item	Adjustments / Configurations (alternatives)
Sound	<b>SPDIF Selection</b>	SPDIF : A standard audio transfer file format Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT terminal ( <b>Auto / PCM</b> ) Auto : Dolby Digital is output as Dolby Digital Bitstream. HE-AAC and MPEG are output as PCM. PCM : Digital output signal is fixed to PCM. ● For Video mode (p. 48) or Network video contents (p. 57)
	<b>HDMI1 / 2 / 3 / 4 Input</b>	Select to fit the input signal ( <b>Digital / Analogue</b> ) (p. 70). Digital : HDMI cable connection Analogue : HDMI-DVI adaptor cable connection ● HDMI input mode only
	<b>Reset to Defaults</b>	Press the OK button to reset settings of the present Mode, Balance, Headphone Volume and Surround in the Sound Menu to the default.
Setup	<b>3D Settings</b>	Adjusts and sets to view 3D images (p. 27) ● This function is available in the mode of HDMI input or Network service operations.
	<b>Input Resolution</b>	Switches to a wide view ● VGA (640 × 480 pixels), WVGA (852 × 480 pixels), XGA (1,024 × 768 pixels), WXGA (1,280 × 768 pixels, 1,366 × 768 pixels) ● Options change depending on signals
	<b>Clock</b>	Set to the minimum level if noise occurs.
	<b>H-pos</b>	Adjusts horizontal position 
	<b>V-pos</b>	Adjusts vertical position 
	<b>Clock Phase</b>	Eliminates flicker and distortion ● Adjust after Clock adjustment    ● Set to the minimum level if noise occurs
	<b>Sync</b>	PC sync signal type ( <b>H &amp; V / On Green</b> ) H & V : by the horizontal and vertical signals from your PC On Green : by green signal from your PC
	<b>Reset to Default</b>	Press the OK button to reset the PC Setup settings to the default.
	<b>Off Timer</b>	Sets the time the TV automatically goes to Standby mode ( <b>Off / 15 / 30 / 45 / 60 / 75 / 90 minutes</b> )
	<b>Child Lock</b>	Locks a channel / AV input to prevent access to it (p. 41)
Tuning Menu	<b>Channel List Edit</b>	Skips the unwanted channels or edits channels (p. 38)
	<b>Auto Tuning</b>	Sets all TV channels automatically (p. 38)
	<b>Manual Tuning</b>	Sets the TV channels manually (p. 38)


Menu	Item	Adjustments / Configurations (alternatives)
Setup	<b>OSD Language</b>	Changes language for on screen displays ( <b>English / Thai / Chinese / Vietnamese / Arabic / Indonesia / Persian / French</b> )
	<b>Display Settings</b>	<b>Teletext</b> Teletext display mode ( <b>FASTEXT / List</b> ) (p. 17)
		<b>Teletext Character Set</b> Selects teletext language ( <b>English / CIS / E.Europe / Persian</b> )
		<b>Side Panel</b> Increases the brightness of the side panel ( <b>Off / Low / Mid / High</b> ) ● The recommended setting is "High" to prevent panel "image retention".
		<b>Input Labels</b> Labels or skips each input terminal (p. 42)
		<b>Banner Display Timeout</b> Sets how long the information banner stays on screen (p. 15) <b>(0 (No display) / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 seconds)</b>
		<b>Playing Time Display</b> Set to "On" to display a continuous record of time spent using Game mode every 30 mins ( <b>Off / On</b> ) ● This function is available when "Game" is selected in "Viewing Mode" (p. 32).
	<b>VIERA Link Settings</b>	<b>VIERA Link</b> Sets to use VIERA Link functions ( <b>Off / On</b> ) ● VIERA Link functions become available when "VIERA Link" is set to "On" (p. 61).
		<b>HDMI Content Type</b> Adjusts the picture settings according to the content type from the connected equipment via HDMI cable ( <b>Off / Auto</b> ) ● This function is available if the connected equipment supports HDMI Content Type. ● The content type information will be displayed for several seconds when this function works.
		<b>Power on Link</b> Sets to use Power on Link functions ( <b>Off / On</b> ) (p. 62)
		<b>Power off Link</b> Sets to use Power off Link functions ( <b>Off / On</b> ) (p. 62)
		<b>Standby Power Save</b> Controls the power consumption in Standby mode of the connected equipment to reduce the power consumption ( <b>Off / On</b> ) (p. 62) ● This function is available when "VIERA Link" is set to "On" and "Power off Link" is set to "On".
		<b>Intelligent Auto Standby</b> Makes non-watched or non-used connected equipment go into Standby mode to reduce the power consumption ( <b>Off / On (With reminder) / On (No reminder)</b> ) (p. 62) ● This function is available when "VIERA Link" is set to "On".
	<b>Network Setup</b> Sets the network setting to use in your network environment (p. 53)	
	<b>DivX® VOD</b> Displays DivX VOD registration code (p. 73)	
	<b>Advance(isfcc)</b> Enables the advanced picture settings ( <b>Off / On</b> ) ● Set to "On" to enable the mode of "Professional1" and "Professional2" in "Viewing Mode". ● Set to "On" to display the advanced items in the Picture Menu - "Advanced Settings", "Lock Settings" and "Copy Adjustment". "Copy Adjustment" will be displayed when "Viewing Mode" is set to "Professional1" or "Professional2". ● "isfcc" is the picture setting for the certified professional dealer. For details, consult your local dealer.	
	<b>System Menu</b>	<b>Shipping Condition</b> Resets all settings to the original condition (p. 43)
		<b>Software Licence</b> Displays the software licence information
		<b>System Information</b> Displays the system information of this TV

Menu	Item	Adjustments / Configurations (alternatives)
Setup	Other Settings	<b>AV Colour System</b> Selects optimum colour system based on video signals in AV mode ( <b>Auto / PAL / SECAM / M.NTSC / NTSC</b> )
		<b>Colour Matrix</b> Available only with 480p or 576p input on video signals in a natural colour from digital equipment connected to AV1 component or HDMI1 / HDMI2 / HDMI3 / HDMI4 terminals. Select SD or HD to adjust suitable colour parameters for SD (standard definition) or HD (high definition) <ul style="list-style-type: none"> <li>● SD: Input signal is a normal TV system</li> <li>● HD: Input signal is a high definition system</li> </ul>
		<b>Intelligent Frame Creation</b> Automatically compensates the picture frame rate and removes juddering movements to make the images smooth and clear ( <b>Off / On</b> ) <ul style="list-style-type: none"> <li>● Set to "Off" if noise is generated on the screen.</li> <li>● This function is not available for selection (default to "Off") when "Viewing Mode" is set to "Game" or in the mode of 3D, PC input, photo or Network service operations.</li> </ul>
		<b>24p Smooth Film</b> Automatically compensates the picture frame rate to make the 24p source movie images smooth ( <b>Off / On</b> ) <ul style="list-style-type: none"> <li>● This is available only for 24p signal input and displayed instead of "Intelligent Frame Creation".</li> <li>● This function is not available for selection (default to "Off") when "Viewing Mode" is set to "Game" or in the mode of PC input, photo or Network service operations.</li> </ul>
		<b>3D 24p Film Display</b> Reduces juddering noises of the 3D images ( <b>60Hz / 48Hz</b> ) <ul style="list-style-type: none"> <li>● Set to "48Hz" for the cinema-like images.</li> <li>● This function is available for the 3D-compatible 24p source movie.</li> </ul>
		<b>Resolution Enhancer</b> Enhances the picture resolution to make the image sharper ( <b>Off / Mid / Max</b> ) <ul style="list-style-type: none"> <li>● You can set this function for each input.</li> <li>● Not valid on 3D, PC, VIERA CAST and Media Player</li> </ul>
		<b>Auto Standby</b> Sets the time the TV automatically goes to Standby mode when no operation is performed for the selected times ( <b>Off / 2 / 4 hours</b> ) <ul style="list-style-type: none"> <li>● Automatic input switching with the connected equipment affects this function and time-count will be reset.</li> <li>● The notification message will appear 3 minutes before going to Standby mode.</li> </ul>
		<b>Power Save</b> Reduces brightness of picture to economise on power consumption ( <b>Off / On</b> )
		<b>16:9 Overscan</b> Selects the screen area for displaying the image ( <b>Off / On</b> ) On: Enlarges the image to hide the edge of the image Off: Displays the image in the original size <ul style="list-style-type: none"> <li>● Set to "On" if noise is generated on the edges of the screen.</li> <li>● This function is available when aspect is set to "16:9".</li> <li>● This function can be memorized separately for SD (Standard Definition) and HD (High Definition) signals.</li> </ul>
		<b>SD Card LED</b> Lights blue LED while SD Card is inserted ( <b>Off / On</b> ) (p. 44)
		<b>DVI Input Setting</b> Changes the black level in the image for HDMI input mode with DVI input signal manually ( <b>Normal / Full</b> ) <ul style="list-style-type: none"> <li>● When the DVI input signal from the external equipment, especially from PC, is displayed, the black level may not be suitable. In this case, select "Full".</li> <li>● The black level for HDMI input signal will be adjusted automatically.</li> </ul>

- A different menu will be displayed when "Advance(isfccc)" in the Setup Menu is set to "On" or in the mode of Media Player / Network service operations. (p. 39 and p. 44 - 59)
- Only available items can be selected.

# Tuning and Editing Channels

You can make Auto Tuning, listing your favourite channels, skipping unwanted channels, etc.



**1 Select TV mode**  
TV

**2 Display the menu**  
MENU


**3 Select "Setup"**  
VIERA Main Menu  
Picture  
Sound  
Setup

**4 Select "Tuning Menu"**  
Setup Menu  
Off Timer Off  
Child Lock Off  
Tuning Menu Access  
OSD Language  
Display Settings  
VIERA Link Settings  
Network Setup  
DivX® VOD  
Advance(sfcc) Off


**5 Select a function**  
Tuning Menu  
Channel List Edit Access  
Auto Tuning Access  
Manual Tuning Access

**6 Set (see next page)**


To return to TV  
EXIT



② access  
① select



② access  
① select




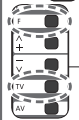
② access  
① select

**For Auto Tuning, using the buttons on the side panel of the TV (p. 11)**

① Press repeatedly until "Auto Tuning" appears  
F

② Access "Auto Tuning"  
TV

③ Start "Auto Tuning"  
TV

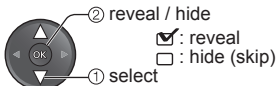
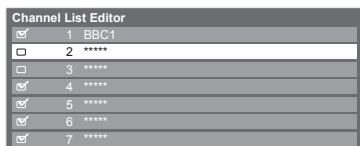


● To return to TV  
➔ F

# Tuning and Editing Channels

## Channel List Edit Skip unwanted channels / Edit channels (Change name, Move)

### Select a channel and reveal / hide



- To reveal all channels →
- To retune each channel (Manual Tuning) → (see below)

You can hide unwanted channels. The hidden channels cannot be displayed except in this function. Use this function to skip unwanted channels.

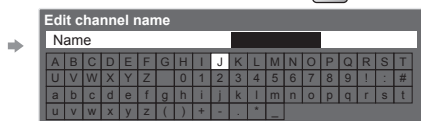
### To edit channels

You can also edit each channel in Channel List.

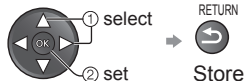


Select a channel to edit and:

- To move the channel position → → Select the new position → Store
- To rename the channel name →



(maximum: five characters)



Set characters

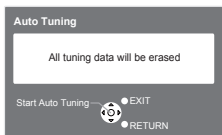
- You can set characters by using numeric buttons (p. 30).

### Note

- If a VCR is connected only with the RF cable, edit "VCR".

## Auto Tuning Set all TV channels automatically

### Start Auto Tuning



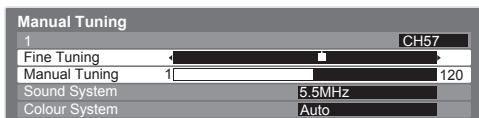
### Settings are made automatically



Automatically retune all channels received in the area.

- All the previous tuning settings are erased.
- When the operation is completed, the channel at channel position "1" will be displayed.
- Search begins in the order from the lower channels to the higher channels.
- If tuning has not been done completely → "Manual Tuning" (see below)

## Manual Tuning Set TV channel manually



### Fine Tuning

- Use to make small adjustments to the tuning of an individual channel (affected by weather conditions, etc.)

### Manual Tuning

Set channel manually after Auto Tuning.

- Set Sound System and Colour System, and then perform this function. Set Colour System "Auto" normally.
- If a VCR is connected only with the RF cable, select channel position "0".

Select a channel position



Select a channel




Search and store



# Advanced Picture Settings

You can adjust and setup the detailed picture settings for each input and Viewing Mode.

- To use this function completely, set "Advance(isfccc)" to "On" in the Setup Menu. ➔ p. 35
- For PC input mode, some functions are available without setting "Advance(isfccc)".



- Select the input mode to adjust and setup**  
➔ p. 19  
PC TV AV
- Display the menu**  
MENU
- Select "Picture"**  
VIFA Main Menu  
Picture  
Sound  
Setup
- Select "Viewing Mode" and set the mode**  
Picture Menu  
Viewing Mode Normal  
Contrast 90  
Brightness 0  
Colour 50  
Sharpness 50  
Tint 0  
Colour Balance Normal  
Channel Colour Set 0  
Vivid Colour On
- Select one of the following functions**  
Picture Menu  
Eco Mode Off  
P-NR Off  
3D-COMB On  
Panel On  
Advanced Settings Access  
Lock Settings Access  
Copy Adjustment Access  
Reset to Defaults Reset
- Set (see below and next page)**

**To return to TV**  
EXIT

## Lock Settings Lock the picture setting

Advanced Settings can be locked for each Viewing Mode and input.

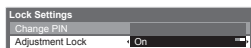
Additionally, Contrast, Brightness, Colour, Sharpness, Tint, and Reset to Defaults in the Picture Menu can be locked for "Professional1" and "Professional2".

### ① Enter the PIN number (4 digits)

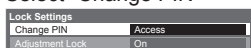


- Enter the PIN number twice at first setting.
- Make a note of the PIN number in case you forget it.

### ② Select "Adjustment Lock" and set to "On"



**To change the PIN number**  
Select "Change PIN"

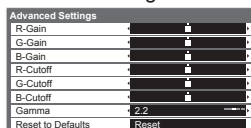


Enter a new PIN number twice



## Advanced Settings Adjust the detailed picture settings

- To make settings → “How to Use Menu Functions” ① to ④ (p. 30)



Menu	Item	Adjustments / Configurations (alternatives)
Advanced Settings	<b>R-Gain</b>	Adjusts the white balance of bright red area
	<b>G-Gain</b>	Adjusts the white balance of bright green area
	<b>B-Gain</b>	Adjusts the white balance of bright blue area
	<b>R-Cutoff</b>	Adjusts the white balance of dark red area
	<b>G-Cutoff</b>	Adjusts the white balance of dark green area
	<b>B-Cutoff</b>	Adjusts the white balance of dark blue area
	<b>Gamma</b>	Switches the gamma curve ( <b>S Curve / 1.8 / 2.0 / 2.2 / 2.4 / 2.6</b> ) ● Please note the numerical values are reference for the adjustment.
	<b>Reset to Defaults</b>	Press the OK button to reset to the default Advanced Settings

For the mode of “Professional1” or “Professional2” in “Viewing Mode”

- White Balance
- Colour Management
- Gamma



Menu	Item	Adjustments / Configurations (alternatives)
Advanced Settings	<b>White Balance</b>	<b>R-Gain</b> Adjusts the white balance of bright red area
		<b>G-Gain</b> Adjusts the white balance of bright green area
		<b>B-Gain</b> Adjusts the white balance of bright blue area
		<b>R-Cutoff</b> Adjusts the white balance of dark red area
		<b>G-Cutoff</b> Adjusts the white balance of dark green area
		<b>B-Cutoff</b> Adjusts the white balance of dark blue area
		<b>Reset to Defaults</b> Press the OK button to reset to the default White Balance
	<b>Colour Management</b>	<b>R-Hue</b> Adjusts the picture hue of red area
		<b>G-Hue</b> Adjusts the picture hue of green area
		<b>B-Hue</b> Adjusts the picture hue of blue area
		<b>R-Saturation</b> Adjusts the saturation of red area
		<b>G-Saturation</b> Adjusts the saturation of green area
		<b>B-Saturation</b> Adjusts the saturation of blue area
		<b>Reset to Defaults</b> Press the OK button to reset to the default Colour Management
	<b>Gamma</b>	<b>Gamma</b> Switches the gamma curve ( <b>S Curve / 1.8 / 2.0 / 2.2 / 2.4 / 2.6</b> ) ● Please note the numerical values are reference for the adjustment.
		<b>Reset to Defaults</b> Press the OK button to reset to the default Gamma

## Copy Adjustment Copy the settings to the other input

You can copy the selected “Professional1” or “Professional2” settings to that of the other input. The settings of Contrast, Brightness, Colour, Sharpness, Tint and Advanced Settings will be copied.

Select the destination to copy to




- You cannot copy to the locked mode.



# Child Lock

You can lock specific channels / AV input terminals and control who watches them.

When the locked channel / input is selected, a message appears; by entering the PIN number, you can watch it.



- 1 Display the menu**  
MENU
- 2 Select "Setup"**  
VIERA Main Menu  
Picture  
Sound  
Setup
- 3 Select "Child Lock"**  
Setup Menu  
Off Timer Off  
Child Lock Access  
Tuning Menu  
OSD Language  
Display Settings  
VIERA Link Settings  
Network Setup  
DivX® VOD  
Advance(isfccc) Off
- 4 Set (see below)**

To return to TV  
EXIT

## Child Lock Control channel audience

- 1 Enter the PIN number (4 digits)**  
Child Lock-PIN Entry  
Please enter new PIN  
PIN \* \* \* \*
- 2 Select "Child Lock List"**  
Child Lock  
Change PIN  
Child Lock List Access
- 3 Select the channel / input to be locked**  
Child Lock List - TV and AV  

Name	Input	Type	Lock
9	TV	TV	
10	TV	TV	
11	TV	TV	
12	TV	TV	
13	TV	TV	
14	TV	TV	
15	TV	TV	
16	TV	TV	

Appears when the channel / input is locked

● Enter the PIN number twice at first setting.  
● Make a note of the PIN number in case you forget it.

● To cancel  
➔ Select the locked channel / input  
➔ OK

● To lock all ➔ G

● To cancel all locks ➔ Y

● To jump to the top of the next input ➔ R

**To change the PIN number**  
Select "Change PIN" in "Child Lock" and enter a new PIN number twice.

**Note**  
● Performing "Shipping Condition" (p. 43) erases the PIN number and all settings.

# Input Labels

For easier identification and selection of the input mode, you can label each input terminals or skip terminal that is not connected to any equipment.

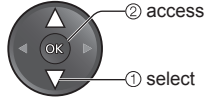
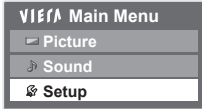
- To select the input mode ➔ p. 19



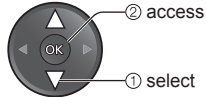
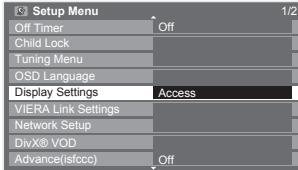
## 1 Display the menu



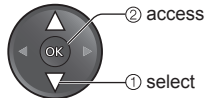
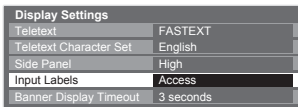
## 2 Select "Setup"



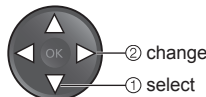
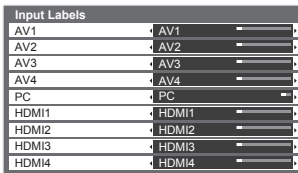
## 3 Select "Display Settings"



## 4 Select "Input Labels"



## 5 Select an input terminal and set



To return to TV

➔ EXIT

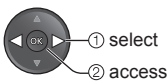


The labels you set will be displayed in "Input Selection" menu (p. 19) or banner.

- If "Skip" is selected, you cannot select the mode.

### User input

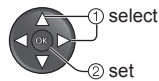
You can name each input terminals freely.



Select "User input"



(maximum: ten characters)



Set characters

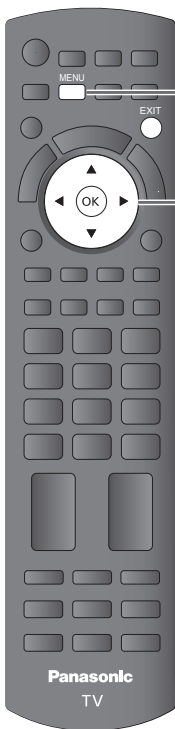
- You can set characters by using numeric buttons (p. 30).



Store

# Shipping Condition (Reset settings)

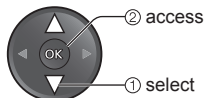
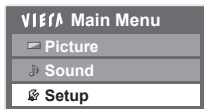
Resets the TV to its original condition, i.e. no channels tuned in.  
All settings are reset (channels, picture, sound settings, etc.).



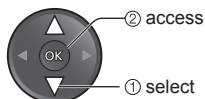
## 1 Display the menu



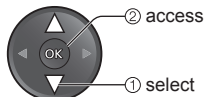
## 2 Select "Setup"



## 3 Select "System Menu"



## 4 Select "Shipping Condition"



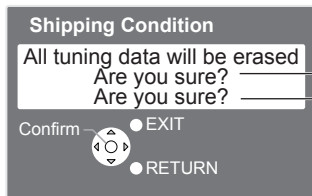
## 5 Set (see below)

To return to TV



### Shipping Condition Reset settings

#### ① Check the message and reset



OK (confirm)

OK (confirm)

OK (start Shipping Condition)

#### ② Follow the on screen instructions

**Reset to Factory Shipping Condition Completed.**  
**Please switch off TV.**

- "Auto Tuning" will automatically start when Mains power On / Off switch is next turned On (p. 12).

**To retune TV channels only, e.g. after moving house**

➔ "Auto Tuning" in "Tuning and Editing Channels" (p. 38)

# Using Media Player

Media Player allows you to enjoy photo, video or music recorded on an SD Card and a USB Flash Memory.

VIERA IMAGE VIEWER is the function of the easy viewing for photos or videos recorded on an SD Card on the TV screen by simply inserting into the SD Card slot.

Photo mode : Still pictures recorded by digital cameras will be displayed.

Video mode : Moving pictures recorded by digital video cameras will be played back.

Music mode : Digital music data will be played back.

When these functions are used, the audio signal is output from audio output terminals, but video signals are not output.

- "Date" shows the date on which the recording was made by the recording equipment. The file without record of the date is shown "\*\*\*\*/\*\*/\*\*\*\*".

## Data format for SD Card / USB Flash Memory browsing

- Photo : Still images recorded with digital still cameras compatible with JPEG files of DCF\* and EXIF standards  
Data format - Baseline JPEG (Sub-sampling 4:4:4, 4:2:2 or 4:2:0)  
Image resolution - 8 × 8 to 30,719 × 17,279 pixels
- Video : SD-Video Standard Ver. 1.2 [MPEG-2 (PS format)] and AVCHD Standard compatible files with an audio format that is either MPEG-1/Layer-2 format or Dolby Digital format (A modified data with a PC may not be displayed correctly.)  
DivX ➡ p. 73
- Music : Data format - MP3 and AAC (Copy-protected files cannot be played back.)
- SD Card format : SDXC Card - exFAT  
SDHC Card / SD Card - FAT16 or FAT32
- Compliant card type (maximum capacity): SDXC Card (64 GB), SDHC Card (32 GB), SD Card (2 GB), miniSD Card (2 GB) (requiring miniSD adapter)
- If miniSD Card is used, insert / remove it together with the adapter.
- Check the latest information on the card type at the following website. (English only)  
<http://panasonic.jp/support/global/cs/tv/>
- USB Flash Memory format : FAT16, FAT32 or exFAT

\*DCF (Design rule for camera file system): Unified standard established by Japan Electronics and Information Technology Industries Association (JEITA).

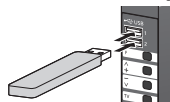
### Note

- Format the device with the recording equipment.
- The picture may not appear correctly on this TV depending on the recording equipment used.
- Display may take some time when there are many files and folders.
- This function cannot display Motion JPEG and still image not JPEG formatted (i.e. TIFF, BMP).
- A data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF (Exchangeable Image File) 2.0, 2.1, and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- The folder and file names may be different depending on the digital camera or digital video camera used.
- Do not use two-byte characters or other special codes.
- The device may become unusable with this TV if the file or folder names are changed.

## To insert or remove the SD Card / USB Flash Memory

### USB Flash Memory

- Insert or remove straightly and completely.



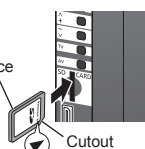
### SD Card

- To insert SD Card

Gently insert the SD Card label surface facing front.

Push until a click is heard

Label surface



- To remove SD Card

Push the centre of the card



- For more information of the SD Card ➡ p. 72



Blue LED

- Blue LED lights while SD Card is inserted if "SD Card LED" is set to "On" in the Setup Menu (p. 36).

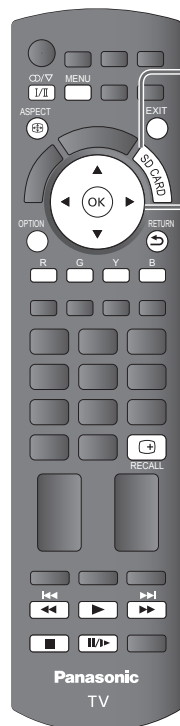
## Starting Media Player



### 1 Insert the SD Card or USB Flash Memory

When the SD Card is inserted, switching to Media Player (Photo mode) will be done automatically. ➔ p. 46

- It is assumed the SD Card contains photos. If not, press the blue button to activate the "Contents Select" screen and select the other mode.  
➔ "Change the contents" (p. 47)



### 2 Switch to Media Player

### 3 Select the icon you want to access to



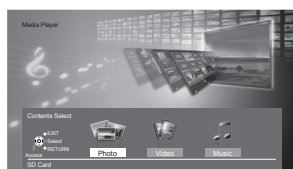
selected device name



- ① select
- ② access

- If two or more devices are not connected, this step will be skipped.

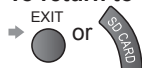
### 4 Select the content



- ① select
- ② access

- Photo ➔ "Photo mode" (p. 46)
- Video ➔ "Video mode" (p. 48)
- Music ➔ "Music mode" (p. 50)

### To return to TV



### To return to the previous screen



## Change the device

You can change to the other device directly in the same mode if two or more devices are connected.

Display the menu



Select "Drive Select"



- ② access
- ① select

Select the icon you want to access to



selected device name



- ① select
- ② access

# Using Media Player

## Photo mode

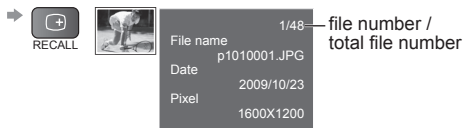
Photo mode will read all “.jpg” extension files in the SD Card or USB Flash Memory. The thumbnail of all the photos in the SD Card or USB Flash Memory will be displayed.

Error display (images that could not be loaded, etc.)



(Thumbnail - All photos)

- You can also access Photo mode directly by using VIERA TOOLS (p. 29).
- To change the back ground music  
→ “Photo Setup” (p. 47)
- To display the information of the highlighted photo



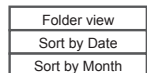
- To change the number of photos on a thumbnail screen at a time  
→ (7 × 4 ↔ 10 × 6)

## To sort by folder, recorded date or recorded month

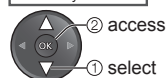
Display the view selection

Select the sort type

G



Displays the thumbnail grouped by folder  
• The files which are not into a folder will be collected to the folder named “?”.



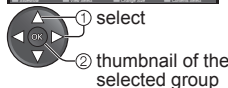
Displays the thumbnail grouped by the same date  
• The group of the photos without recorded date is shown as “Unknown”.

Displays the thumbnail grouped by the same month  
• The group of the photos without recorded date is shown as “Unknown”.

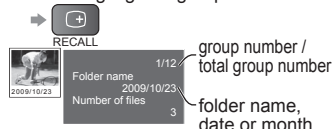
- To return to the thumbnail of all photos



Select one of the sorted group to display the thumbnail of the selected group



- To display the information of the highlighted group



## Single view - Display one photo at a time.

Select the file from the thumbnail of photos to be viewed



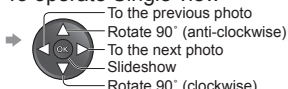
Operation guide

(Single view)

- To display / hide the operation guide



- To operate Single view



- To return to thumbnail →

## Slideshow - Slideshow will be completed within the thumbnail from which it was started.

Select the file from the thumbnail of photos for the first view

Start Slideshow



- To display / hide the operation guide →

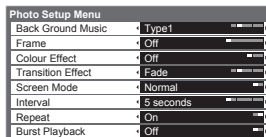
- To pause (return to Single view) →

- To return to thumbnail →

- Picture quality may become lower depending on the slideshow settings.
- Picture setting may not work depending on the slideshow settings.

## Photo Setup

Display the menu



Menu	Item	Adjustments / Configurations (alternatives)
Photo Setup	Back Ground Music	<p>Selects the back ground music during the Photo mode (<b>Off / Type1 / Type2 / Type3 / Auto / User</b>)</p> <ul style="list-style-type: none"> <li>Type1, Type2 and Type3 are the fixed music each installed in this TV.</li> <li>Auto : Music data stored in the root folder of the current device will be played back randomly. <ul style="list-style-type: none"> <li>If there is no available music data, no sound will be produced.</li> </ul> </li> <li>User : Music data in the current device registered by yourself in Music mode will be played back. <ul style="list-style-type: none"> <li>To register the music ➡ "Set background music for Photo mode" (p. 50)</li> <li>If no music has been registered or the registered music device are removed, no sound will be produced.</li> </ul> </li> </ul>
	Frame	<p>Selects the indication frame of the slideshow (<b>Off / Multi / Collage / Drift (+ calendar) / Drift / Gallery (+ calendar) / Gallery / Cinema</b>)</p> <p>Multi : 9 division display like tiled design Collage : A photo is displayed at random position and random scale. Drift (+ calendar) / Drift : Photos are displayed like flow images. <ul style="list-style-type: none"> <li>You can select to display the calendar or not. The month of calendar is turned by pressing up or down cursor button.</li> </ul> <p>Gallery (+ calendar) / Gallery : The various size of photos in the frame are displayed. <ul style="list-style-type: none"> <li>You can select to display the calendar or not. The month of calendar is turned by pressing up or down cursor button.</li> </ul> <p>Cinema : Photos are displayed like old films (sepia tone)</p> </p></p>
	Colour Effect	<p>Selects the colour effect of photos (<b>Off / Sepia / Gray scale</b>)</p> <ul style="list-style-type: none"> <li>This function is not available when "Frame" is set to "Drift", "Gallery" or "Cinema".</li> </ul>
	Transition Effect	<p>Selects the transition effect for switching the photo during the slideshow (<b>Off / Fade / Slide / Dissolve / Motion / Random</b>)</p> <p>Fade : The next photo fades in gradually. Slide : The next photo slides and appears from the left side. Dissolve : The photo is replaced by an indefinite block unit. Motion : The photo is replaced with enlarged, reduced, moved up or moved down. Random : Each transition is selected at random.  <ul style="list-style-type: none"> <li>This function is available when "Frame" is set to "Off".</li> </ul> </p>
	Screen Mode	<p>Selects whether enlarged or normal viewing on Single view and Slideshow (<b>Normal / Zoom</b>)</p> <ul style="list-style-type: none"> <li>This function is not available when "Frame" is set to "Collage", "Drift", "Gallery" or "Cinema".</li> <li>This function is not available when "Transition Effect" is set to "Motion".</li> <li>Depending on the photo size, the photo may not be enlarged.</li> </ul>
	Interval	<p>Selects slideshow interval (<b>5 / 10 / 15 / 30 / 60 / 90 / 120 seconds</b>)</p> <ul style="list-style-type: none"> <li>This function is not available when "Frame" is set to "Drift", "Gallery" or "Cinema".</li> <li>This function is not available when "Transition Effect" is set to "Motion".</li> </ul>
	Repeat	<p>Slideshow repeat (<b>Off / On</b>)</p>
	Burst Playback	<p>Selects whether the continuous shots are displayed in rapid interval during the slideshow (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>This function is not available when "Frame" is set to "Drift", "Gallery" or "Cinema".</li> <li>This function is not available when "Transition Effect" is set to "Motion".</li> </ul>

## Change the contents

You can switch to the other mode of Media Player from the thumbnail.

- The mode can be switched in the current device.
- To change the device ➡ "Change the device" (p. 45)

While the thumbnail is displayed, display the contents selection



Select the contents



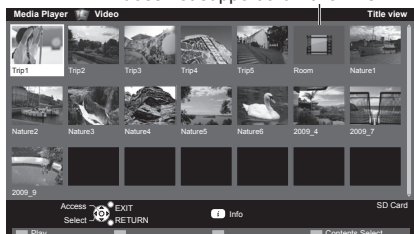
- Photo ➡ "Photo mode" (p. 46)
- Video ➡ "Video mode" (p. 48)
- Music ➡ "Music mode" (p. 50)

# Using Media Player

## Video mode

Video mode supports AVCHD, MPEG2 and DivX® file formats.

Film icon will be displayed if the file does not support thumbnail view.



(Thumbnail - Title view)

### Playback from Title view

Playback of the selected title will start.

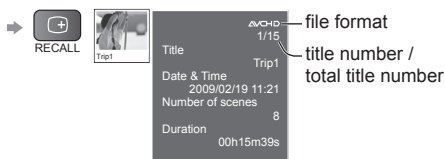
Select the title Start playback



The thumbnail of video titles in the SD Card or USB Flash Memory will be displayed.

The preview will start when the title is highlighted if it supports a preview.

- You can also access Video mode directly by using VIERA TOOLS (p. 29).
- To turn off the preview → "Video Setup" (p. 49)
- To display the information of the highlighted title



### Playback from the selected scene in the title (AVCHD or MPEG2)

Playback will start from the selected scene to the end of the title.

Select the title Select the scene to start playback



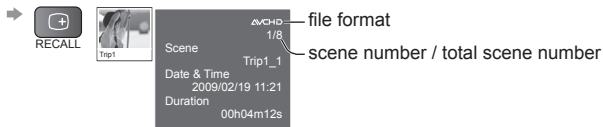
(Thumbnail - Scene view)



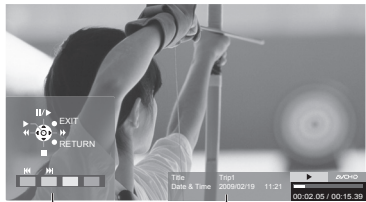
The preview will start when the scene is highlighted if it supports a preview.

- To turn off the preview → "Video Setup" (p. 49)

- To repeat playback → "Video Setup" (p. 49)
- To display the information of the highlighted scene



### How to operate during the playback

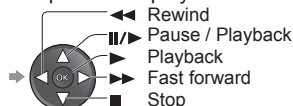


Operation guide Information banner (Playback)

- To display / hide the operation guide and information banner
- To change aspect (only for the 4:3 video content)



- To operate the playback



- To the previous scene → R
- To the next scene → G RETURN
- To return to thumbnail →

- To confirm or change the current status (if available) → OPTION



- You can also use the following buttons. (Set the remote control code to "73" → p. 20)





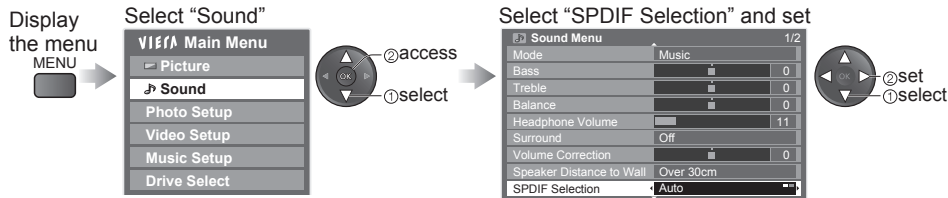
## Sound Settings

You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO OUT terminal.  
**To change the current sound status** (during playback)

⏮/⏭

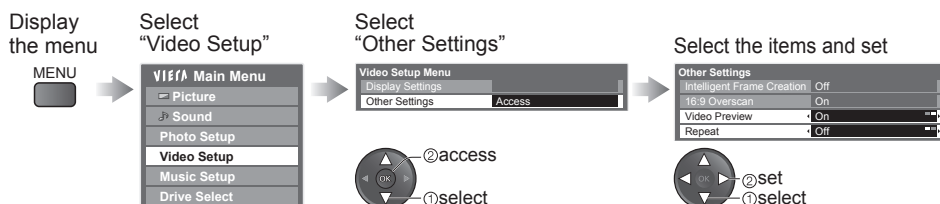
**[1/1]** Change the sound (if the video has multiple audio signals)

### Audio output settings



Menu	Item	Adjustments / Configurations (alternatives)
Sound	SPDIF Selection	SPDIF : A standard audio transfer file format Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT terminal ( <b>Auto / PCM</b> ) Auto: Dolby Digital is output as Dolby Digital Bitstream. MPEG is output as PCM. PCM: Digital output signal is fixed to PCM.

## Video Setup Setup for Video mode



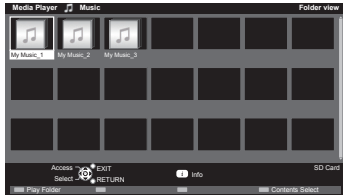
Menu	Item	Adjustments / Configurations (alternatives)
Video Setup	Video Preview	Sets to start the preview of the title or scene in the thumbnail screen ( <b>Off / On</b> ) ● Image may not be displayed for an instant in the thumbnail screen. Set the preview "Off" to resolve this.
	Repeat	Playback repeat within the title ( <b>Off / On</b> ) ● Only the selected file will be repeated for DivX contents.

### Note

- The structure of titles and scenes may vary depending on the digital video camera used. In this case, titles and scenes may not be displayed correctly.

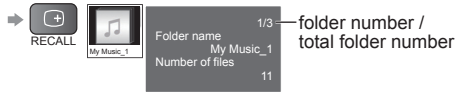
## Music mode

Music mode supports MP3 and AAC file format.



The thumbnail of music folders in the SD Card or USB Flash Memory will be displayed.

- You can also access Music mode directly by using VIERA TOOLS (p. 29).
- To display the information of the highlighted title



### Playback from Folder view

Playback all the files in the selected folder will start.  
Select the folder      Start playback



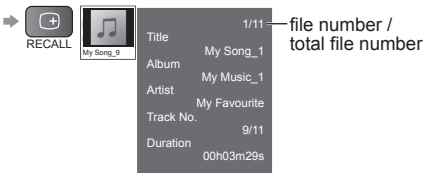
### Playback from File view

Playback of the selected file will start.

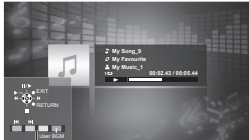
Select the folder      Select the file to start playback



- To display the information of the highlighted title



### How to operate in the playback



Operation guide (Playback)

- To display / hide the operation guide →
- To operate the playback
  - ◀◀ Rewind
  - ⏮ Pause / Playback
  - ▶▶ Fast forward
  - Stop
- To the previous track →
- To the next track →
- To return to thumbnail →

## Music Setup

Setup the setting for Music mode.

Display the menu      Select "Music Setup"



Set



Folder : Playback repeat within the selected folder  
One : Playback repeat of the selected one file

## Set background music for Photo mode

You can register your favourite music as background music for Photo mode.

- Select "User" in "Back Ground Music" → "Photo Setup" (p. 47)
- If you remove the device in which the registered music is stored, the setting of "User" will be reset.

While playing music, display the selection screen



File : The current music will be registered as back ground music.  
Folder : All the music in the current folder will be registered as back ground music.

# Using Network Services

## (DLNA / VIERA CAST)

### DLNA®

This TV is a DLNA Certified™ product.

DLNA (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, visit [www.dlna.org](http://www.dlna.org).

It allows you to share photos and videos (including 3D images) stored in the DLNA Certified media server (for example, PC with windows 7 installed, DIGA Recorder etc.) connected to your home network, and enjoy watching them on the TV screen.

### Applicable data format

Photo : JPEG (Sub-sampling 4:4:4, 4:2:2 or 4:2:0)

Image resolution - 8 × 8 to 30,719 × 17,279 pixels

- MOTION JPEG and Progressive JPEG are not supported.

Video : MPEG-2 (PS format and TS format)

- AVCHD and DivX files are not supported by DLNA, but can be played by Media Player (p. 48).

- Music files are not supported by DLNA functions of this TV, but MP3 and AAC files can be played back by Media Player (p. 50).

### Media server

Ensure the connected equipment has a DLNA Certified media server.

To use the PC, install the server software on the PC for obtaining a media server.

Store photos or videos into the media server, and then you can watch them on the TV.

"TwonkyMedia server 5.1.x" and "Windows 7" are the server software that has been tested for the performance with this TV (current as of January, 2010).

For installing, read the manual of the server software.

- The DLNA control function of Windows 7 is not supported with this TV.
- When a server software for the media server is installed on the PC, the data may be at risk of being accessed by other people. Please take care of the settings and connections under the network circumstances at the office, hotel or even at home when not using a router.

By connecting a DLNA compatible DIGA Recorder to your home network, you can enjoy and control it as one of the media servers.

- For details, read the manual of the DIGA Recorder.

### Network connection

- ➔ Example 1 or Example 2 in "Network connections" (p. 52)

### Network setup

- ➔ p. 53 - 55

### DLNA operations

- ➔ p. 56 - 58

### VIERA CAST™

VIERA CAST is a gateway to the internet services unique to Panasonic.

By connecting the TV to the internet environment, VIERA CAST allows you to enjoy internet content on the TV screen such as photos, movies, weather, etc. from VIERA CAST home screen.

You can access VIERA CAST home screen directly by pressing the VIERA CAST button on the remote control.

### Network connection

- ➔ Example 1 or Example 3 in "Network connections" (p. 52)

### Network setup

- ➔ p. 53 - 55

### VIERA CAST operations

- ➔ p. 59

# Using Network Services

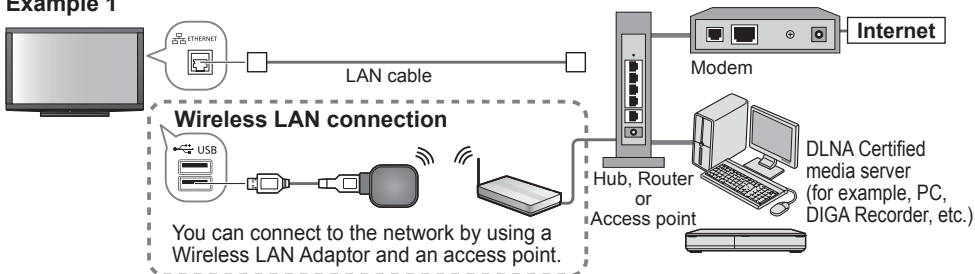
## (DLNA / VIERA CAST)

### Network connections

To use only DLNA features, you can operate the features without Broadband network environment. To use VIERA CAST features, you need a Broadband network environment.

- If you do not have any Broadband network services, please consult your retailer for assistance.
- Confirm the terms and conditions of the contracts with your Internet Service Provider (ISP) or telecommunications company.
- Set up and connect any equipment required for the network environment.
- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively. If the transfer speed is not enough, contents may not be played back properly.
- Read the manual of the network equipment, too.

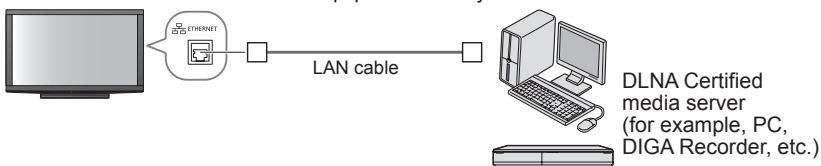
#### Example 1



- Ensure to use a LAN straight cable for this connection.
- If your modem has no broadband router functions, use a broadband router.
- If your modem has broadband router functions but there are no vacant ports, use a hub.
- Ensure that the Broadband routers and hubs are compatible with 10BASE-T / 100BASE-TX.
- If you use the equipment compatible only with 100BASE-TX, category 5 LAN cables are required.

#### Example 2

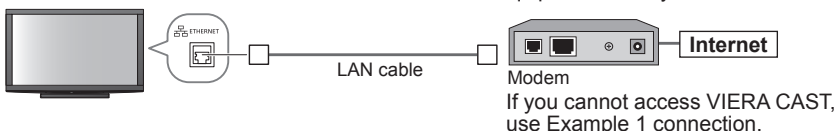
You can connect the TV and the equipment directly to use DLNA features.



- Ensure to use a LAN cross cable for this connection.

#### Example 3

You can connect the TV and the telecommunication equipment directly to use VIERA CAST features.



#### Note

- Depending on the ISP or telecommunications company, the required equipment and the internet connection procedure are different. Ensure that you use the network equipment that are authorized by your ISP and telecommunications company.
- You cannot make settings for the network equipment on this TV. You may be required to make settings on your computer.
- Depending on the terms and conditions of the contracts with your ISP or telecommunications company, additional fees may be charged or multiple connections to the internet may be impossible.
- Please contact your ISP or telecommunications company if you require further assistance regarding the network equipment.

## Network Setup

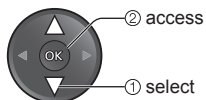
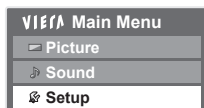
- Ensure the connections are completed before starting Network Setup.  
➔ “Network connections” (p. 52)



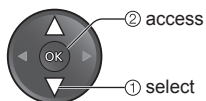
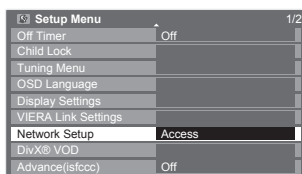
### 1 Display the menu



### 2 Select “Setup”



### 3 Select “Network Setup”



### 4 Set (see below and next page)

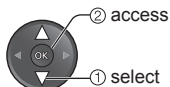
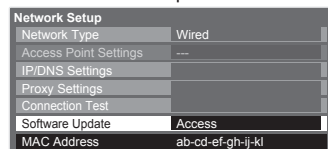
#### To return to TV



## Update TV's software

Accesses the specific web site to update TV's software and search if any software updates are available.

### Select “Software Update”

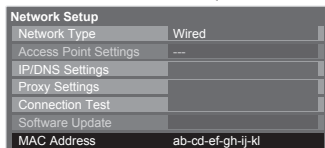


- Follow the on screen instructions

#### Note

#### MAC Address

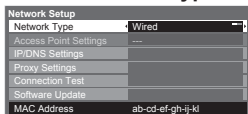
- MAC address is a unique address that identifies hardware in the network. (for information only)



## Network settings for the LAN Cable connection

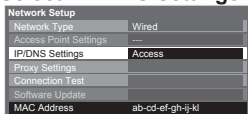
This setting is for the network connection by using the LAN cable.

### ① Select "Network Type" and set to "Wired"



If you make the network connection like "Example2" (p. 52), you do not have to set "Acquire DNS Address", "Proxy" and "Proxy Port".

### ② Select "IP/DNS Settings" and set the items



After settings, return to "Network Setup" screen → RETURN

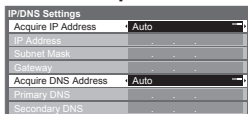
## Acquire IP Address Acquire DNS Address

Sets IP Address, Subnet Mask, Gateway, Primary DNS and Secondary DNS.

For most users, the recommended method of connection to your network is by using Auto feature.

### Select "Acquire IP Address" and then set to "Auto"

### Select "Acquire DNS Address" and then set to "Auto"



- The available settings are displayed automatically.

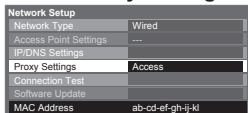
### Manual settings

If you wish to set these functions manually, select "Manual".

Select "IP Address", "Subnet Mask", "Gateway", "Primary DNS" or "Secondary DNS"



### ③ Select "Proxy Settings" and set the items



After settings, return to "Network Setup" screen → RETURN

## Proxy

Sets Proxy address.

- This is the address of the relay server that is connected to the target server instead of the browser and sends data to the browser. Setting is required if specified by the provider.

### Select "Proxy"



### Enter the address

Set characters one by one



- You can set characters by using numeric buttons.

## Proxy Port

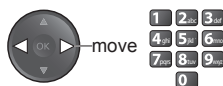
Sets Proxy port number.

- This number is also specified by the provider with the Proxy address.

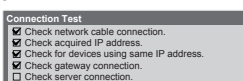
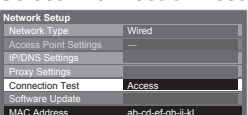
### Select "Proxy Port"



### Move the cursor and enter the number



### ④ Select "Connection Test" and access to test



### ✓ : succeeded

The test is successful and the TV is connected to the network.

### ✗ : failed

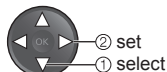
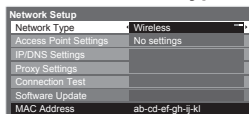
Check the settings and connections, and then perform this function again.

Performs automatic testing of the network connection for the TV. (It takes a while to test.)

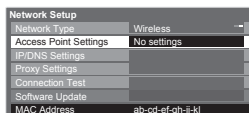
## Network settings for the Wireless LAN connection

This setting is for the network connection by using Wireless LAN Adaptor.

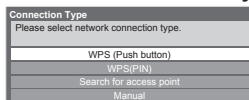
### ① Select "Network Type" and set to "Wireless"



### ② Select "Access Point Settings"



### ③ Select the connection type and set



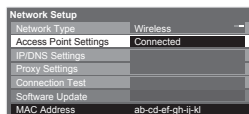
WPS(Push button) ➔ p. 13

WPS(PIN) : Sets by entering the PIN code to the access point

Search for access point ➔ p. 13

Manual : Sets manually by entering the SSID of access point

### ④ Confirm the connection status of "Access Point Settings"



--- : "Wired" is selected in "Network Type".

No adaptor : Wireless LAN Adaptor is not connected.

No settings : Setting for connecting to the access point has not been set.

Connecting... : Connecting to the access point in progress.

Connected : Wireless LAN connection to the access point succeeded.

- To display the current access point settings, press the OK button.

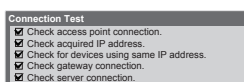
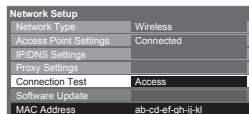
- To change the settings, select "No" on this screen.

- Some access points do not allow access to the internet. Perform "Connection Test" (below) to check if internet connection is available.

USB

overcurrent : Overcurrent error

### ⑤ Select "Connection Test" and access to test



#### ☑ : succeeded

The test is successful and the TV is connected to the network.

#### ☒ : failed

Check the settings and connections, and then perform this function again.

If you continue to have difficulty, please contact your internet service provider.

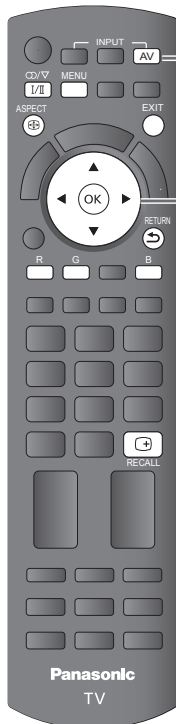
Performs automatic testing of the network connection for the TV. (This may take some time.)

# Using Network Services

## (DLNA / VIERA CAST)

### Using DLNA® features

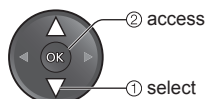
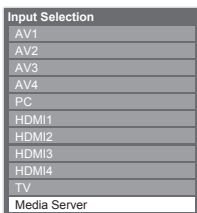
- Ensure the preparation of media server, network connections and network settings are completed.  
 ➔ “Media server” (p. 51), “Network connections” (p. 52), “Network Setup” (p. 53 - 55)



#### 1 Display the input selection menu

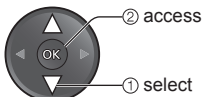
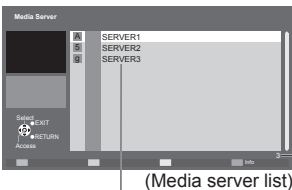
AV

#### 2 Select “Media Server”



- You can also access directly by using VIERA TOOLS (p. 29).

#### 3 Select one of the media servers you want to access



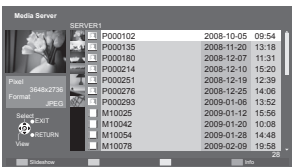
- To display the information of the highlighted media server



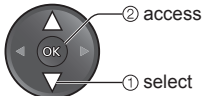
Available media servers

Total listed number

#### 4 Select the file to be viewed



(File list)



- Depending on the conditions of media server, you may need to select the folder before selecting the file.
- Slideshow ➔ p. 57
- To display the information of the highlighted file



To return to TV



To return to the previous screen



(See next page)



## For photo file

**Single view** - Displayed one at a time



- To display / hide the operation guide ➡
- To operate Single view
  - ➡ To the previous photo
  - ➡ Rotate 90° (anti-clockwise)
  - ➡ To the next photo
  - ➡ Slideshow
  - ➡ Rotate 90° (clockwise)
- To return to list ➡

**Slideshow** - Slideshow will be started from the selected photo file and completed within the list.

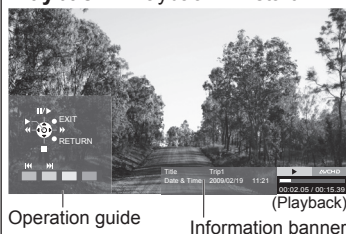
Start Slideshow



- To display / hide the operation guide ➡
- To pause (return to Single view) ➡
- To return to list ➡

## For video file

**Playback** - Playback will start.



- To display / hide the operation guide and information banner ➡
- To operate the playback
  - ➡ Rewind
  - ➡ Pause / Playback
  - ➡ Playback
  - ➡ Fast forward
  - ➡ Stop
- To the previous scene ➡
- To the next scene ➡
- To change aspect (only for the 4:3 video content) ➡
- To return to list ➡

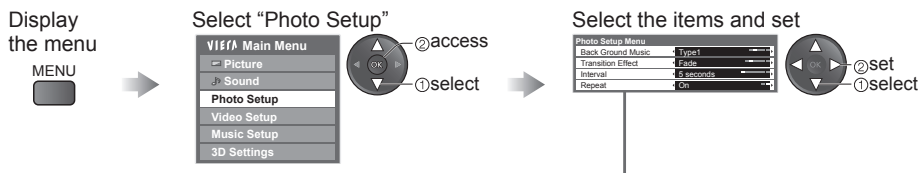
### Note

- You may select and playback the music file.
- Non-playable files are also listed but cannot be selected.
- Turn the TV off, and then on again when changing or reconnecting the network connection.

# Using Network Services

## (DLNA / VIERA CAST)

### Photo Setup (for photo contents)



Menu	Item	Adjustments / Configurations (alternatives)
Photo Setup	Back Ground Music	<p>Selects the back ground music while photo (<b>Off / Type1 / Type2 / Type3 / User</b>)</p> <ul style="list-style-type: none"> <li>Type1, Type2 and Type3 are the fixed music each installed in this TV.</li> <li>User: Music data registered by yourself in Music mode will be played back. <ul style="list-style-type: none"> <li>To register the music → "Set background music for Photo mode" (p. 50)</li> <li>Only available music files can be registered.</li> <li>If no music has been registered or you change to the other media server, no sound will be produced.</li> </ul> </li> </ul>
	Transition Effect	<p>Selects the effect for switching the photo during the slideshow (<b>Off / Fade / Slide / Dissolve / Motion / Random</b>)</p> <p>Fade : The next photo fades in gradually.</p> <p>Slide : The next photo slides and appears from the left side.</p> <p>Dissolve: The photo is replaced by an indefinite block unit.</p> <p>Motion : The photo is replaced with enlarged, reduced, moved up or moved down.</p> <p>Random: Each transition is selected at random.</p>
	Interval	Selects slideshow interval ( <b>5 / 10 / 15 / 30 / 60 / 90 / 120 seconds</b> )
	Repeat	Slideshow repeat ( <b>Off / On</b> )

### Sound Settings (for video contents)

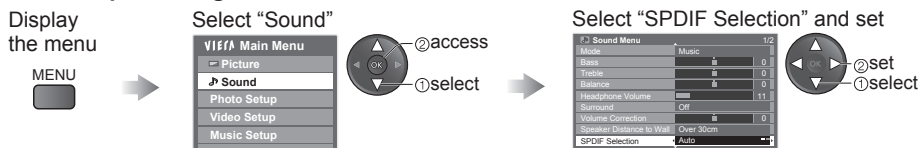
You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO OUT terminal.

To change the current sound status (during playback)



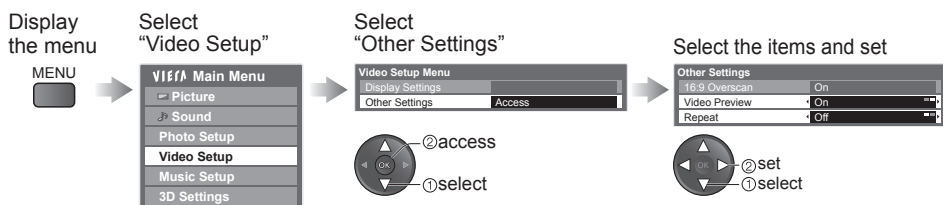
1/II Change the sound (if the video has multiple audio signals)

#### Audio output settings



● For details → p. 49

### Video Setup (for video contents)



● For details → p. 49

## VIERA CAST™

You can access a selection of internet services from VIERA CAST home screen. For example, YouTube, Picasa Web Albums (current as of March, 2010).

- VIERA CAST requires a broadband internet connection. Dial-up internet connections cannot be used.
- Ensure the network connections and network settings are completed.
- ➔ "Network connections" (p. 52), "Network Setup" (p. 53 - 55)



### Access VIERA CAST



- Depending on the usage conditions, it may take a while to read all the data.
- Messages might be displayed before VIERA CAST home screen. Please read the instructions carefully and follow the on screen instructions.
- You can also access VIERA CAST by using VIERA TOOLS (p. 29).
- 3D images are not displayed on centre of the home screen depending on the signal.

Example:



VIERA CAST home screen

- Video communication requires an exclusive Communication Camera TY-CC10W (optional accessory ➔ p. 7). For details, read the manual of the Communication Camera.

To return to TV ➔

**How to operate VIERA CAST** (current as of March, 2010)

- To go to the next level ➔ Select "MORE"
- To back to the previous level ➔ Select "BACK"
- To move the cursor / select the item ➔
- To access ➔
- To return to the previous screen ➔
- To return to VIERA CAST home screen ➔
- When the key words are displayed on colour bar ➔
- When options with numbers are displayed ➔

### USB Keyboard

You can input characters on VIERA CAST screen by using the USB Keyboard connected to the USB port.

- You cannot use two or more keyboards simultaneously.
- The USB Keyboard which requires the driver is not supported.
- Characters may not be displayed correctly on the TV screen depending on the connected keyboard.

- Setup menu (Items in the "Setup" may change without notice.)

Customize HomeScreen	Changes the position of each services on VIERA CAST home screen
My Account	Confirms or removes the account information of the TV you entered on VIERA CAST
Lock	Sets to restrict access to some services
Beep	Sets beep sound On or Off when operating VIERA CAST
Notices	Displays the information of VIERA CAST

### Note

- Be sure to update the software when a software update notice is displayed on the TV screen. If the software is not updated, you will not be able to use VIERA CAST. You can update the software later manually ➔ "Software Update" in the Network Setup Menu (p. 53)
- VIERA CAST™ home screen is subject to change without notice.
- The services through VIERA CAST™ are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
- All features of websites or content of the service may not be available.
- Some content may be inappropriate for some viewers.
- Some content may only be available for specific countries and may be presented in specific languages.
- Depending on the connection environment, the internet connection may be slow or may not be successful.
- Turn the TV off, and then on again when changing or reconnecting the network connection.

# VIERA Link Functions

## VIERA Link “HDAVI Control™”

Enjoy additional HDMI interoperability with Panasonic products which have “HDAVI Control” function. This TV supports “HDAVI Control 5” function.

Connections to the equipment with HDMI cable such as DIGA Recorder, HD Video Camera, Player theatre, Amplifier, etc., allow you to interface them automatically.

These features are limited to models incorporating “HDAVI Control” and “VIERA Link”.

- Some functions are not available depending on the equipment's version of HDAVI Control. Please confirm the connected equipment's version of HDAVI Control.
- 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.
- Please refer to individual manuals for the equipment. About applicable Panasonic equipment, consult your local Panasonic dealer.

### Summary of features

Features	Connected equipment with VIERA Link function	DIGA Recorder <sup>*1</sup>	DVD Player / Blu-ray Disc Player <sup>*1</sup>	HD Video Camera / LUMIX Camera <sup>*1</sup>	Player theatre <sup>*2</sup>	Blu-ray Disc theatre <sup>*2</sup>	Amplifier <sup>*2</sup>
Channel download		○ <sup>*4</sup>	—	—	—	—	—
Easy playback		○	○	○	○ <sup>*7</sup>	○ <sup>*7</sup>	—
Power on link		○	○	○	○	○	—
Power off link		○	○	○	○	○	○
Reduce unnecessary power consumption in standby		○ <sup>*5</sup>	○ <sup>*5</sup>	—	—	○ <sup>*5</sup>	—
Auto standby for unnecessary equipment		○ <sup>*3</sup>	○ <sup>*3</sup>	—	○ <sup>*3</sup> *8	○ <sup>*3</sup> *8	○ <sup>*3</sup>
Pause Live TV programme		○ <sup>*4</sup> *6	—	—	—	—	—
Direct TV Recording		○ <sup>*4</sup>	—	—	—	—	—
Control the menu of the connected equipment by VIERA remote control		○ <sup>*3</sup>	○ <sup>*3</sup>	○ <sup>*3</sup>	○ <sup>*3</sup>	○ <sup>*3</sup>	—
Speaker control		—	—	—	○	○	○

\*1: HDMI Connection only

\*2: HDMI and Audio out connections

\*3: available with the equipment which has “HDAVI Control 2 or later” function

\*4: available with the equipment which has “HDAVI Control 3 or later” function

\*5: available with the equipment which has “HDAVI Control 4 or later” function

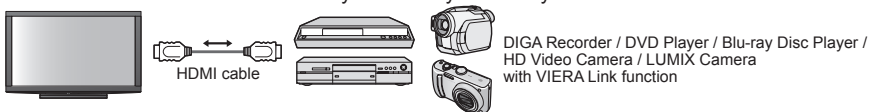
\*6: available with DIGA Recorder which has HDD

\*7: while playing a disc

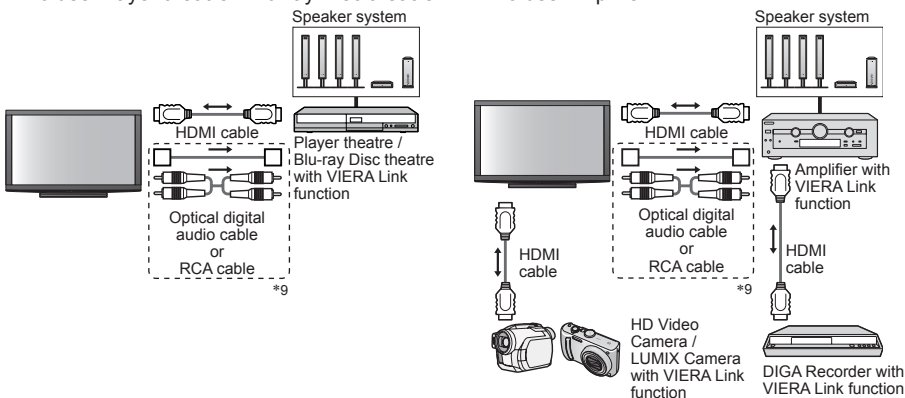
\*8: except for watching a disc

## Connection

- To use DIGA Recorder / DVD Player / Blu-ray Disc Player / HD Video Camera / LUMIX Camera



- To use Player theatre / Blu-ray Disc theatre:
- To use Amplifier:



\*9: If the connected equipment has "HDAVI Control 5" function, you do not have to use this audio cable (Optical digital audio cable or RCA cable). In this case, connect the equipment to the TV's HDMI2 terminal via an HDMI cable.

### Note

- For DIGA Recorder / DVD Player / Blu-ray Disc Player / HD Video Camera / LUMIX Camera with VIERA Link function, connect to HDMI1, HDMI2, HDMI3 or HDMI4 terminal via an HDMI cable.
- For Player theatre / Blu-ray Disc theatre / Amplifier, connect to HDMI1, HDMI2, HDMI3 or HDMI4 terminal via an HDMI cable, and also connect either the optical digital audio cable or RCA cable for audio output from the TV.
- Use fully wired HDMI compliant cable. Non-HDMI-compliant cables cannot be utilized.  
Recommended Panasonic's HDMI cable part number:  
• RP-CDHS15 (1.5 m) • RP-CDHS30 (3.0 m) • RP-CDHS50 (5.0 m)

## Preparations

- Connect the equipment supporting VIERA Link.
- Set up the connected equipment. Read the manual of the equipment.
- For optimal recording, the settings of the recorder might be required. For details, read the manual of the recorder.
- Set VIERA Link On in the Setup Menu ➔ "VIERA Link" (p. 35)
- Set up the TV ➔ **After connection, turn the equipment on and then switch the TV on. Set the input mode to HDMI1, HDMI2, HDMI3 or HDMI4 (p. 19), and make sure that an image is displayed correctly.**

This setup should be done each time when the following conditions occur:

- for the first time
- when adding or reconnecting equipment
- when changing setup

# VIERA Link Functions

## Features available

### Channel download

Channel setting can be downloaded to the recorder.

### Easy playback

Automatic input switching - When the connected equipment is operated, input mode is switched automatically.

### Power on link

**Set Power on Link “On” in the Setup Menu to use this function** ➡ “Power on Link” (p. 35)  
When the connected equipment starts playback or direct navigator / function menu for the equipment are activated, the TV is automatically turned on. (Only when the TV is in Standby mode.)

### Power off link

**Set Power off Link “On” in the Setup Menu to use this function** ➡ “Power off Link” (p. 35)  
When the TV is set to Standby mode, the connected equipment is also automatically set to Standby.  
● This function will work even if the TV enters standby mode automatically by auto power standby function.

### Standby Power Save Reduce unnecessary power consumption in standby

**Set Standby Power Save “On” in the Setup Menu to use this function**  
➡ “Standby Power Save” (p. 35)  
The power consumption in Standby mode of the connected equipment is controlled higher or lower in synchronization with the TV On / Off state to reduce the consumption.  
When the TV is set to Standby mode, the connected equipment is automatically set to Standby and the power consumption in Standby mode of the connected equipment is automatically minimized.  
When the TV is turned on, the connected equipment is still in Standby mode, but the power consumption is increased to make startup time early.  
● This function is effective if the connected equipment can change the power consumption in Standby mode and is set to higher consumption.  
● This function will work when “Power off Link” is set to “On”.

### Intelligent Auto Standby Auto standby for unnecessary equipment

**Set Intelligent Auto Standby “On (With reminder)” or “On (No reminder)” in the Setup Menu to use this function** ➡ “Intelligent Auto Standby” (p. 35)  
When the TV is On, non-watched or non-used connected equipment goes into Standby mode automatically to reduce the power consumption. For example, when the input mode is switched from HDMI, when Speaker Selection is changed to “TV” (except for watching a disc).  
● If you select “On (With reminder)”, the on screen message will be displayed to be noticed before working this function.  
● This function may not work properly depending on the connected equipment. If required, set to “Off”.

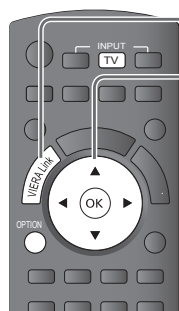
## Pause Live TV Pause Live TV programme

### Access and pause the live TV programme

You can pause the live TV programme and resume later.

Live TV programme will be recorded on HDD of the connected DIGA Recorder.

- This function is available with DIGA Recorder which has HDD.
- If you connect several recorders including other manufacturers' recorders at the same time, please connect DIGA Recorder which has HDD to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, in this case connect DIGA Recorder which has HDD to HDMI1.
- If you cannot operate, check the settings and the equipment  
 ➔ "Summary of features", "Connection", "Preparations" (p. 60 and p. 61)



① Display "VIERA Link Menu"

② Select "Pause Live TV" and pause

VIERA Link Menu	
Pause Live TV	Start
Direct TV Rec	Start
VIERA Link Control	Recorder
Speaker Selection	Home Cinema



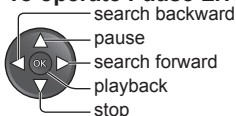
② pause

① select

➔ TV picture will be paused.

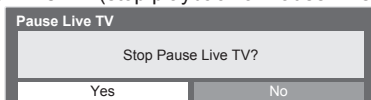
- Live TV programme is recorded on HDD from where it was paused.
- If the paused TV picture disappears after a few minutes  
 ➔ (the paused picture will be restored)

### To operate Pause Live TV



- Operations may be different depending on the recorder. In this case, follow the operation guide or read the manual of the recorder.

### To return to Live TV (stop playback of Pause Live TV / cancel pause)



Select "Yes"

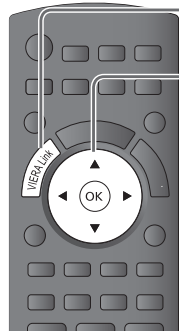


- If you stop playback or cancel pause, the recorded programme will be deleted from HDD.

## Direct TV Rec Direct TV Recording - What you see is What you record

Recording the current programme in DIGA Recorder immediately.

- If you connect a variety of recorders including other manufacturers' recorders at the same time, please connect DIGA Recorder to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, in this case connect DIGA Recorder to HDMI1.
- If you cannot operate, check the settings and the equipment  
 ➔ "Summary of features", "Connection", "Preparations" (p. 60 and p. 61)



① Display "VIERA Link Menu"

② Select "Direct TV Rec" and start recording

VIERA Link Menu	
Pause Live TV	Start
Direct TV Rec	Start
VIERA Link Control	Recorder
Speaker Selection	Home Cinema



② start

① select

### To stop recording

Select "Stop" in "Direct TV Rec" and stop recording

VIERA Link Menu	
Pause Live TV	Start
Direct TV Rec	Stop
VIERA Link Control	Recorder
Speaker Selection	Home Cinema



① select

② stop

# VIERA Link Functions

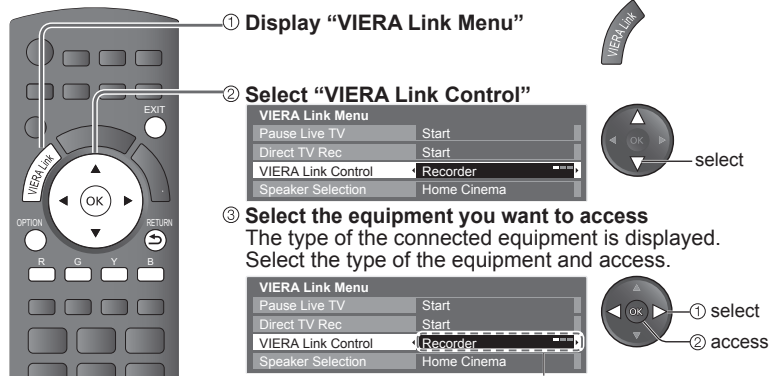
Features available (Using VIERA Link Menu)

## VIERA Link Control Operate the connected equipment with VIERA remote control

### Access and operate the menu of the equipment

You can control some functions of the connected equipment with this TV remote control by pointing at the TV's signal receiver.

- If you cannot operate, check the settings and the equipment
  - ➔ "Summary of features", "Connection", "Preparations" (p. 60 and p. 61)
- For details of the operation of the connected equipment, read the manual of the equipment.



- You can also access VIERA Link control by using VIERA TOOLS. ➔ p. 29
- The displayed item may vary depending on the connected equipment.
- "Home Cinema" means Player theatre, Blu-ray Disc theatre or Recorder theatre.
- "Other" means Tuner set top box.

**The menu of the accessed equipment**  
(Input mode will be changed automatically)

### ④ Operate the connected equipment

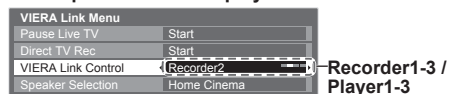
1. Set the remote control code to "73" (p. 20)
2. Follow the operation guide



#### Note

- Some operations may not be available depending on the equipment. If so, use its own remote control.

### If multiple recorders or players are connected



The number is given from the TV's lower HDMI terminal number connected to the same type equipment. For example, two recorders to HDMI2 and HDMI3, in this case the recorder connected to HDMI2 is displayed as "Recorder1", and the recorder connected to HDMI3 is displayed as "Recorder2".

### If you access non-VIERA Link equipment



Type of the connected equipment is displayed.

You can access the menu of the equipment. But you cannot operate it. Use its own remote control to operate the equipment.



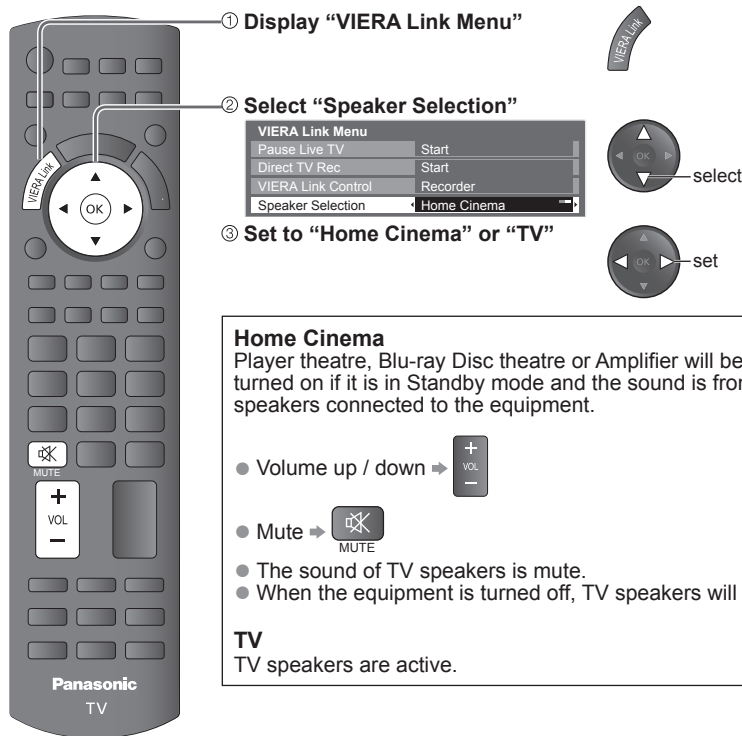
## Features available (Using VIERA Link Menu)

### Speaker Selection Speaker control

#### Access and control the speaker volume

You can control the theatre speaker with this TV remote control by pointing at the TV's signal receiver.

- If you cannot operate, check the settings and the equipment  
 ➔ "Summary of features", "Connection", "Preparations" (p. 60 and p. 61)





① Display "VIERA Link Menu"

② Select "Speaker Selection"

VIERA Link Menu	
Pause Live TV	Start
Direct TV Rec	Start
VIERA Link Control	Recorder
Speaker Selection	Home Cinema

③ Set to "Home Cinema" or "TV"

**Home Cinema**  
 Player theatre, Blu-ray Disc theatre or Amplifier will be automatically turned on if it is in Standby mode and the sound is from theatre speakers connected to the equipment.

- Volume up / down ➔ 
- Mute ➔ 
- The sound of TV speakers is mute.
- When the equipment is turned off, TV speakers will be active.

**TV**  
 TV speakers are active.

#### Note

- If you wish to enjoy the multi-channel sound (e.g. Dolby Digital 5.1ch) via an Amplifier, connect with HDMI cable and Optical digital audio cable (p. 61), and then select "Home Cinema". If your Amplifier has "HDAVI Control 5" function, you can connect only with HDMI cable. In this case, connect your Amplifier to the TV's HDMI2 terminal.
- To enjoy the sound from the DIGA Recorder in multi-channel sound, connect an HDMI cable from the DIGA Recorder to the Amplifier (p. 61).

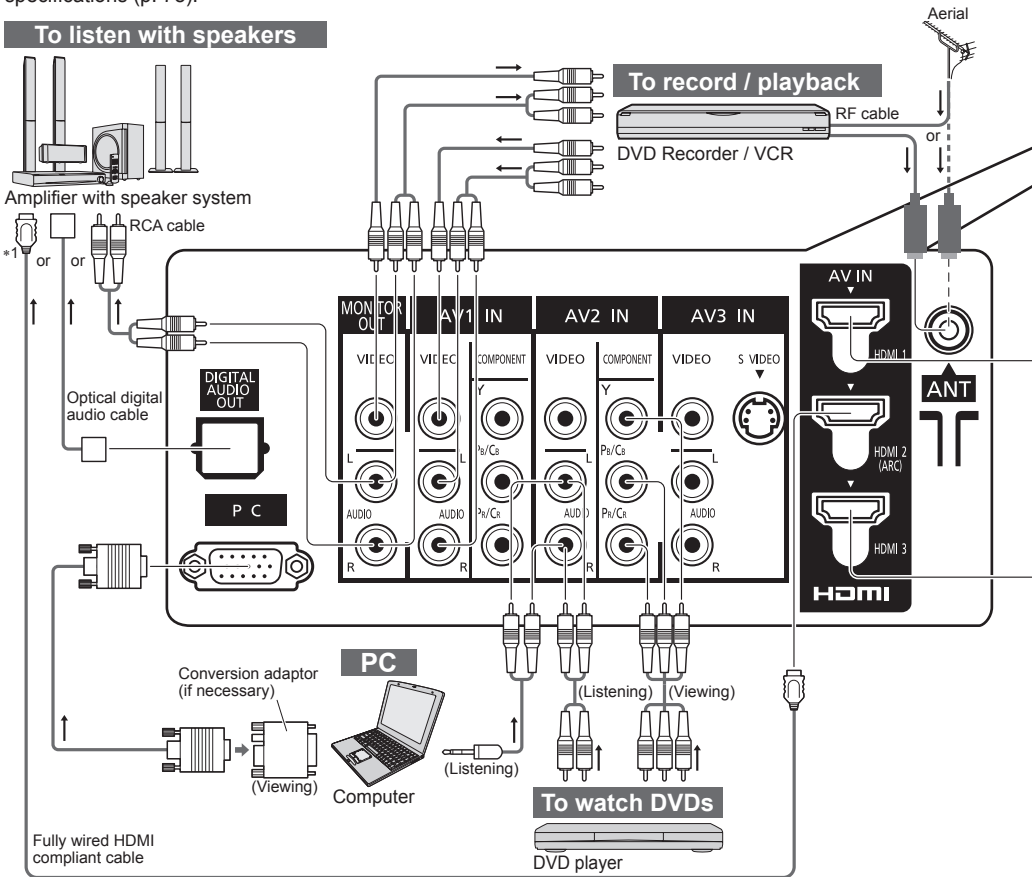
#### Note

- These functions may not work properly depending on the connected equipment.
- Image or sound may not be available for the first few seconds when input mode is switched.
- Easy playback may be available by using the remote control for Player theatre, Blu-ray Disc theatre or Amplifier. Read the manual of the equipment.
- "HDAVI Control 5" is the newest standard (current as of December, 2009) for HDAVI Control compatible equipment. This standard is compatible with conventional HDAVI equipment.
- To confirm this TV's version of HDAVI Control ➔ "System Information" (p. 35)












## External Equipment

These diagrams show our recommendations for how to connect the TV to your various equipment. For other connections, consult the instructions for each piece of equipment, the table below, and the specifications (p. 78).

## To listen with speakers

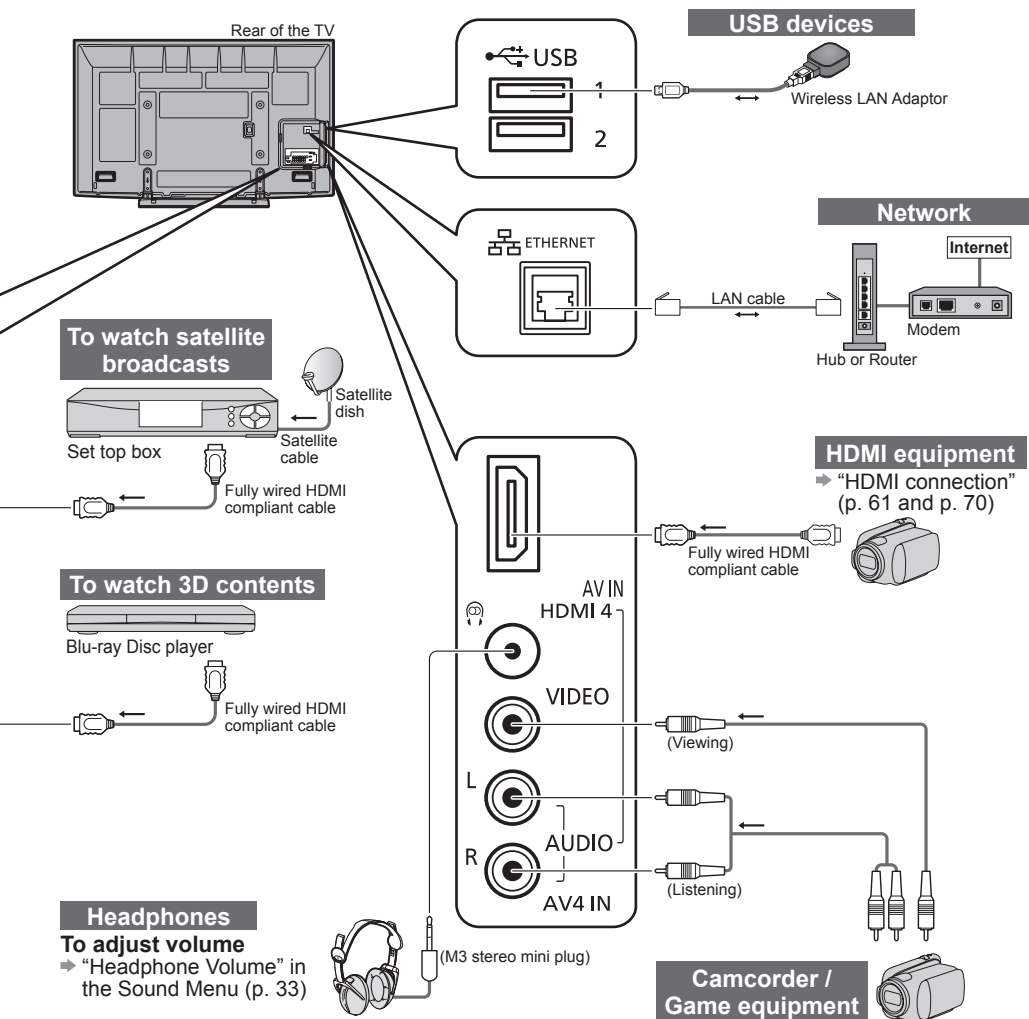


### Types of connectable equipment to each terminal

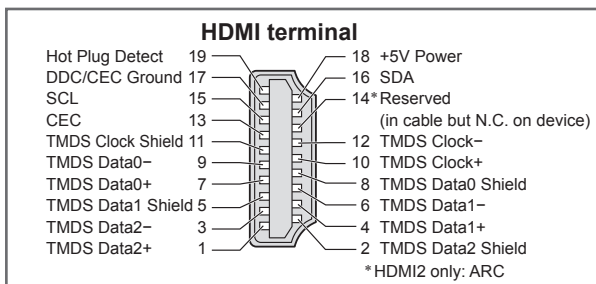
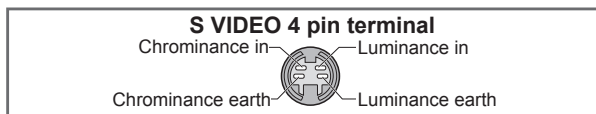
Terminal Recording / Playback (equipment)	AV1 IN AV2 IN AV3 IN AV4 IN (Side panel of the TV)	MONITOR OUT	DIGITAL AUDIO OUT 	ETHERNET 
To record / playback videocassettes / DVDs (VCR / DVD recorder)				
To watch 3D contents (Blu-ray Disc Player)				
To watch DVDs (DVD player)				
To watch camcorder images (Video camera)				
To watch satellite broadcasts (Set top box)				
To play games (Game equipment)				
To use amplifier with speaker system				
To use Network services				
VIERA Link				

○: Recommended Connection

\*1: applicable if your amplifier has ARC (Audio Return Channel) function



HDMI				USB	
1	2	3	4	1	2
○	○	○	○		
○	○	○	○		
○	○	○	○		
○	○	○	○		
○	○	○	○		
	○*1				
				○	○
○	○	○	○		



# Technical Information

## Channel Allocation

Channel Plan	Asia/ W.Europe	CIS/ E.Europe	China	Hong Kong	NZ/ Indonesia	Indian CATV	South Africa	American System	American CATV	Japan
CH DISPLAY	Receive channel									
0	—	—	—	—	—	—	—	—	—	—
1	—	1	1	—	1	1	1	—	1	1
2	2	2	2	—	2	2	2	2	2	2
3	⋮	⋮	⋮	—	⋮	3	⋮	⋮	⋮	⋮
4	⋮	⋮	⋮	—	⋮	4	⋮	⋮	⋮	⋮
5	⋮	⋮	⋮	—	⋮	S'1	⋮	⋮	⋮	⋮
6	⋮	⋮	⋮	—	⋮	S'2	⋮	⋮	⋮	⋮
7	⋮	⋮	⋮	—	⋮	S'3	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	—	⋮	S1	⋮	⋮	⋮	⋮
11	11	11	—	—	11	S2	11	⋮	⋮	⋮
12	12	12	12	—	—	S3	12	⋮	⋮	12
13	—	—	13	—	—	S4	13	13	⋮	13
14	—	—	⋮	—	—	⋮	—	14	⋮	⋮
15	—	—	⋮	—	—	⋮	—	⋮	⋮	⋮
16	—	—	⋮	—	—	⋮	—	⋮	⋮	⋮
⋮	⋮	⋮	⋮	—	⋮	⋮	⋮	⋮	⋮	⋮
19	—	—	⋮	—	—	S10	—	⋮	⋮	⋮
20	—	—	⋮	—	—	5	—	⋮	⋮	⋮
21	21	21	⋮	21	21	6	21	⋮	⋮	⋮
22	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
23	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
24	⋮	⋮	⋮	⋮	⋮	12	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	S11	⋮	⋮	⋮	⋮
28	⋮	⋮	⋮	⋮	⋮	S40	⋮	⋮	⋮	⋮
57	⋮	⋮	57	⋮	⋮	S41	⋮	⋮	⋮	⋮
58	⋮	⋮	—	⋮	⋮	21	⋮	⋮	⋮	⋮
59	⋮	⋮	—	⋮	⋮	⋮	⋮	⋮	⋮	⋮
62	62	62	—	62	62	24	62	62	62	62
63	63	63	—	63	63	25	63	63	63	C13
⋮	⋮	⋮	—	⋮	⋮	⋮	⋮	⋮	⋮	⋮
69	69	69	—	69	69	31	69	69	⋮	⋮
70	—	—	—	—	—	32	—	—	⋮	⋮
⋮	—	—	—	—	—	⋮	—	—	⋮	⋮
73	—	—	—	—	—	⋮	—	—	⋮	⋮
74	S'1	S'1	—	S'1	S'1	⋮	S'1	—	⋮	⋮
75	S'2	—	—	S'2	S'2	⋮	S'2	—	⋮	⋮
76	S'3	—	—	S'3	S'3	⋮	S'3	—	⋮	⋮
77	—	—	—	—	—	⋮	—	—	⋮	⋮
78	—	—	—	—	—	⋮	—	—	⋮	⋮
79	—	—	—	—	—	41	—	—	⋮	⋮
80	S1	S1	—	S1	S1	42	S1	—	⋮	⋮
81	S2	S2	Z1	S2	S2	⋮	S2	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	—	⋮	⋮
89	S10	S10	Z9	S10	S10	51	S10	—	⋮	⋮
90	S11	S11	Z10	S11	S11	52	—	—	⋮	⋮
91	S12	S12	Z11	S12	S12	⋮	—	—	⋮	⋮
92	S13	S13	Z12	S13	S13	⋮	—	—	⋮	⋮
93	S14	S14	Z13	S14	S14	⋮	S14	—	⋮	⋮
94	S15	S15	Z14	S15	S15	⋮	S15	—	⋮	⋮
95	S16	S16	Z15	S16	S16	⋮	S16	—	⋮	⋮
96	S17	S17	Z16	S17	S17	⋮	S17	—	⋮	⋮
97	S18	S18	Z17	S18	S18	⋮	S18	—	⋮	⋮
98	S19	S19	Z18	S19	S19	⋮	S19	—	⋮	⋮
99	S20	S20	Z19	S20	S20	61	S20	—	99	C49
100	S21	S21	Z20	S21	S21	62	S21	—	100	—
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	—	⋮	—
107	⋮	⋮	⋮	⋮	⋮	69	⋮	—	⋮	—
⋮	⋮	⋮	⋮	⋮	⋮	70	⋮	—	⋮	—
117	⋮	⋮	Z37	⋮	⋮	—	⋮	—	⋮	—
118	⋮	⋮	—	⋮	⋮	—	⋮	—	⋮	—
⋮	⋮	⋮	—	⋮	⋮	—	⋮	—	⋮	—
120	S41	S41	—	S41	S41	—	S41	—	⋮	—
⋮	—	—	—	—	—	—	—	—	⋮	—
125	—	—	—	—	—	—	—	—	125	—

## Stereo / Bilingual Sound Selection



I/II

When you receive the stereo / bilingual sound system, sound output modes can be selected by pressing the **Sound Selection** button.

Audio Signal	STEREO	MAIN I	SUB II	MONO
Mode Indicator		I	II	

**NICAM** .....Used in New Zealand, Singapore, Hong Kong etc.

Type of broadcast	Regular broadcast (Standard Audio)	Regular + NICAM MONO I (MAIN I)	NICAM STEREO	NICAM DUAL MONO (MAIN I / SUB II)
Mode Indicator	No Indicator	I		I  II 

**A2 (German)** .....Used in Australia, Malaysia etc.

Type of broadcast	Regular broadcast (Standard Audio)	BILINGUAL or DUAL MONO: MAIN I / SUB II	STEREO
Mode Indicator	No Indicator	I  II	

- If the stereo signal is poor or the receiving conditions are not optimum or if STEREO:MONO automatic switching occurs, it is recommended you switch from STEREO to MONO.
- Even when the contents of the receiving signal undergo changes, selection mode is kept intact.
- When the receiving conditions deteriorate, listening will be easier if the mode is set to the MONO position, using the Sound Selection button.
- DUAL, also known as DUAL MONO or as BILINGUAL is not currently transmitted in some countries.

# Technical Information

## HDMI connection

HDMI (high-definition multimedia interface) is the world's first complete digital consumer AV interface complying with a non-compression standard.

HDMI allows you to enjoy high-definition digital images and high-quality sound by connecting the TV and the equipment.

HDMI-compatible equipment (\*1) with an HDMI or DVI output terminal, such as a DVD player, a set top box or a game equipment, can be connected to the HDMI terminal using an HDMI compliant (fully wired) cable. About connections, see "External Equipment" (p. 66 and p. 67).

### Applicable HDMI features

- Input audio signal : 2ch Linear PCM (sampling frequencies - 48 kHz, 44.1 kHz, 32 kHz)
- Input video signal : 480i, 480p, 576i, 576p, 720p, 1080i and 1080p
  - ➔ "Input signal that can be displayed" (p. 71)
  - Match the output setting of the digital equipment.
- Input PC signal : ➔ "Input signal that can be displayed" (p. 71)
  - Match the output setting of the PC.
- VIERA Link (HDAVI Control 5) : ➔ "VIERA Link" (p. 60)
- 3D
- Content Type
- Audio Return Channel (\*2) (HDMI2 terminal only)

### DVI connection

If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adaptor cable (\*3).

When the DVI to HDMI adaptor cable is used, connect the audio cable to the audio input terminal (HDMI1 / 2 / 3: use AV2 audio terminals / HDMI4: use AV4 audio terminals).

#### Note

- Audio settings can be made on the "HDMI1 / 2 / 3 / 4 Input" in the Sound Menu. (p. 34)
- If the connected equipment has an aspect adjustment function, set the aspect ratio to "16:9".
- These HDMI connectors are "type A".
- These HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- An equipment having no digital output terminal may be connected to the input terminal of either "COMPONENT", "S-VIDEO" or "VIDEO" to receive analogue signals.
- This TV incorporates HDMI™ technology.

(\*1): The HDMI logo is displayed on HDMI-compliant equipment.

(\*2): Audio Return Channel (ARC) is a function to be able to send digital sound signals via an HDMI cable.

(\*3): Enquire at your local digital equipment retailer shop.

## PC connection

A PC may be connected to this TV so that the PC screen is displayed and sound is heard from the TV.

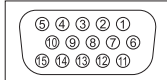
- PC signals that can be inputted: Horizontal scanning frequency 31 to 69 kHz; vertical scanning frequency 59 to 86 Hz. More than 1,024 signal lines could result in incorrect display of the image.
- A PC adaptor is not necessary for the DOS/V-compliant D-sub 15-pin connector.

#### Note

- Some PC models cannot be connected to this TV.
- When using PC, set the colour display quality of PC to the highest position.
- For details of the applicable PC signals, see p. 71.
- Max. display resolution

Aspect	4:3	1,440 × 1,080 pixels
	16:9	1,920 × 1,080 pixels

- D-sub 15-pin connector signal



Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R	⑥	GND (Ground)	⑪	NC (not connected)
②	G	⑦	GND (Ground)	⑫	NC (not connected)
③	B	⑧	GND (Ground)	⑬	HD
④	NC (not connected)	⑨	NC (not connected)	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	NC (not connected)

## Input signal that can be displayed

### COMPONENT (Y, P<sub>B</sub>/C<sub>B</sub>, P<sub>R</sub>/C<sub>R</sub>), HDMI

\* Mark: Applicable input signal

Signal name	COMPONENT	HDMI
525 (480) / 60i	*	*
525 (480) / 60p	*	*
625 (576) / 50i	*	*
625 (576) / 50p	*	*
750 (720) / 60p	*	*
750 (720) / 50p	*	*
1,125 (1,080) / 60i	*	*
1,125 (1,080) / 50i	*	*
1,125 (1,080) / 60p		*
1,125 (1,080) / 50p		*
1,125 (1,080) / 24p		*

### PC (from D-sub 15P)

Applicable input signal for PC is basically compatible to VESA standard timing.

Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 × 400 @70 Hz	31.47	70.07
640 × 480 @60 Hz	31.47	59.94
640 × 480 @75 Hz	37.50	75.00
800 × 600 @60 Hz	37.88	60.32
800 × 600 @75 Hz	46.88	75.00
800 × 600 @85 Hz	53.67	85.06
852 × 480 @60 Hz	31.44	59.89
1,024 × 768 @60 Hz	48.36	60.00
1,024 × 768 @70 Hz	56.48	70.07
1,024 × 768 @75 Hz	60.02	75.03
1,024 × 768 @85 Hz	68.68	85.00
1,280 × 1,024 @60 Hz	63.98	60.02
1,280 × 768 @60 Hz	47.70	60.00
1,366 × 768 @60 Hz	48.39	60.04
Macintosh13" (640 × 480)	35.00	66.67
Macintosh16" (832 × 624)	49.73	74.55
Macintosh21" (1,152 × 870)	68.68	75.06

### PC (from HDMI terminal)

Applicable input signal for PC is basically compatible to HDMI standard timing.

Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 × 480 @60 Hz	31.47	60.00
750 (720) / 60p	45.00	60.00
1,125 (1,080) / 60p	67.50	60.00

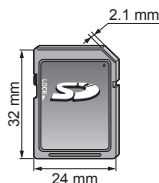
#### Note

- Signals other than above may not be displayed properly.
- The above signals are reformatted for optimal viewing on your display.
- PC signal is magnified or compressed for display, so that it may not be possible to show fine detail with sufficient clarity.

# Technical Information

## SD Card

- Use an SD Card which meets SD standards. If not, it may cause the TV to malfunction.
- Do not remove the card while the TV is accessing data (this can damage card or TV).
- Do not touch the pins on the back of the card.
- Do not subject the card to a high pressure or impact.
- Insert the card in the correct direction (otherwise, card may be damaged).
- Electrical interference, static electricity, or erroneous operation may damage the data or card.
- Back up the recorded data at regular intervals in case of deteriorated or damaged data or erratic operation of the TV. (Panasonic is not liable for any deterioration or damage of recorded data.)
- About SD Card format and maximum capacity ➔ p. 44



### On screen messages

Message	Meaning / Action
<b>Cannot read file</b>	<ul style="list-style-type: none"><li>● The file is broken or unreadable.</li><li>● The TV does not support the format.</li></ul>
<b>No Device Inserted</b>	<ul style="list-style-type: none"><li>● Confirm SD Card or USB device is inserted correctly.</li></ul>
<b>No valid file to play</b>	<ul style="list-style-type: none"><li>● The card has no data.</li></ul>
<b>This operation is not possible</b>	<ul style="list-style-type: none"><li>● Your operation is not available.</li></ul>



**ABOUT DIVX VIDEO:**

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

**DivX video file**

DivX Certified® to play DivX® video up to HD 1080p, including premium content.

Extension - ".divx" or ".avi"

Image resolution - Up to 1,920 × 1,080 pixels

**Video**

- Number of stream: Up to 1
- Codec: DIV3, DIV4, DIVX, DX50, DIV6
- FPS (Frame Per Second): Up to 60 fps

**Audio**

- Number of stream: Up to 8
- Format: MP3, MPEG, AC3
- Multi channel: AC3 is possible. MPEG multi is 2 ch conversion.

- GMC (Global Motion Compensation) is not supported.

**Subtitle text file of DivX**

Subtitles format - MicroDVD, SubRip, TMLPlayer

- The DivX video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: ".srt", ".sub", ".txt".
- To confirm or change the current subtitle status while playing DivX content, press the OPTION button to display Option Menu.
- Depending on the methods used to create the file or the state of recording, only parts of the subtitles may be displayed, or the subtitles may not be displayed at all.
- Some subtitles text may not be displayed correctly.

**Note**

- Depending on how you make SD Card or USB Flash Memory, files and folders may not be displayed in the order you numbered.
- Depending on the software you use to create DivX files, the files may not play.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.

**ABOUT DIVX VIDEO-ON-DEMAND:**

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

**To show DivX VOD registration code**

➔ "DivX® VOD" in the Setup Menu (p. 35)

- If you want to generate the new registration code, you have to deregister the present registration code. After playing DivX VOD content once, the confirmation screen to deregister will be displayed in "DivX® VOD" in the Setup Menu. If you press the OK button on the confirmation screen, the deregistration code will be generated and you will not be able to play any contents that you purchased using the present registration code. You will obtain the new registration code by pressing the OK button on the deregistration code screen.
- If you purchase DivX VOD content using a registration code different from this TV's code, you will not be able to play this content. ("Your device is not authorized to play this DivX protected video." is displayed.)

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

Some DivX VOD content can only be played a set number of times.

When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("This DivX rental has expired." is displayed.)

- When playing this content, the number of remaining plays is reduced by one in the following conditions:
  - If you exit the current application.
  - If you play the other content.
  - If you go to the next or previous content.

# Technical Information

## Network

### On screen messages

Message	Meaning / Action
An internal error occurred.	● Check the settings. (p. 53 - 55)
Cannot read file	● The file is broken or unreadable. Check applicable data format. (p. 51)
Communication with the server failed.	● This might be a problem of the media server. Read the manual of the server software.
Connection to the server failed.	● Check the connections and settings. (p. 52 - 55)
Server not found	● There are no available media server on your home network. Check the connections and settings. (p. 52 - 55)
The software update is not completed.	● Network download failed. Check the connections and settings. (p. 52 - 55)

## USB connection

- It is recommended to connect the USB Flash Memory directly to the TV's USB ports.
- Some USB devices or USB HUB may not be used with this TV.
- You cannot connect any devices by using USB card reader.

### The combination of USB devices that have been tested for each TV's USB port.

Combination of USB port 1 + port 2 (and vice versa):

- USB Flash Memory + Wireless LAN Adaptor
- USB Flash Memory + USB Keyboard
- Wireless LAN Adaptor + USB Keyboard

#### Note

- Additional information for USB devices may be on the following web site. (English only)  
<http://panasonic.jp/support/global/cs/tv/>

# Maintenance

**First, remove the mains plug from the socket outlet.**

## Display panel, Cabinet, Pedestal

### **For regular care:**

Gently wipe the surface of the display panel, cabinet, or pedestal by using a soft cloth to clean the dirt or fingerprints.

### **For stubborn dirt:**

Dampen a soft cloth with clean water or diluted neutral detergent (1 part detergent to 100 parts water). Then wring the cloth and wipe the surface. Finally, wipe away all the moisture.

### **Caution**


- Do not use a hard cloth or rub the surface too hard. This may cause scratches on the surface.
- Take care not to subject the TV's surfaces to water or detergent. A liquid inside the TV could lead to product failure.
- Take care not to subject the surfaces to insect repellent, solvent, thinner, or other volatile substances. This may degrade surface quality or cause peeling of the paint.
- The surface of the display panel is specially treated and may be easily damaged. Take care not to tap or scratch the surface with your fingernail or other hard objects.
- Do not allow the cabinet and pedestal to make contact with a rubber or PVC substance for a long time. This may degrade surface quality.

## Mains plug

Wipe the mains plug with a dry cloth at regular intervals. Moisture and dust may lead to fire or electrical shock.


# FAQs

Before requesting service or assistance, please follow these simple guides to resolve the problem. If the problem still persists, please contact your local Panasonic dealer for assistance.



**White spots or shadow images (noise)**

- Check the position, direction, and connection of the aerial.



**Neither image nor sound is produced**

- Is the TV in "AV mode"?
- Is the mains lead plugged into the socket outlet?
- Is the TV turned On?
- Check the Picture Menu (p. 32 and p. 33) and volume.
- Check all required cables and connections are firmly in place.

**An error message appears**

- Follow the message's instructions.
- If the problem persists, contact your local Panasonic dealer.

**"VIERA Link" function does not work and an error message appears**

- Confirm the connection. (p. 61)
- Turn the connected equipment on and then switch the TV on. (p. 61)

**Permanently lit spots on screen**

- Due to production process involved in this technology this may result in some pixels which are permanently lit or unlit. This is not a malfunction.

**Contrast is reduced**

- Contrast is lowered in the following conditions without any user operation for a few minutes:
  - no signal in AV mode
  - selected locked channel
  - selected invalid channel
  - displayed menu
  - Thumbnail or still picture

		Problem	Actions
Screen		<b>Chaotic image, noisy</b>	<ul style="list-style-type: none"> <li>● Change the setting of "P-NR" in the Picture Menu (to remove noise). (p. 33)</li> <li>● Check nearby electrical products (car, motorcycle, fluorescent lamp).</li> </ul>
		<b>No image can be displayed</b>	<ul style="list-style-type: none"> <li>● Is "Colour" or "Contrast" in the Picture Menu set to the minimum? (p. 32)</li> </ul>
		<b>Blurry or distorted image</b> (no sound or low volume)	<ul style="list-style-type: none"> <li>● Reset channels (p. 38).</li> </ul>
		<b>Unusual image is displayed</b>	<ul style="list-style-type: none"> <li>● Turn off the TV with Mains power On / Off switch, then turn it on again.</li> </ul>
Sound		<b>No sound is produced</b>	<ul style="list-style-type: none"> <li>● Is "Sound Mute" active? (p. 10)</li> <li>● Is the volume set to the minimum?</li> </ul>
		<b>Sound level is low or sound is distorted</b>	<ul style="list-style-type: none"> <li>● Sound signal reception may be deteriorated.</li> <li>● Set "MPX" in the Sound Menu to "Mono" (p. 33).</li> </ul>
		<b>Unusual sound from the TV</b>	<ul style="list-style-type: none"> <li>● When power is on, whirring sound of cooling fan or drive noise may be heard from inside the TV (not a sign of faulty operation).</li> </ul>

	Problem	Actions
HDMI	Sound is unusual	<ul style="list-style-type: none"> <li>● Set the sound setting of the connected equipment to "2ch L.PCM".</li> <li>● Check the "HDMI1 / 2 / 3 / 4 Input" setting in the Sound Menu. (p. 34)</li> <li>● If digital sound connection has a problem, select analogue sound connection. (p. 70)</li> </ul>
	Pictures from external equipment are unusual when the equipment is connected via HDMI	<ul style="list-style-type: none"> <li>● Is the HDMI cable connected properly? (p. 61, 66 and p. 67)</li> <li>● Turn Off the TV and equipment, then turn them On again.</li> <li>● Check an input signal from the equipment. (p. 71)</li> <li>● Use an equipment compliant with EIA/CEA-861/861B.</li> </ul>
Network	Cannot connect to the network	<ul style="list-style-type: none"> <li>● Check the LAN cable or Wireless LAN Adaptor is connected properly. (p. 52)</li> <li>● Check the connections and settings. (p. 52 - 55)</li> <li>● Check the network equipment and network environment.</li> <li>● If the problem persists, consult your Internet Service Provider or telecommunications company.</li> </ul>
	Cannot select the file during DLNA operations	<ul style="list-style-type: none"> <li>● Is media server prepared? (p. 51)</li> <li>● Check applicable data format. (p. 51)</li> </ul>
	Cannot operate VIERA CAST	<ul style="list-style-type: none"> <li>● Check the connections and settings. (p. 52 - 55)</li> <li>● The server or connected line might be busy now.</li> </ul>
3D	Cannot see 3D images	<ul style="list-style-type: none"> <li>● Has the 3D Eyewear been switched On?</li> <li>● Ensure that "3D Picture Display" in "3D Settings" is set to "3D". (p. 28)</li> <li>● Some 3D image signals may not be automatically recognized as 3D images. Set "3D Picture Format" in "3D Settings" to match the picture format. (p. 28)</li> <li>● Check that there are no obstacles between the infrared sensors on the TV and the 3D Eyewear. If the 3D Eyewear stops receiving the infrared signal for about 5 minutes, the 3D Eyewear will be turned off automatically.</li> <li>● Check the available area to use the 3D Eyewear. (p. 26)</li> <li>● Depending on the person, the 3D images may be difficult to see, or cannot be seen, especially in users that have a different level of eyesight between the left and right eyes. Take the necessary steps (wearing glasses etc.) to correct your eyesight before use.</li> </ul>
	3D Eyewear is turned off automatically	<ul style="list-style-type: none"> <li>● Check that there are no obstacles between the infrared sensors on the TV and the 3D Eyewear or that the 3D Eyewear is placed inside the coverage area (p. 26). If the 3D Eyewear stops receiving the infrared signal for about 5 minutes, the 3D Eyewear will be turned off automatically.</li> </ul>
	There is something wrong with the 3D images	<ul style="list-style-type: none"> <li>● Check the setting of "3D Picture Sequence" or "Edge Smoother". (p. 28)</li> </ul>
	The indicator lamp does not light when pressing the power button on the 3D Eyewear	<ul style="list-style-type: none"> <li>● The battery may be running low or flat. Replace it.</li> </ul>
Other	TV goes into Standby mode	<ul style="list-style-type: none"> <li>● Auto power standby function is activated.</li> <li>● The TV enters Standby mode about 30 mins. after analogue broadcasting ends.</li> </ul>
	The remote control does not work or is intermittent	<ul style="list-style-type: none"> <li>● Are the batteries installed correctly? (p. 3)</li> <li>● Has the TV been switched On?</li> <li>● Point the remote control directly at the front of the TV (within about 7 m and a 30 degree angle of the front of the TV).</li> <li>● Situate the TV away from sunshine or other sources of bright light not to shine on the TV's remote control signal receiver.</li> </ul>
	Parts of the TV become hot	<ul style="list-style-type: none"> <li>● Even when the temperature of parts of the front, top and rear panels has risen, these temperature rises will not pose any problems in terms of performance or quality.</li> </ul>

# Specifications

## TV

		TH-P65VT20D TH-P65VT20K TH-P65VT20M TH-P65VT20T		TH-P65VT20P																									
Power Source		AC 220 - 240 V, 50 / 60 Hz		AC 110 - 240 V, 50 / 60 Hz																									
Power	Power Rating	635 W		655 W																									
	Standby condition	0.4 W																											
Display panel	Aspect Ratio	16:9																											
	Visible screen size	165 cm (diagonal) 1,434 mm (W) × 806 mm (H)																											
	Number of pixels	2,073,600 (1,920 (W) × 1,080 (H)) [5,760 × 1,080 dots]																											
Sound	Speaker	Full range (160 mm × 40 mm) × 2 pcs, Woofer (φ 70 mm) × 1 pcs																											
	Audio Output	30 W (10 W × 2 + 10 W)																											
	Headphones	M3 (3.5 mm) stereo mini Jack × 1																											
PC signals		VGA, SVGA, WVGA, XGA SXGA, WXGA ..... (compressed) Horizontal scanning frequency 31 - 69 kHz Vertical scanning frequency 59 - 86 Hz																											
Receiving Systems / Band name		<table><tr><th>17 Systems</th><th>Function</th></tr><tr><td>1 PAL B, G, H</td><td rowspan="7">Reception of broadcast transmissions and Playback from Video Cassette Tape Recorders</td></tr><tr><td>2 PAL I</td></tr><tr><td>3 PAL D, K</td></tr><tr><td>4 SECAM B, G</td></tr><tr><td>5 SECAM D, K</td></tr><tr><td>6 SECAM K1</td></tr><tr><td>7 NTSC M (NTSC 3.58/4.5 MHz)</td></tr></table>		17 Systems	Function	1 PAL B, G, H	Reception of broadcast transmissions and Playback from Video Cassette Tape Recorders	2 PAL I	3 PAL D, K	4 SECAM B, G	5 SECAM D, K	6 SECAM K1	7 NTSC M (NTSC 3.58/4.5 MHz)	<table><tr><th>17 Systems</th><th>Function</th></tr><tr><td>8 NTSC 4.43/5.5 MHz</td><td rowspan="5">Playback from Special VCR's or DVD</td></tr><tr><td>9 NTSC 4.43/6.0 MHz</td></tr><tr><td>10 NTSC 4.43/6.5 MHz</td></tr><tr><td>11 NTSC 3.58/5.5 MHz</td></tr><tr><td>12 NTSC 3.58/6.0 MHz</td></tr><tr><td>13 NTSC 3.58/6.5 MHz</td><td rowspan="5">Playback from Special Disc Players and Special VCR's or DVD</td></tr><tr><td>14 SECAM I</td></tr><tr><td>15 PAL 60 Hz/5.5 MHz</td></tr><tr><td>16 PAL 60 Hz/6.0 MHz</td></tr><tr><td>17 PAL 60 Hz/6.5 MHz</td></tr></table>		17 Systems	Function	8 NTSC 4.43/5.5 MHz	Playback from Special VCR's or DVD	9 NTSC 4.43/6.0 MHz	10 NTSC 4.43/6.5 MHz	11 NTSC 3.58/5.5 MHz	12 NTSC 3.58/6.0 MHz	13 NTSC 3.58/6.5 MHz	Playback from Special Disc Players and Special VCR's or DVD	14 SECAM I	15 PAL 60 Hz/5.5 MHz	16 PAL 60 Hz/6.0 MHz	17 PAL 60 Hz/6.5 MHz
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Aerial - Rear		VHF / UHF																											
Operating Conditions		Temperature : 0 °C - 40 °C Humidity : 20 % - 80 % RH (non-condensing)																											
Connection Terminals	AV1 Input	AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]																									
		VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)																									
		COMPONENT	Y P <sub>B</sub> /C <sub>B</sub> , P <sub>R</sub> /C <sub>R</sub>	1.0 V[p-p] (including synchronization) ±0.35 V[p-p]																									
	AV2 Input	AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]																									
		VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)																									
		COMPONENT	Y P <sub>B</sub> /C <sub>B</sub> , P <sub>R</sub> /C <sub>R</sub>	1.0 V[p-p] (including synchronization) ±0.35 V[p-p]																									
	AV3 Input	AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]																									
		VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)																									
	AV4 Input	S VIDEO	Mini DIN 4-pin	Y: 1.0 V[p-p] (75 Ω) C: 0.286 V[p-p] (75 Ω)																									
		AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]																									
	Monitor Output	VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)																									
		AUDIO L - R	RCA PIN Type × 2	0.5 V[rms] (high impedance)																									
		VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)																									
		HDMI1 - 4 Input	TYPE A Connectors	● This TV supports "HDAVI control 5" function.																									
		PC Input	HIGH-DENSITY D-SUB 15PIN	R / G / B: 0.7 V[p-p] (75 Ω) HD / VD: TTL Level 2.0 - 5.0 V[p-p] (high impedance)																									
		DIGITAL AUDIO OUT	PCM / Dolby Digital, Fiber optic																										
Card slot		SD Card slot × 1																											
USB 1/2		USB 2.0 TYPE A Connectors DC 5V, Max. 500 mA																											
ETHERNET		10BASE-T / 100BASE-TX																											
Dimensions ( W × H × D )		1,580 mm × 1,019 mm × 415 mm (With Pedestal) 1,580 mm × 967 mm × 90 mm (TV only)																											
Mass		54.5 kg Net (With Pedestal) 48.0 kg Net (TV only)																											

3D Eyewear

Dimensions (W × H × D)	177 mm × 46 mm × 174 mm
Mass (including battery)	63 g Net
Lens type	Liquid Crystal Shutter Frame sequential type
Battery (Duration)	Coin-shaped lithium battery CR2032 (approx. 75 hours in continuous use of the battery made by Panasonic)
Materials	Main body: Resin Lens: Liquid crystal glass
Operating Conditions	0 °C - 40 °C

Note

- Design and Specifications are subject to change without notice. Mass and Dimensions shown are approximate.

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### **Customer's Record**

The model number and serial number of this product may be found on its rear panel. You should note the model number and the serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number

Serial Number

**Panasonic Corporation**

**Web Site: <http://panasonic.net>**

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