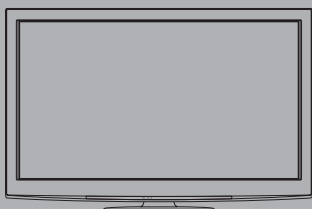


# Panasonic®

Model No.

TX-P42G20E  
TX-P42G20ES  
TX-P46G20E  
TX-P46G20ES  
TX-P50G20E  
TX-P50G20ES

## Operating Instructions Plasma Television



# VIERA



Thank you for purchasing this Panasonic product.  
Please read these instructions carefully before operating this product and retain them for future reference.  
The images shown in this manual are for illustrative purposes only.  
Please refer to Pan European Guarantee Card if you need to contact your local Panasonic dealer for assistance.

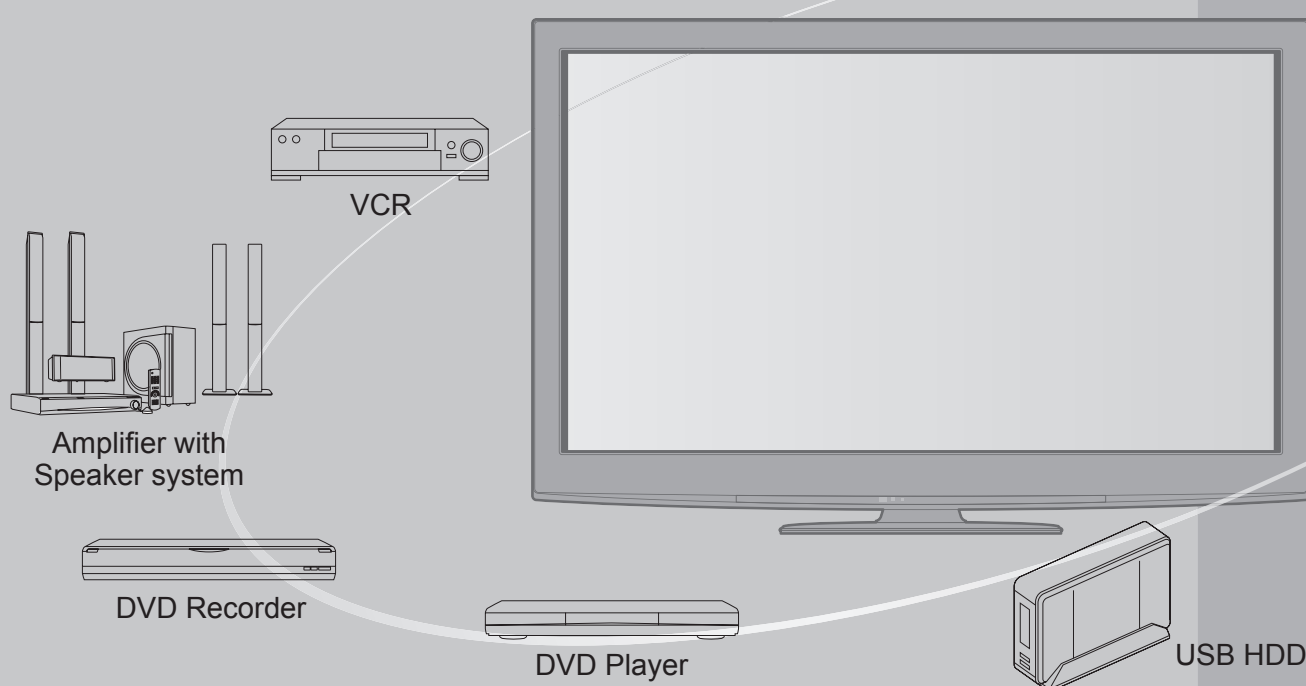
English



TQB0E0904U-1

# Experience an amazing level of multimedia excitement

## Enjoy rich multimedia



### Notice for DVB functions

This TV is designed to meet the standards (current as of August, 2009) of DVB-T (MPEG2 and MPEG4-AVC(H.264)) digital terrestrial services and DVB-C (MPEG2 and MPEG4-AVC(H.264)) digital cable services.

Consult your local dealer for availability of DVB-T services in your area.

Consult your cable service provider for availability of DVB-C services with this TV.

- This TV may not work correctly with the signal which does not meet the standards of DVB-T or DVB-C.
- Not all the features are available depending on the country, area, broadcaster and service provider.
- Not all CI modules work properly with this TV. Consult your service provider about the available CI module.
- This TV may not work correctly with CI module that is not approved by the service provider.
- Additional fees may be charged depending on the service provider.
- The compatibility with future DVB services is not guaranteed.
- Check the latest information on the available services at the following website. (English only)  
<http://panasonic.jp/support/global/cs/tv/>

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- Notes ..... 5
- Maintenance ..... 5

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## Enjoy your TV!

### Basic Features

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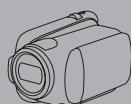
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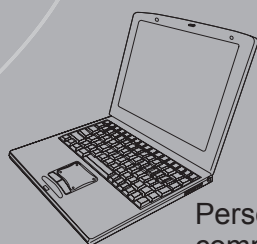
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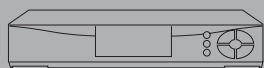
SD Card



Camcorder



Personal  
computer



Set top box

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

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>.

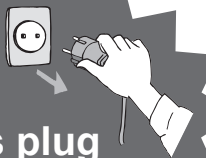
# Safety Precautions

## 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.
  - An apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.
- 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**



### Power source

- This TV is designed to operate on AC 220-240 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 the spread of fire, keep candles or other open flames away from this product at all times**



### 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. 7) / wall-hanging brackets (p. 6).

### 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

### ■ 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

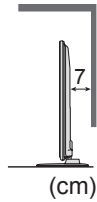
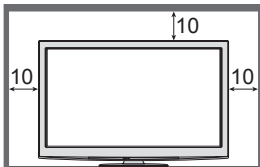
- This TV will still consume some power even in the Off mode, as long as the mains plug is still connected to a live socket outlet.

### ■ 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 the 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.

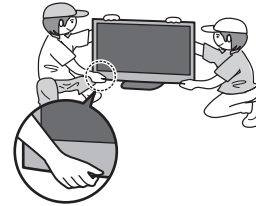
### ■ Do not expose your ears to excessive volume from the headphones

- Irreversible damage can be caused.

### ■ Do not apply strong force or impact to the display panel

- This may cause damage resulting in injury.

### ■ The TV is heavy. Handle the TV by 2 or more people. Support as shown to avoid injury by the TV tipping or falling.



## Notes

### 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

- Channel 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. 87)

### ■ 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 Analogue TV mode
  - "Off Timer" is active in the Setup Menu (p. 19)
  - no operation is performed for the period selected in "Auto Standby" (p. 33)
- This function does not affect the recording of Timer Programming, Direct TV Recording and One Touch Recording.

### ■ 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.)

## Maintenance

First, remove the mains plug from the socket outlet.

### Display panel, Cabinet, Pedestal

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.

# Accessories / Options

## Standard accessories

- ☐ Remote Control  
● N2QAYB000490



- ☐ Operating Instructions

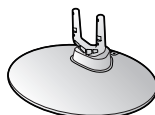
- ☐ Pan European Guarantee Card

Check that you have the accessories and items shown ☒

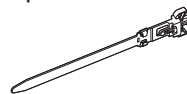
- ☐ Batteries for the Remote Control (2)  
● R6  
➔ p. 8



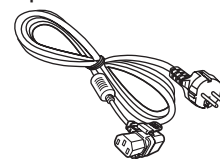
- ☐ Pedestal  
➔ p. 7



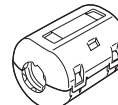
- ☐ Clamper  
➔ p. 10



- ☐ Mains Lead  
➔ p. 10



- ☐ Ferrite core (2)  
➔ p. 81



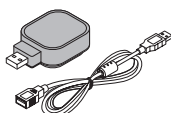
Use the Ferrite cores to comply with the EMC standard.

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

## 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.

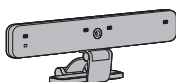
- ☐ Wireless LAN Adaptor  
● DY-WL10E-K



### 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 malfunctions caused by radio wave interface, 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.
- Depending on the area, this optional accessory may not be available.
- Additional information for Wireless LAN Adaptor and access point may be on the following web site. (English only)  
<http://panasonic.jp/support/global/cs/tv/>

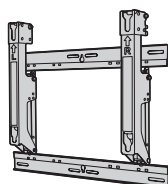
- ☐ Communication Camera  
● TY-CC10W



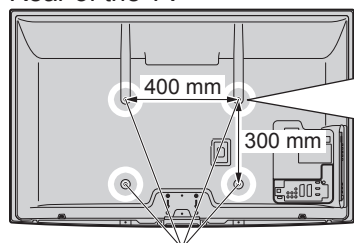
### Caution

- This camera can be used on VIERA CAST (p. 71).
- 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-WK4P1RW

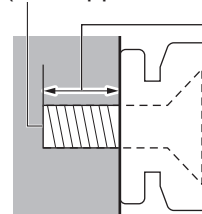


Rear of the TV



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 15 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 licenced 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.



## 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 any other TV and displays.**

- Otherwise the TV 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.

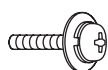
**Ensure that the TV does not fall over.**

- 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.**

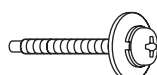
- If two or more people are not present, the TV may be dropped, and personal injury may result.

Ⓐ Assembly screw (3)  
(silver)



M5 × 18

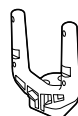
Ⓑ Assembly screw (4)  
(black)



M5 × 30

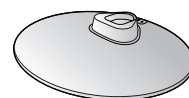
Ⓒ Pole

- TBLA3828  
(TX-P42G20E  
TX-P42G20ES)
- TBLA3834  
(TX-P46G20E  
TX-P46G20ES  
TX-P50G20E  
TX-P50G20ES)



Ⓓ Base

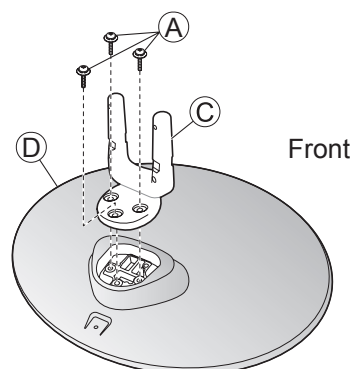
- TBLX0149  
(TX-P42G20E)
- TBLX0162  
(TX-P42G20ES)
- TBLX0150  
(TX-P46G20E  
TX-P50G20E)
- TBLX0163  
(TX-P46G20ES  
TX-P50G20ES)



### ■ Assembling the pedestal

Use the assembly screws Ⓐ to fasten the pole Ⓒ to the base Ⓓ securely.

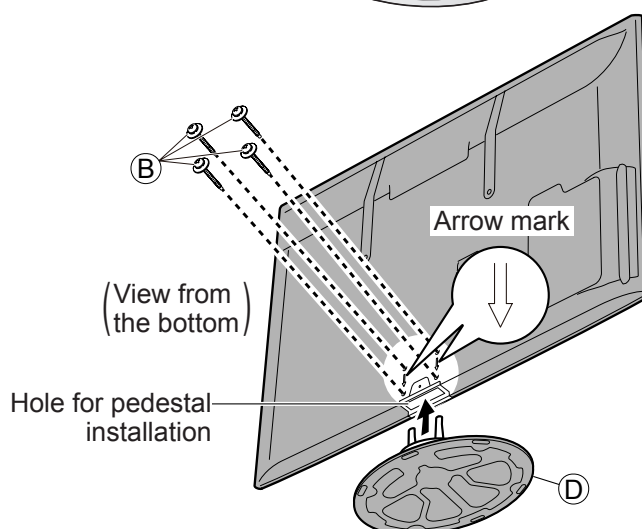
- Make sure that the screws are securely tightened.
- Forcing the assembly screws the wrong way will strip the threads.



### ■ Securing the TV

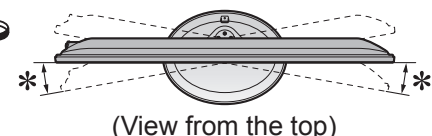
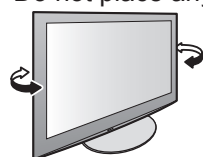
Use the assembly screws Ⓑ to fasten securely.

- Make sure that the screws are securely tightened.
- Carry out the work on a horizontal and level surface.



### Adjusting the panel to your desired angle

- Do not place any objects within the full rotation range.



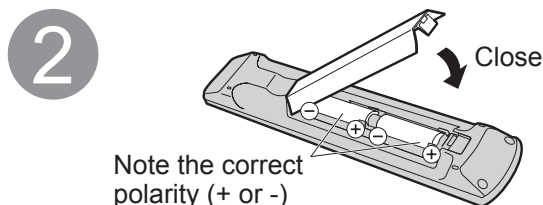
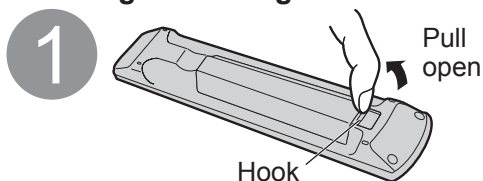
\*: 15°  
(TX-P42G20E  
TX-P42G20ES)

\*: 10°  
(TX-P46G20E  
TX-P46G20ES  
TX-P50G20E  
TX-P50G20ES)

# Identifying Controls

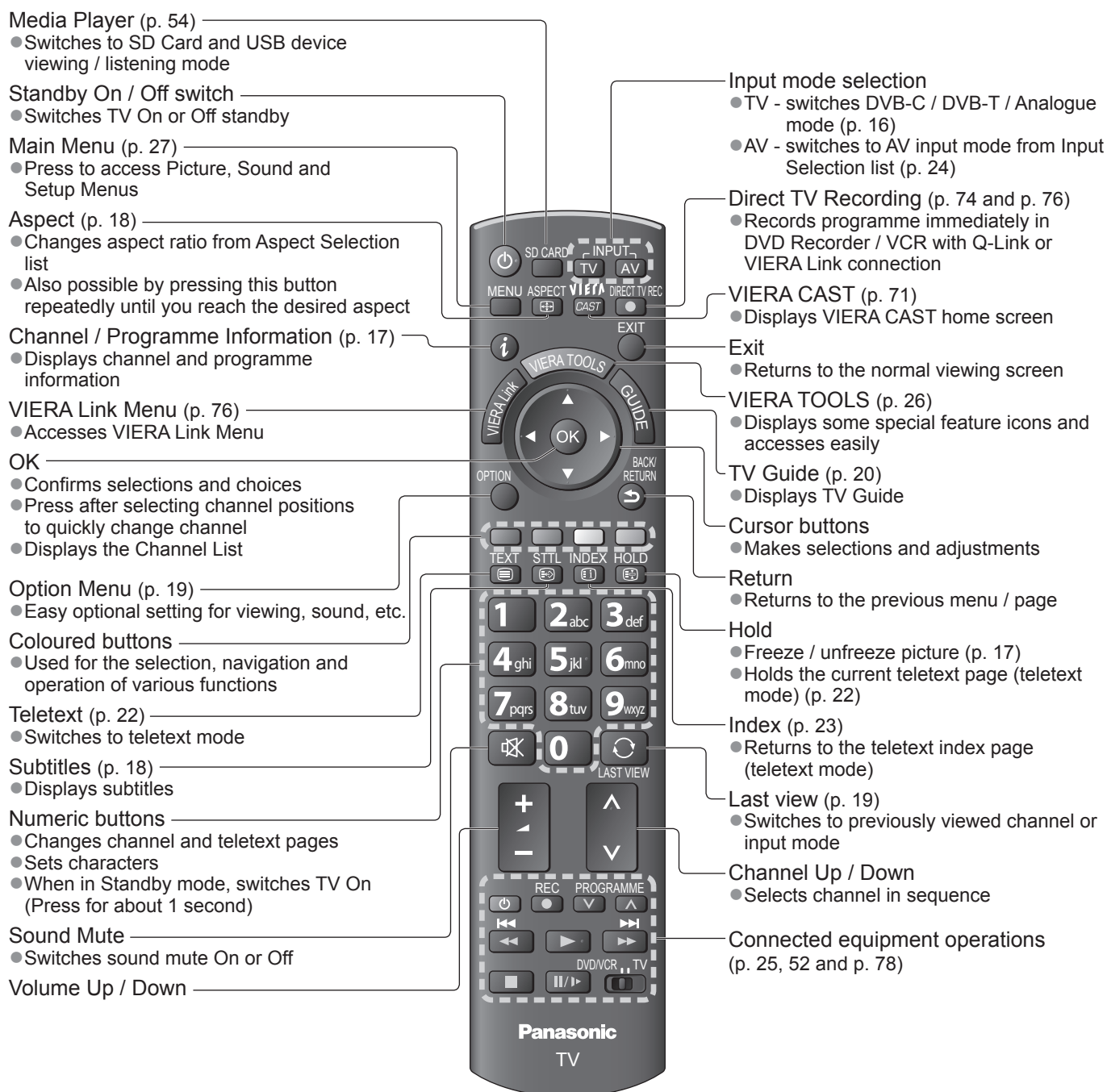
## Remote Control

### ■ Installing / removing remote's batteries

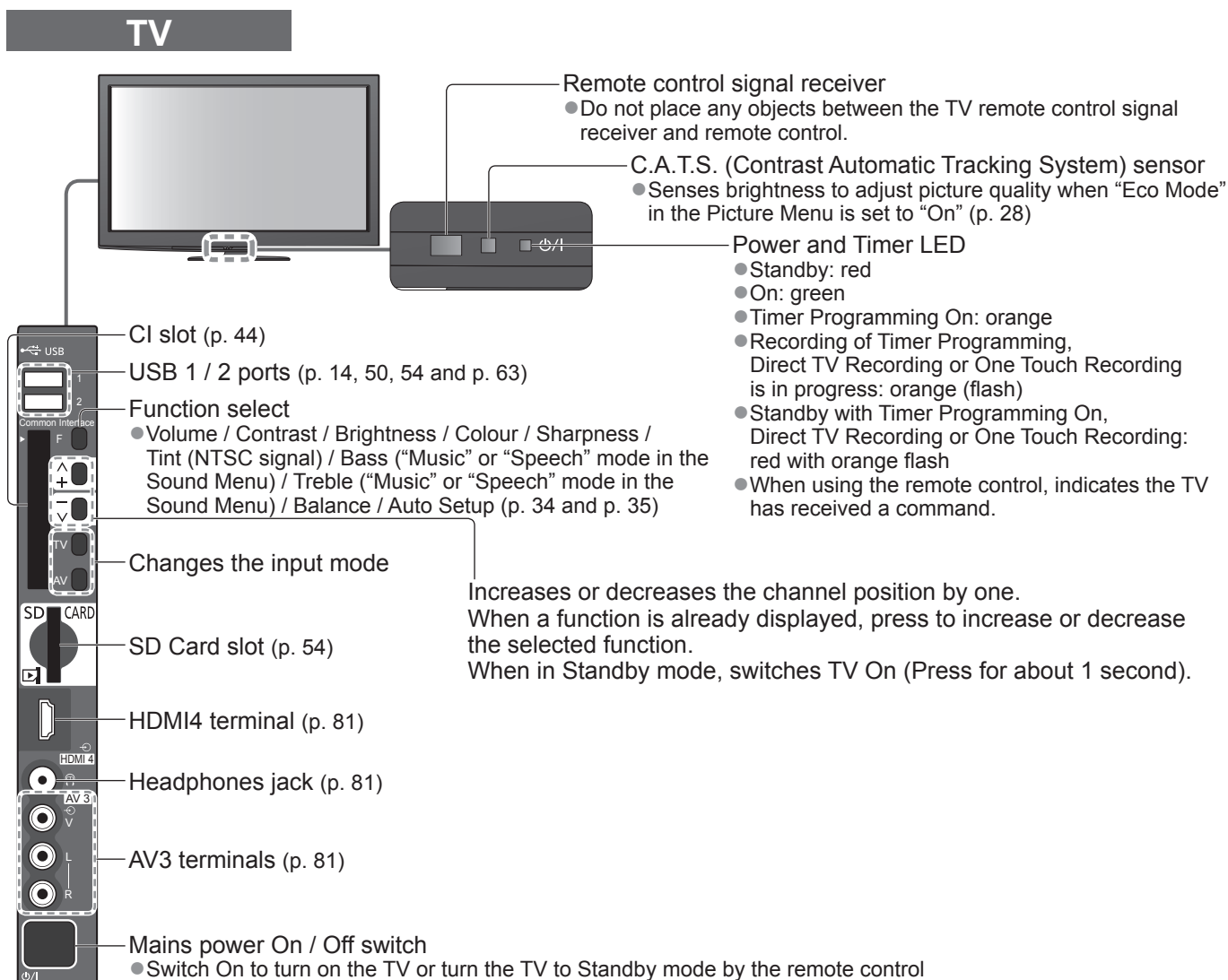


#### Caution

- 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.







## Using the On Screen Displays

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

### ■ How to use remote control



Move the cursor / select the menu item



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



Open the main menu



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



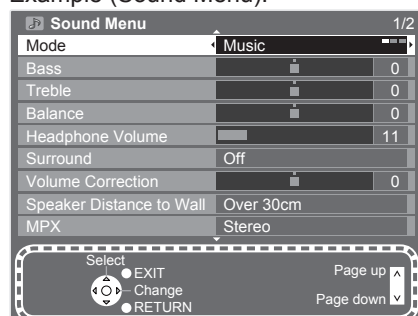
Return to the previous menu



Exit the menu system and return to the normal viewing screen

### ■ ON SCREEN HELP Instructions box - Operation guide

Example (Sound Menu):



Operation guide will help you.

# 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.

## Example 1 Connecting aerial

### TV only

AC 220-240 V  
50 / 60 Hz

Rear of the TV

Mains lead (supplied)

■ **Clamper**

**Attach the clamper**

Insert the clamper in a hole

hole

● **To remove from the TV:**

snaps

① Keep pushing both side snaps

**Bundle the cables**

hooks

② Set the tip in the hooks

● **To loosen:**

knob

① Keep pushing the knob

● Do not bundle the RF cable and mains lead together (could cause distorted image).

● Fix cables with clampers as necessary.

● When using the optional accessory, follow the option's assembly manual to fix cables.

■ **Mains Lead**

Push until both side tabs click

Make sure that the mains lead is securely fixed.

● **To remove from the TV:**

tabs

Press both tabs and pull on mains connector to release

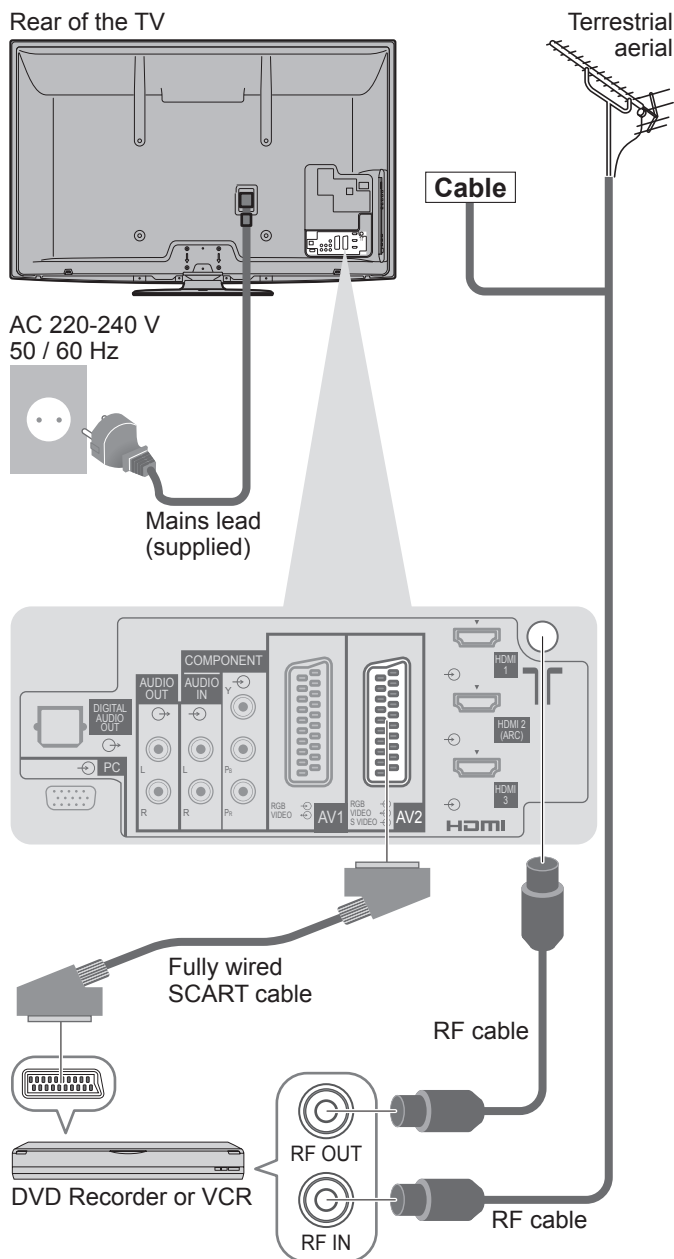
Terrestrial aerial

Cable

RF cable

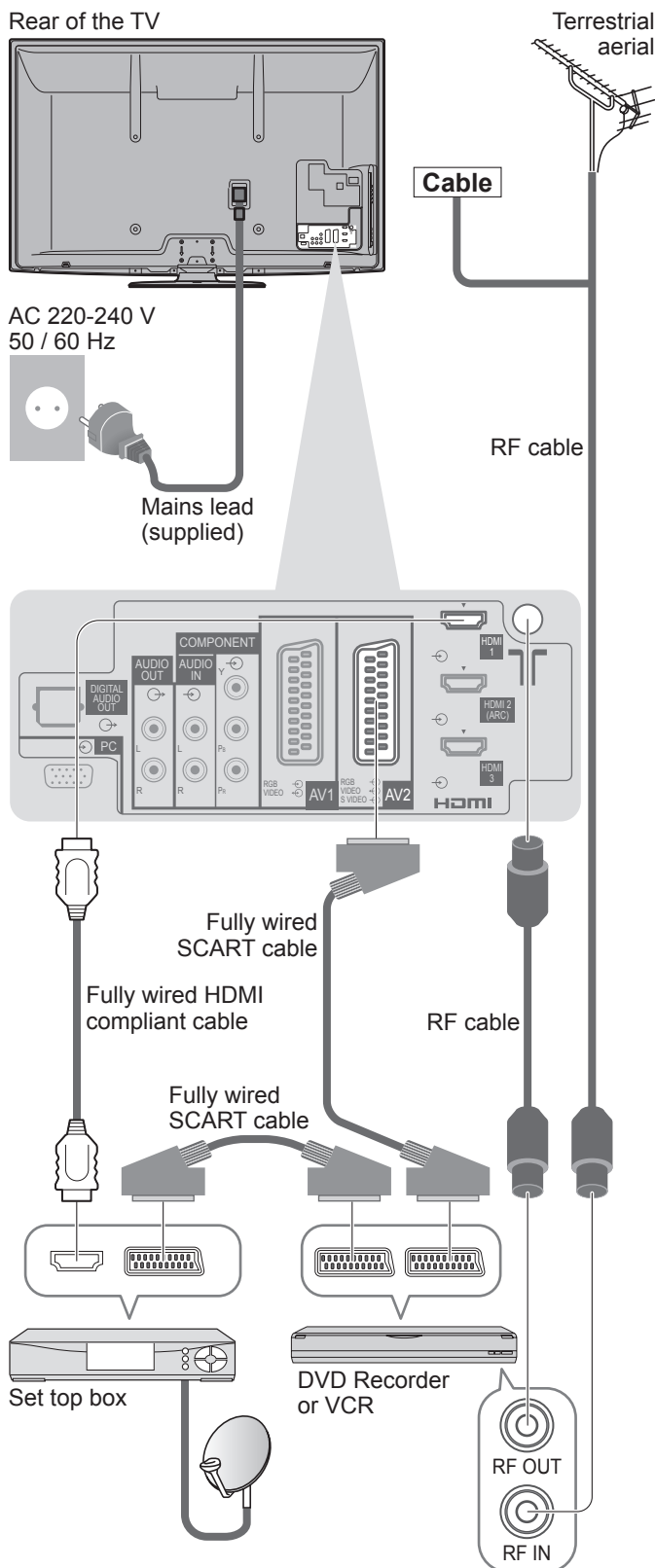
## Example 2 Connecting DVD Recorder / VCR

### TV, DVD Recorder or VCR



## Example 3 Connecting DVD Recorder / VCR and Set top box

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



#### Note

- Connect to the TV's AV1 / AV2 for a DVD Recorder / VCR supporting Q-Link (p. 74).
- For HDMI-compatible equipment, possible to connect to HDMI terminals (HDMI1 / HDMI2 / HDMI3 / HDMI4) by using HDMI cable (p. 80).
- Network connection ➔ p. 14 and p. 63
- Q-Link connection ➔ p. 72
- VIERA Link connection ➔ p. 72 and p. 73
- Please also read the manual of the equipment being connected.

# Auto Setup

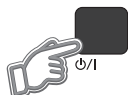
Search and store TV channels automatically.

- These steps are not necessary if the setup has been completed by your local dealer.
- Please complete connections (p. 10 and p. 11) and settings (if necessary) of the connected equipment before starting Auto Setup. For details of settings for the connected equipment, read the manual of the equipment.



1

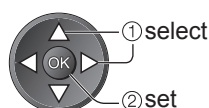
## Plug the TV into mains socket and switch On (Takes a few seconds to be displayed)



2

## Select the language

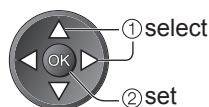
Menüsprache			
Deutsch	Dansk	Polski	Srpski
English	Svenska	čeština	Hrvatski
Français	Norsk	Magyar	Slovenščina
Italiano	Suomi	Slovenčina	Latviešu
Español	Türkçe	Български	eesti keel
Português	Ελληνικά	Română	Lietuvių
Nederlands			



3

## Select your country

Country		
Germany	Denmark	Poland
Austria	Sweden	Czech
France	Norway	Hungary
Italy	Finland	Slovakia
Spain	Luxembourg	Slovenia
Portugal	Belgium	Estonia
Switzerland	Netherlands	Lithuania
Malta	Turkey	Others
Andorra	Greece	

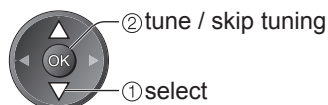


- Depending on the country you select, you may be required to select the Region. In this case, select your region.

4

## Select the mode you want to tune

TV Signal Selection	
<input checked="" type="checkbox"/>	DVB-C
<input checked="" type="checkbox"/>	DVB-T
<input checked="" type="checkbox"/>	DVB-T support for HD services
<input checked="" type="checkbox"/>	Analogue
Start Auto Setup	



- ☒ : tune (the mode will be tuned and searched for the available channels)
- ☐ : skip tuning

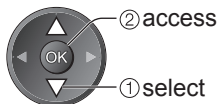
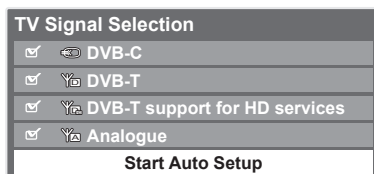
- "DVB-C" may not appear depending on the country you select (p. 91).



(continued to the next page)

5

## Select “Start Auto Setup”



### Auto Setup starts

Auto Setup will start to search for TV channels and store them.

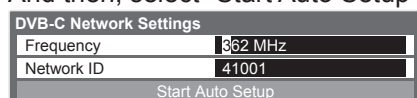
The stored channels and sorted channel order vary depending on the country, area, broadcasting system and conditions of signal reception.

**Auto Setup varies depending on the country you select.**

#### ● DVB-C Network Settings

Enter the Home Frequency and Network ID specified by your cable provider.

And then, select “Start Auto Setup”.



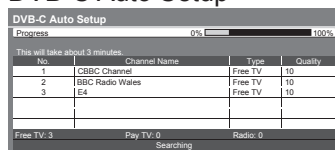
① enter the frequency and network ID



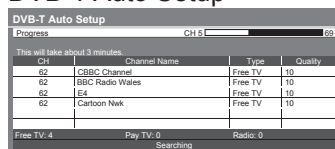
Depending on the country you select, “Auto” is displayed and you do not have to enter them. In this case, Home Frequency and Network ID will be set automatically.



#### ● DVB-C Auto Setup

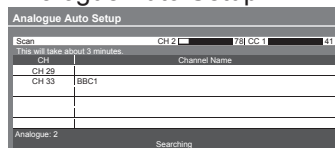


#### ● DVB-T Auto Setup



Depending on the country you select, the channel selection screen will be displayed after DVB-T Auto Setup if multiple channels have the same logical channel number. Select your preferred channel or exit the screen for automatic selections.

#### ● Analogue Auto Setup



- If Q-Link, VIERA Link or similar technology (p. 74 and p. 75) compatible recorder is connected, channel, language, country / region settings are automatically downloaded to the recorder.
- If downloading has failed, you can download later by the menu item. ➔ “Download” (p. 30)

(continued to the next page)

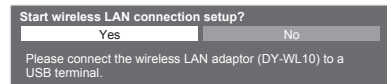
# Auto Setup

## 6 Setup the wireless LAN connection

Setup the wireless LAN connection to enable the network service functions (p. 62).

(If you do not wish to use wireless LAN connection or the network service functions, skip this step.)

- To setup the wireless LAN connection, the Wireless LAN Adaptor (optional accessory) is required. For the information about the Wireless LAN Adaptor ➔ “Optional accessories” (p. 6)
- Confirm the encryption key, settings and positions of your access point before starting setup. For details, read the manual of the access point.



You can setup the wireless LAN connection later ➔ “Network Setup” (p. 66)

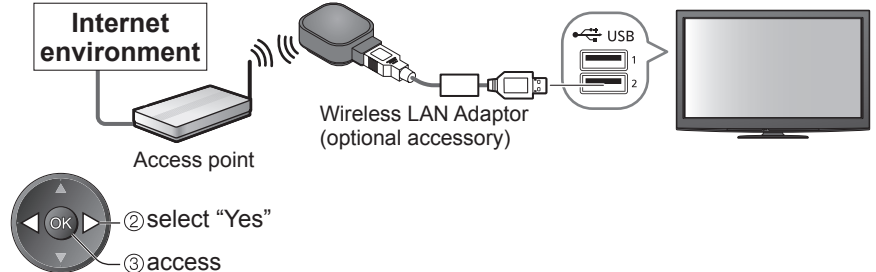
➔ “Network Setup” (p. 66)

- To skip this step

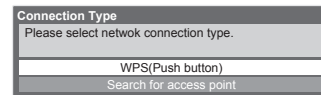
EXIT or select “No”



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



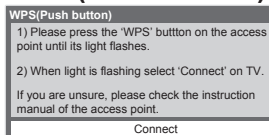
### Wireless LAN connection setup starts



Select the connection type



#### ■ WPS(Push button)



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.



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

#### ■ Search for access point

Access points found automatically are listed.

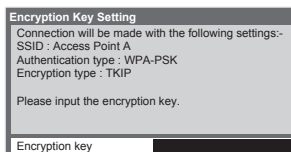
No.	SSID	Wireless type	Encrypt	Access point
1	Access Point A	11nG+DSSS	□	11nG+DSSS
2	Access Point B	11nG+DSSS	□	11nG+DSSS
3	Access Point C	11nG+DSSS	□	11nG+DSSS

Select your desired access point



🔒 : Encrypted access point

- To search access points again ➔ yellow
- For the information of the highlighted access point ➔ i
- To set manually (p. 67) ➔ red



Access the encryption key input mode

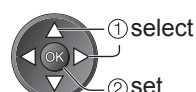


- If the selected access point is not encrypted, the confirmation screen will be displayed. It is recommended to select the encrypted access point.



Enter the encryption key of the access point

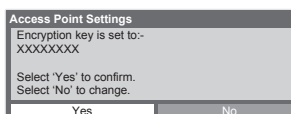
Set characters one by one



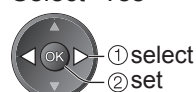
Store



- You can set characters by using numeric buttons.



Select “Yes”



- To re-enter the encryption key, select “No”.

- If the connection has failed, check the encryption key, settings and positions of your access point. And then, follow the on screen instructions.

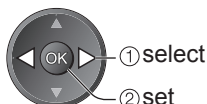
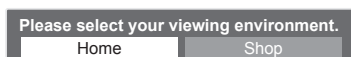


Exit to go to the next step OK



## 7 Select "Home"

Select "Home" viewing environment to use in your home environment.



**Auto Setup is now complete and your TV is ready for viewing.**



- To check channel list at-a-glance  
➔ "Using TV Guide" (p. 20)
- To edit or hide (skip) channels  
➔ "Tuning and Editing Channels" (p. 36 - 39)
- If tuning has failed, check the connection of the RF cable, and then, follow the on screen instructions.

### ■ "Shop" viewing environment (for shop display only)

"Shop" viewing environment is the demonstration mode to explain main features of this TV.

**Select "Home" viewing environment to use in your home environment.**

- You can return to viewing environment selection screen at the stage of Shop confirmation screen and Automatic Demo Off / On selection screen.

① Return to viewing environment selection screen



② Select "Home"



**Auto Setup is complete**

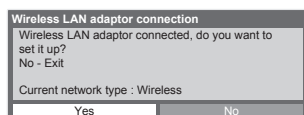
- To change viewing environment later on, you will need to initialise all settings by accessing Shipping Condition.  
➔ "Shipping Condition" (p. 45)

### Note


- If tuning has failed or to retune all channels ➔ "Auto Setup" (p. 34 and p. 35)
- To add the available TV mode later ➔ "Add TV Signal" (p. 31)
- To initialise all settings ➔ "Shipping Condition" (p. 45)
- To use a LAN cable instead of the Wireless LAN Adaptor ➔ p. 65
- If you turned the TV Off during Standby mode last time, the TV will be in Standby mode when you turn the TV On with Mains power On / Off switch.

**If you connect the Wireless LAN Adaptor later on, the confirmation screen will be displayed for the setup.**

- To setup the Wireless LAN connection ➔ p. 66 and p. 67




# Watching TV




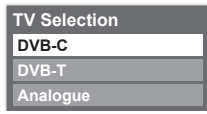
## 1 Turn power on

(Press for about 1 second)

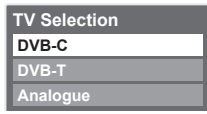
● Mains power On / Off switch should be On. (p. 9)



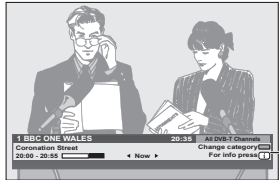
## 2 Select the mode

 → 

● The selectable modes vary depending on the stored channels (p. 12).  
● If "TV Selection" menu is not displayed, press the TV button to switch the mode.



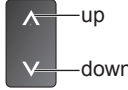

② access  
① select



Information banner appears whenever you select a channel  
● For details → p. 17



● Also possible to select the mode pressing the TV button repeatedly on the remote control or side panel of the TV. (p. 9)

## 3 Select a channel



 or 

● To select a more than two-digit channel position number, e.g. 399  
→ 3 def → 9 wxyz → 9 wxyz

■ To select from the Channel List

→  → 

① select channel  
② watch

● To change the category →  red  
● To sort channel names in alphabetical order →  blue

**Note**

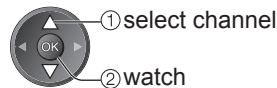
- To watch pay-TV  
→ "Using Common Interface" (p. 44)

## ■ Select a channel using Information banner (p. 17)

Possible to confirm the channel name and programme before changing channels.

Display Information banner if it is not displayed

While the banner is displayed, select the channel



- Possible to set display timeout in "Banner Display Timeout" (p. 32).

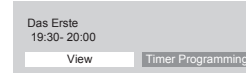
## ■ Select a channel using TV Guide (p. 20)

Possible to confirm the TV Guide (EPG) before changing channels.

Display TV Guide

Select the current programme or channel

Select "View" (DVB mode)



- The postcode entry or update may be required depending on the country you select (p. 12). Follow the on screen instructions.

- To use Timer Programming → p. 21

## Other useful functions

### Hold

Freeze / unfreeze picture



### Display Information banner

#### Display Information banner

● Also appears when changing a channel



Channel position and name

Category

● To change the category →

blue

Channel type (Radio, Data, HDTV, etc.)

Current time

Example (DVB):

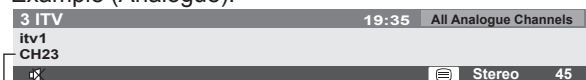
Programme

Programme  
Start / Finish time

Progress time indicator of the selected programme

Features available / Message meanings

Example (Analogue):



Channel number

● To confirm another tuned channel name



● To watch the channel listed in the banner → OK



● Information on the next programme (DVB) →



● To hide → EXIT



● Extra information (DVB) → (press again to hide the banner)



● To set display timeout  
→ "Banner Display Timeout" (p. 32)



Sound mute On

#### Bad signal

Poor TV signal quality

#### Encrypted

Scrambled programme

#### Dolby D +, Dolby D

Dolby Digital Plus or Dolby Digital audio track



Subtitle service available



Teletext service available



Multiple audio available



Multiple video available



Multiple audio and video available

#### Stereo, Mono

Audio mode

#### 1 - 90

Off Timer remaining time

● For settings → p. 19

# Watching TV

## Display subtitles

### Display / hide subtitles (if available)

- To change the language for DVB (if available)
  - ➔ "Preferred Subtitles" (p. 32)

STTL



### Note

- If you press the STTL button in Analogue mode, it switches to teletext service and calls up a favourite page (p. 23). Press the EXIT button to return to TV mode.

## Aspect

### Change the aspect ratio (image size)

ASPECT



Enjoy viewing the image at its optimum size and aspect.

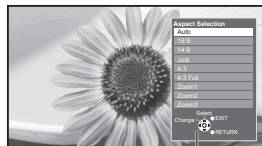
Normally programmes have the Aspect Control Signal (Widescreen signal, etc.), and the TV will choose the aspect ratio automatically according to the Aspect Control Signal (p. 82).

### ■ If you would like to change the aspect ratio manually

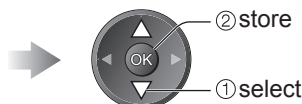
Display Aspect Selection list

While the list is displayed, select the mode

ASPECT



Aspect Selection list



- To change the mode using the ASPECT button only

➔ ASPECT (Press repeatedly until you reach the desired mode)

Auto



The best ratio is chosen and the image expanded to fill the screen.  
For details ➔ p. 82

16:9



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

4:3 Full



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

14:9



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

Zoom1



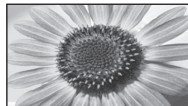
Displays a 16:9 letterbox or 4:3 image without distortion.

Just



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

Zoom2



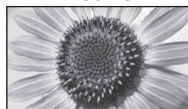
Displays a 16:9 letterbox (anamorphic) image full-screen without distortion.

4:3



Displays the image at the standard 4:3 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

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

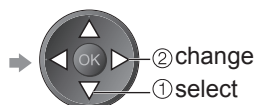
## Display the selectable settings for the current status

### Check or change the current status instantly

OPTION



- To change



#### Multi Video (DVB mode)

Allows you to select the image (if available)

- This setting is not memorized and it will return to the default setting once you exit the current programme.

#### Multi Audio (DVB mode)

Allows you to select between alternative language for sound tracks (if available)

- This setting is not memorized and it will return to the default setting once you exit the current programme.

#### Dual Audio (DVB mode)

Allows you to select stereo / monaural (if available)

#### Sub Channel (DVB mode)

Allows you to select the multifeed programme - sub channel (if available)

#### Subtitle Language (DVB mode)

Allows you to select the language in which subtitles should appear (if available)

#### Teletext Character Set

Sets the teletext language

- ➔ Setup Menu (p. 32)

#### Teletext Language (DVB mode)

Allows you to select between alternative language for teletext (if available)

#### MPX (Analogue mode)

Selects multiplex sound mode (if available)

- ➔ Sound Menu (p. 29)

#### Volume Correction

Adjusts volume of individual channel or input mode

#### USB Remove Safely

- Takes this operation to remove the connected USB device safely from the TV.

## Last view

### Switch to previously viewed channel or input mode easily



LAST VIEW

- Press again to return to the present view.

#### Note

- Switching channel is not available while the recording of Timer Programming, Direct TV Recording or One Touch Recording is in progress.
- Watching less than 10 sec. is not regarded as the previously viewed channel or input mode.

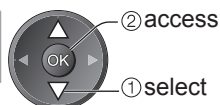
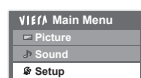
## Off Timer

### Turn the TV to Standby mode automatically after a fixed period

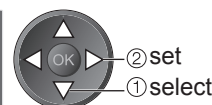
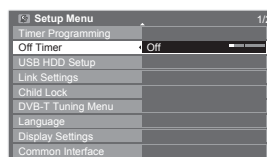
Display the menu



Select "Setup"



Select "Off Timer" and set the time



- To cancel ➔ Set to "Off" or turn the TV off.
- To display the remaining time ➔ Information banner (p. 17)

#### Note

- When the remaining time is within 3 minutes, the remaining time will flash on the screen.

# Using TV Guide

TV Guide - Electronic Programme Guide (EPG) provides an on screen listing of the programmes currently broadcast and the forthcoming broadcasts over the next seven days (depending on the broadcasters).

- This function varies depending on the country you select (p. 12).
- The postcode entry or update may be required to use the GUIDE Plus+ system depending on the country you select. ➔ "View advertisement" (p. 21)
- DVB-T and Analogue channels are displayed on the same TV Guide screen. "D" means DVB-T channel and "A" means Analogue channel. There will be no programme listings for Analogue channels.
- When this TV is turned on for the first time, or the TV is switched off for more than a week, it may take some time before the TV Guide is completely shown.



## 1 Select the mode

➔ p. 16

TV

## 2 View TV Guide

GUIDE

- To change the layout (Landscape / Portrait) view "Landscape" to see many channels view "Portrait" to see one channel at a time

GUIDE

TV Guide time

Example:

Current date and time	TV Guide date	Programme
Wed 28.10.2009 10:45	Wed 28.10.2009	All Types All Channels
	19:30-20:00	DIY SOS: We open in the Bakersbys
	20:00-20:30	DIY SOS
	20:30-21:00	The Bill
	21:00	Red Cap
	21:00-22:00	DIY SOS
	22:00-23:00	The Bill
	23:00-23:30	Red Cap
	23:30-00:00	Live junction
	23:30-00:00	POP 100
	23:30-00:00	Rugby

Advertisement Landscape (Displays by channel) Channel position and name

Example:

Current date and time	TV Guide date	Programme
Wed 28.10.2009 10:45	Wed 28.10.2009	All Types All Channels
	19:30-20:00	Das Erste
	20:00-20:30	DIY SOS
	20:30-21:00	The Bill
	21:00-22:00	Red Cap
	22:00-23:00	Live junction
	23:00-23:30	POP 100
	23:30-00:00	Rugby

Portrait (Displays by time)

### ■ To return to TV

EXIT

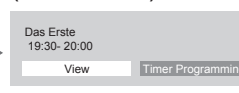


### ■ To watch the programme

Select the current programme or channel



Select "View" (DVB mode)



- To use Timer Programming ➔ p. 21

### ■ To the previous day (DVB mode)



### ■ To the next day (DVB mode)

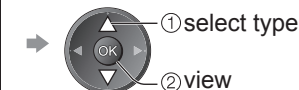


### ■ To view a channel list of the selected type (DVB mode)



Prog.Type
All Types
All Types
Movie
News
...
...
...

(Type list)



### ■ To view a channel list of the selected category



Category
All Channels
All Channels
All DVB-T Channels
All Analogue Channels
Free TV
Pay TV
HDTV
Free Radio
Pay Radio
Favourites1
Favourites2
Favourites3
Favourites4

(Category list)

Only Analogue channels are listed



- To list favourite channels ➔ p. 37

### ■ Depending on the country you select, you can select the TV Guide type

➔ "Default Guide" in "Display Settings" (p. 32)

If you select "Channel List", the channel list will appear when the GUIDE button is pressed.

All DVB-T Channels
5 Cartoon Nook
6 BBC Radio Wales
7 BBC Radio Cymru
8 BBC ONE Wales
9 BBC TWO Wales
10 BBC FOUR
11 BBC NEWS
12 BBC NEWS
13 BBC NEWS
14 BBC NEWS
15 BBC NEWS
16 BBC NEWS
17 BBC NEWS
18 BBC NEWS
19 BBC NEWS
20 BBC NEWS
21 BBC NEWS
22 BBC NEWS
23 BBC NEWS
24 BBC NEWS
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96 BBC NEWS
97 BBC NEWS
98 BBC NEWS
99 BBC NEWS
100 BBC NEWS

(Channel list)





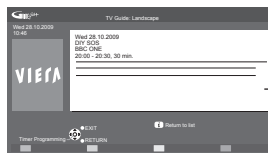
## Other useful functions

### View details of the programme (DVB mode)

#### Select the programme



#### View details



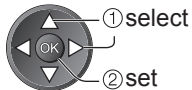
Details

- Press again to return to TV Guide.

### Timer Programming (DVB mode)

Timer Programming is a timer to remind watching or record the programme to the external recorder or the USB HDD.

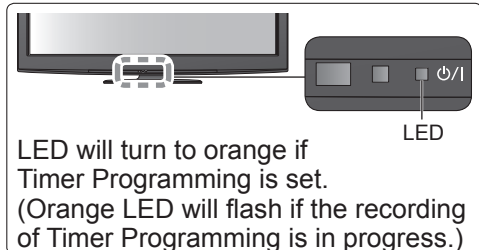
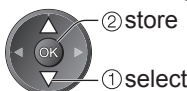
#### Select the forthcoming programme



#### Select the function (Ext Rec., USB HDD Rec. or Reminder)

Function	No.	Channel Name	Date	Start	End
Ext Rec.	1	BBC ONE	Wed 28.10.2009	20:00	20:30
		<TIMER>		(30 min.)	

(Timer Programming screen)



LED will turn to orange if Timer Programming is set. (Orange LED will flash if the recording of Timer Programming is in progress.)

Ext Rec. / : to record the programme to the external recorder (Ext Rec.) or the  
USB HDD Rec. USB HDD (USB HDD Rec.)

When the start time comes, the channel will be switched automatically and the video and audio signals will be output. 2 mins. before the starting time, a reminder message appears if you are watching TV.

Reminder : to remind watching the programme

When you are watching TV, a reminder message appears 2 mins. before the start time. Press the OK button to switch to the programmed channel.

#### ■ To check / change / cancel a timer programming event → "Timer Programming" (p. 41)

#### ■ To return to TV Guide →



#### ■ If you select the current programme

A confirmation screen whether you wish to watch or record it will appear.

Select "Timer Programming" and set "Ext Rec." or "USB HDD Rec." to record from the time you finish the timer programming event setting.



#### Note

- This function is not available in Analogue mode.
  - Timer Programming only works reliably if correct time information is received via the signal from the broadcaster or service provider.
  - No other channel can be selected while the recording of Timer Programming is in progress.
  - When recording programmes to the external recorder, be sure to make the proper settings on the recorder connected to the TV.
- If a compatible recorder with Q-Link, VIERA Link or similar technologies is connected to the TV (p. 74 and p. 75) and the "Link Settings" (p. 30) are completed, no setting of the recorder is required. Also read the manual of the recorder.
- When recording programmes to the USB HDD, be sure to register the USB HDD and enable it for recording in the "USB HDD Setup" (p. 50).

### View advertisement

#### Depending on the country you select, this TV supports the GUIDE Plus+ system in DVB-T or Analogue mode

The postcode entry or update is required. Follow the on screen instructions.

- Also possible to setup manually from the Setup Menu
  - ➔ "Update" / "Postcode" in "GUIDE Plus+ Settings" (p. 33)
- Enter your postcode when using this function for the first time. If you enter an incorrect postcode for your area, or no postcode is entered, advertisements may not be displayed correctly.

#### Display advertisement information

OPTION

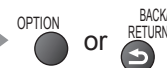


- To display the latest advertisement
  - ➔ "Update" in "GUIDE Plus+ Settings" (p. 33)

#### ■ To change advertisements →



#### ■ To return to TV Guide →



#### Note

- To update the information continuously, the TV must be left in Standby mode at night.

# Viewing Teletext

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



## What is FLOF (FASTEXT) mode?


In FLOF 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 TOP mode? (in case of TOP text broadcasting)

TOP is a particular improvement of the standard teletext service that results in an easier search and effective guide.

- Fast overview of the teletext information available
- Easy to use step-by-step selection of the topical subject
- Page status information at the bottom of the screen

Available page up / down ➡  


To select among subject blocks ➡ 

To select next subject within the subject block  
(After the last subject, it moves to the next subject block.) ➡ 

## 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. 23)

■ To change mode ➡ "Teletext" in the Setup Menu (p. 32)



**1** Switch to Teletext

● Displays the index page (content varies depending on the broadcasters)





**2** Select the page

1 2 3  
4 5 6  
7 8 9  
0



or


up  
OK  
down

or

(Corresponds to the colour bar)

■ To adjust contrast ➡  (press three times) ➡ 

■ To return to TV ➡ 

Sub page number

<< 01 02 03 04 05 06 07 >>

Current page number **P100** 17:51 28 Feb Time / date

**TELETEXT INFORMATION**

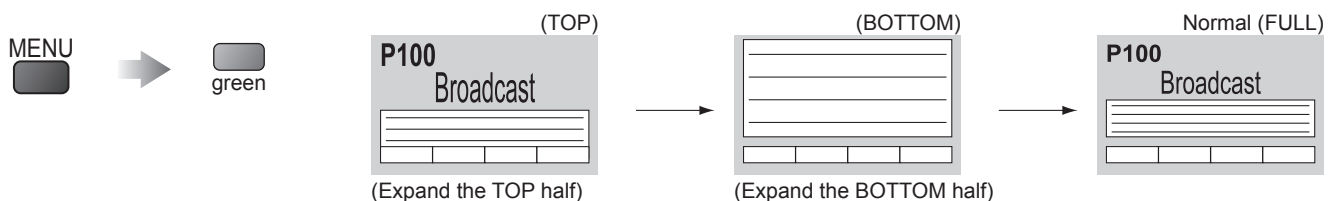
Colour bar

## Reveal hidden data

Reveal hidden words e.g. quiz page answers

MENU ➡  ● To rehide ➡ 

## FULL / TOP / BOTTOM



## HOLD

### Stop automatic updating

(If you wish to hold the current page without updating)

HOLD ● To resume ➡ 

## INDEX

### Return to the main index page



### Call up a favourite page

#### View a favourite page stored



- Call up the page stored on the blue button (List mode).
- Factory setting is "P103".

### View in multi window

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



(press twice)



Select Picture and text On or Off



- Operations can be made only in Teletext screen.

### Store frequently viewed pages

#### Store frequently viewed pages in the colour bar

(List mode only)

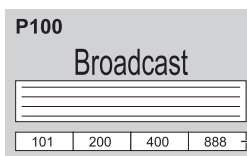
As page is displayed



Corresponding coloured button



press and hold



The number changes to white.

#### ■ To change stored pages

Enter new page number



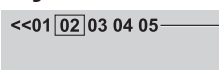
Coloured button you want to change



press and hold

### View sub page

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

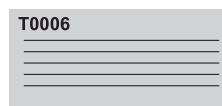


Appears at top of the screen

#### ■ 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 (up to 79 pages).  
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.

Changes to TV screen temporarily

View the updated page



Appears when updating is completed



(You cannot change the channel.)


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

# Watching External inputs

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

● To connect the equipment ➔ p. 10, 11 and p. 80

The Remote Control is capable of operating some functions of selected external equipment.



**1 Turn the TV on**

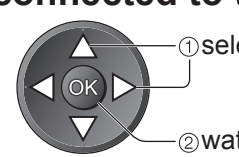
- **When connecting with SCART as example 2 or 3 (p. 11)**
  - ➔ Receives input signals automatically when playback starts
  - Input signals are automatically identified by the SCART (pin 8) terminal.
  - This function is also available for HDMI connections (p. 80).
- **If input mode is not switched automatically**
  - ➔ Perform ② and ③
  - Check the setup of the equipment.

**2 Display the Input select menu**

AV

**3 Select the input mode connected to the equipment**

Input Selection	
AV1	
AV2/S	---
AV3	
COMPONENT	
PC	
HDMI1	
HDMI2	
HDMI3	
HDMI4	
TV	
Media Server	



- You can also select the input using the AV button on the remote control or the side panel of the TV.  
Press the button repeatedly until the desired input is selected.
- You cannot select "Media Server" using the AV button on the side panel of the TV.
- In order to switch between AV2 and AV2S, move the indicator by pressing left and right cursor button.
- You can label or skip each input mode ➔ "Input Labels" (p. 43)  
Skipped inputs will not be displayed when the AV button is pressed.

**4 View**

Displays the selected mode

AV2

■ **To return to TV**










➔ TV

## Note

- If the external equipment has an aspect adjustment function, set to "16:9".
- For details, see the manual of the equipment or ask your local dealer.


## 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>Selection Switch for operating the connected equipment</b> Select "DVD/VCR" to operate Panasonic DVD Recorder, DVD Player, Player theatre, Blu-ray Disc theatre or VCR ➔ "How to change the code for the type of the equipment" (see below) Select "TV" to use USB HDD Recording, Media Player or VIERA Link ➔ "USB HDD Recording" (p. 52) ➔ "Media Player" (p. 58) ➔ "VIERA Link Control" (p. 78)
	<b>Standby</b> Set to Standby mode / Turn on
	<b>Play</b> Playback videocassette / DVD / video content
	<b>Stop</b> Stop the operations
	<b>Rewind / Skip / Search</b> VCR: Rewind, view the picture rapidly in reverse DVD / video content: Skip to the previous track or title (not available for the operation of USB HDD Recording) 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 (not available for the operation of USB HDD Recording) Press and hold to search forward
	<b>Pause</b> Pause / Resume DVD: Press and hold to play at slow speed
	<b>Channel Up / Down</b> Select channel
	<b>Record</b> Start recording

### ■ How to change the code for the type of the equipment

Each type of the Panasonic equipment has its own remote control code.  
Please change the code according to the equipment you want to operate.

① Set the position to "DVD/VCR" 

② Press and hold  during the following operations

Enter the appropriate code,  ➔ Press   
see table below

Type of the equipment	Code
DVD Recorder, DVD Player	70 (default)
Player theatre, Blu-ray Disc theatre	71
VCR	72

#### 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.

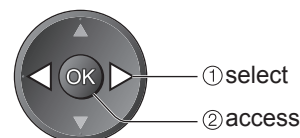
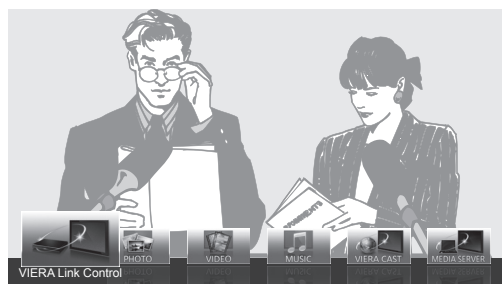
# How to Use VIERA TOOLS

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



## 1 Display icons of the feature

## 2 Select a feature



## 3 Follow the operations of each feature

- VIERA Link Control → “VIERA Link Control” (p. 78)



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. 56)



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. 58)



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. 61)



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

Please select the correct description and access.

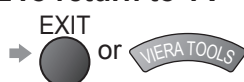
- VIERA CAST → “VIERA CAST™” (p. 71)



- Media Server → “Using DLNA® features” (p. 68)



### ■ To return to TV



### 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.



# 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: Picture Menu)
  - ② access
  - ① select
- 3 Select the item**  
  
 (example: Picture Menu)
  - select
- 4 Adjust or select**  
  
 (example: Picture Menu)
  - ① change
  - ② store or access (Required by some functions)

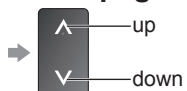
## ■To return to TV at any time



## ■To return to the previous screen



## ■To change menu pages



## ■Choose from among alternatives

Number and positions of alternatives



Changed

## ■Adjust using the slide bar



Moved

## ■Go to the next screen



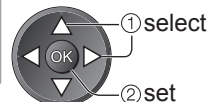
Displays the next screen

## ■Enter characters by free input menu

You can enter names or numbers freely for some items.



Set characters one by one



Store



- You can set characters by using numeric buttons.
- ➔ "Characters table for numeric buttons" (p. 84)

# How to Use Menu Functions

## ■ Menu list

Menu	Item	Adjustments / Configurations (alternatives)
Picture	<b>Viewing Mode</b>	<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><b>Dynamic</b> : Provides enhanced picture contrast and sharpness when viewing in a bright room.</p> <p><b>Normal</b> : Recommended for viewing under normal ambient room lighting conditions.</p> <p><b>Cinema</b> : For watching movies in a darkened room with the improved performance of contrast, black and colour reproduction</p> <p><b>THX (True Cinema)</b> : Precisely reproduces the original quality of the image without any revision.  THX mode is used to mirror the picture settings used by professional filmmakers, faithfully reproducing the image quality of THX Certified movies.  <ul style="list-style-type: none"> <li>● THX Certified movies have the "THX" logo on a disc.</li> <li>● "True Cinema" is displayed instead of "THX" in the mode of PC input, Media Player and Network service operations.</li> </ul> </p> <p><b>Game</b> : Fast response signal specifically to provide suitable images for playing games  <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.  ➔ "Playing Time Display" (p. 32)</li> </ul> </p> <p><b>Photo</b> : Set "Reversal Film" to "On" to provide the suitable image quality for photos  <ul style="list-style-type: none"> <li>● For HDMI input, Media Player and Network service operations</li> </ul> </p> <p><b>Professional 1 / 2</b> : Allows you to set the professional picture settings in "Advanced Settings", "Lock Settings" and "Copy Adjustment"  ➔ p. 48  <ul style="list-style-type: none"> <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> </p>
	<b>Contrast, Brightness, Colour, Sharpness</b>	Increases or decreases the levels of these options according to your personal preference
	<b>Tint</b>	<p>With an NTSC signal source connected to the TV, the picture hue can be adjusted to suit your taste</p> <ul style="list-style-type: none"> <li>● For NTSC signal reception only</li> </ul>
	<b>Colour Balance</b>	<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>
	<b>Vivid Colour</b>	<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>
	<b>Reversal Film</b>	<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>
	<b>Eco Mode</b>	<p>Automatic Brightness Control function  Adjusts picture settings automatically dependent on ambient lighting conditions (<b>Off / On</b>)</p>
	<b>P-NR</b>	<p>Picture Noise Reduction  Automatically reduces unwanted picture noise and flicker noise in the contoured parts of a picture (<b>Off / Min / Mid / Max</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>
	<b>3D-COMB</b>	<p>Makes still or slow moving pictures look more vivid (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>● Occasionally, whilst viewing still or slow moving pictures, colour patterning may be seen. Set to "On" to display sharper and more accurate colours.</li> <li>● For PAL or NTSC signal reception only</li> <li>● Not valid on RGB, S-Video, Component, PC, HDMI and Media Player</li> </ul>
	<b>Panel</b>	<p>Turns the screen off when you select "Off" (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>● The sound is active even if the screen turns off.</li> <li>● Press any buttons to turn the screen on.</li> <li>● This function is effective in reducing power consumption when listening to a sound without watching the TV screen.</li> </ul>
	<b>Reset to Defaults</b>	Press the OK button to reset the present Picture Viewing Mode of the selected input to the default settings

Menu	Item	Adjustments / Configurations (alternatives)
Sound	<b>Mode</b>	<p>Selects the basic sound mode (<b>Music / Speech / User</b>)</p> <ul style="list-style-type: none"> <li>● The selected mode affects all input signals.</li> </ul> <p>Music: Improves sound quality for watching music videos, etc. Speech: Improves sound quality for watching news, drama, etc.</p> <ul style="list-style-type: none"> <li>● Music and Speech modes use CONEQ™ brand equalization technology to improve sound quality. CONEQ equalizes acoustic power frequency response and corrects time and phase alignment errors of a speaker system. Speakers with CONEQ perform as near-perfect electro-acoustic transducers providing true to the original sound with the highest musically and intelligibility.</li> <li>● In Music and Speech modes, you can adjust “Bass” and “Treble” settings, and those settings will be stored for each mode.</li> </ul> <p>User: Adjusts the sounds manually by using the equalizer to suit your favourite sound quality.</p> <ul style="list-style-type: none"> <li>● 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)</li> </ul>
	<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>	<p>Adjusts the frequency level to suit your favourite sound quality</p> <ul style="list-style-type: none"> <li>● This function is available when “Mode” is set to “User”.</li> <li>● Select the frequency and change the frequency level by using the cursor button.</li> <li>● 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.</li> <li>● 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.</li> </ul>
	<b>Balance</b>	Adjusts volume level of right and left speakers
	<b>Headphone Volume</b>	Adjusts the volume of the headphones
	<b>Surround</b>	<p>Surround sound settings (<b>Off / V-Audio / V-Audio Surround</b>)</p> <p>V-Audio: Provides a dynamic enhancer of width to simulate improved spatial effects V-Audio Surround: Provides a dynamic enhancer of width and depth to simulate improved spatial effects</p>
	<b>Volume Correction</b>	Adjusts the volume of individual channel or input mode
	<b>Speaker Distance to Wall</b>	<p>Adjusts the low frequency sound (<b>Over 30cm / Up to 30cm</b>)</p> <ul style="list-style-type: none"> <li>● If the back space between the TV and wall is over 30 cm, “Over 30cm” is recommended.</li> <li>● If the back space between the TV and wall is within 30 cm, “Up to 30cm” is recommended.</li> </ul>
	<b>MPX</b>	<p>Selects multiplex sound mode (if available)</p> <ul style="list-style-type: none"> <li>● Normally: Stereo</li> <li>● Stereo signal cannot be received: Mono</li> <li>● M1 / M2: Available while mono signal is transmitted</li> <li>● Analogue mode only</li> </ul>
	<b>Audio Preference</b>	<p>Selects the initial setting for audio tracks (<b>Auto / MPEG</b>)</p> <p>Auto : Automatically selects the audio tracks if programme has more than two tracks. The priority is given in the following order - Dolby Digital Plus, HE-AAC, Dolby Digital, MPEG.</p> <p>MPEG : The priority is given to MPEG as long as the programme contains MPEG audio.</p> <ul style="list-style-type: none"> <li>● Dolby Digital Plus and Dolby Digital are the methods of coding digital signals developed by Dolby Laboratories. Apart from stereo (2ch) audio, these signals can be multi-channel audio.</li> <li>● HE-AAC is a perceptual coding method used to compress digital audio for efficient storage and transmission.</li> <li>● MPEG is an audio compression method that compresses audio to the smaller size without any considerable loss of audio quality.</li> <li>● Dolby Digital Plus and HE-AAC are the technologies for HD (High definition) programmes.</li> <li>● DVB mode only</li> </ul>

- A different menu will be displayed when “Advance(isfccc)” in the Setup Menu is set to “On” or in the mode of PC input, Media Player or Network service operations. (p. 47 - 49, 55 - 61 and p. 70)
- Only available items can be selected.

# How to Use Menu Functions

Menu	Item	Adjustments / Configurations (alternatives)
Sound	<b>SPDIF Selection</b>	<p>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 Plus and Dolby Digital are output as Dolby Digital Bitstream.                      HE-AAC (48 kHz) 5.1ch is output as DTS.                      MPEG is output as PCM.            PCM : Digital output signal is fixed to PCM.            ● For DVB mode, Network video contents (p. 69) or Video mode (p. 58)</p>
	<b>MPEG Optical Level</b>	<p>Adjusts the audio level of MPEG output from DIGITAL AUDIO OUT terminal as the initial setting (<b>0 / -2 / -4 / -6 / -8 / -10 / -12dB</b>)            ● Normally, MPEG sound is larger comparing with the other types of audio track.            ● DVB mode only</p>
	<b>HDMI1 / 2 / 3 / 4 Input</b>	<p>Select to fit the input signal (<b>Digital / Analogue</b>) (p. 85)            Digital : HDMI cable connection            Analogue : HDMI-DVI adapter cable connection            ● HDMI input mode only</p>
	<b>SPDIF Delay</b>	<p>Adjusts the delay time of the sound output from DIGITAL AUDIO OUT terminal if the sound does not synchronize the image            ● DVB mode only</p>
	<b>Reset to Defaults</b>	<p>Press the OK button to reset the present Sound Mode, Balance, Headphone Volume and Surround to the default settings</p>
Setup	<b>Timer Programming</b>	<p>Sets a timer to remind watching or record forthcoming programmes (p. 40)            ● DVB mode only</p>
	<b>Off Timer</b>	<p>Sets the time the TV automatically goes to Standby mode (<b>Off / 15 / 30 / 45 / 60 / 75 / 90 minutes</b>) (p. 19)</p>
	<b>USB HDD Setup</b>	<p>Register the connected USB HDD and makes the settings for the recording (p. 50)</p>
	<b>VIERA Link</b>	<p>Sets to use VIERA Link functions (<b>Off / On</b>) (p. 75)</p>
	<b>HDMI Content Type</b>	<p>Adjusts the picture settings according to the content type signal 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.</p>
	<b>Q-Link</b>	<p>Selects which AV terminal is to be used for data communication between this TV and a compatible recorder (<b>AV1 / AV2</b>) (p. 74)            ● Select the connected terminal to the recorder even it is not compatible with Q-Link.</p>
	<b>AV1 / AV2 out</b>	<p>Chooses the signal to be transmitted from the TV to Q-Link (<b>TV / AV1 / AV2 / AV3 / Monitor</b>)            ● Monitor: Image displayed on screen            ● Component, PC and HDMI signals cannot be outputted.</p>
	<b>Power on Link</b>	<p>Sets to use Power on Link function (<b>Off / On</b>) (p. 74 and p. 75)</p>
	<b>Power off Link</b>	<p>Sets to use Power off Link function (<b>Off / On</b>) (p. 74 and p. 75)</p>
	<b>Standby Power Save</b>	<p>Controls the power consumption in Standby mode of the connected equipment to reduce the consumption (<b>Off / On</b>) (p. 76)            ● This function is available when "VIERA Link" is set to "On" and "Power off Link" is set to "On".</p>
	<b>Intelligent Auto Standby</b>	<p>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. 76)            ● This function is available when "VIERA Link" is set to "On".</p>
	<b>Download</b>	<p>Downloads channel, language, country / region settings to a Q-Link or VIERA Link compatible equipment connected to the TV            ● DVB-C channel setting cannot be downloaded.</p>
	<b>Child Lock</b>	<p>Locks a channel / AV input to prevent access to it (p. 42)</p>

Menu	Item	Adjustments / Configurations (alternatives)
Setup	DVB-C Tuning Menu	<b>Favourites Edit</b> Creates list of favourite DVB-C channels (p. 37)
		<b>Channel List</b> Skips the unwanted DVB-C channels or edits DVB-C channels (p. 37)
		<b>Auto Setup</b> Automatically sets the DVB-C channels supplied (p. 34)
		<b>Manual Tuning</b> Sets the DVB-C channels manually (p. 37)
		<b>Update Channel List</b> Updates DVB-C Channel List while keeping your settings (p. 36)
		<b>Favourite Network</b> Selects your favourite network for each broadcasters (only available in some countries)
		<b>New Channel Message</b> Selects whether to give a notification message when a new DVB-C channel is found ( <b>Off / On</b> ) (p. 36)
		<b>Signal Condition</b> Checks the DVB-C signal condition (p. 36)
		<b>Attenuator</b> Automatically reduces the DVB-C signal to avoid the interference ( <b>Off / On</b> ) (p. 36)
		<b>Add TV Signal</b> Adds the TV mode ● This function is available if you skip any modes to tune in “Auto Setup” for first using the TV. ● To operate, refer to the “Auto Setup” operations for first using the TV (p. 12 and p. 13).
	DVB-T Tuning Menu	<b>Favourites Edit</b> Creates list of favourite DVB-T channels (p. 37)
		<b>Channel List</b> Skips the unwanted DVB-T channels or edits DVB-T channels (p. 37)
		<b>Auto Setup</b> Automatically sets the DVB-T channels received in the area (p. 35)
		<b>Manual Tuning</b> Sets the DVB-T channels manually (p. 37)
		<b>Update Channel List</b> Updates DVB-T Channel List while keeping your settings (p. 36)
		<b>Favourite Network</b> Selects your favourite network for each broadcasters (only available in some countries)
		<b>New Channel Message</b> Selects whether to give a notification message when a new DVB-T channel is found ( <b>Off / On</b> ) (p. 36)
		<b>Signal Condition</b> Checks the DVB-T signal condition (p. 36)
		<b>Add TV Signal</b> Adds the TV mode ● This function is available if you skip any modes to tune in “Auto Setup” for first using the TV. ● To operate, refer to the “Auto Setup” operations for first using the TV (p. 12 and p. 13).
	Analogue Tuning Menu	<b>Channel List</b> Skips the unwanted Analogue channels or edits Analogue channels (p. 39)
		<b>Auto Setup</b> Automatically sets the Analogue channels received in the area (p. 35)
		<b>Manual Tuning</b> Sets the Analogue channels manually (p. 39)
		<b>Add TV Signal</b> Adds the TV mode ● This function is available if you skip any modes to tune in “Auto Setup” for first using the TV. ● To operate, refer to the “Auto Setup” operations for first using the TV (p. 12 and p. 13).

● A different menu will be displayed when “Advance(isfcc)” in the Setup Menu is set to “On” or in the mode of PC input, Media Player or Network service operations. (p. 47 - 49, 55 - 61 and p. 70)

● Only available items can be selected.



# How to Use Menu Functions

Menu	Item	Adjustments / Configurations (alternatives)
Setup	Language	<b>OSD Language</b> Changes language for on screen displays
		<b>Preferred Audio 1 / 2</b> Selects the first and second preferred language for DVB multi audio (depending on the broadcaster)
		<b>Preferred Subtitles 1 / 2</b> Selects the first and second preferred language for DVB subtitles (depending on the broadcaster) ● To display subtitles ➔ p. 18
		<b>Preferred Teletext</b> Selects the preferred language for DVB teletext service (depending on the broadcaster)
	Display Settings	<b>Preferred Subtitle Type</b> Selects the preferred subtitle type ( <b>Standard / Hard of Hearing</b> ) ● "Hard of Hearing" provides aids in understanding and enjoyment with DVB subtitles (depending on the broadcaster). ● "Preferred Subtitles 1 / 2" in "Language" are given priority.
		<b>Teletext</b> Teletext display mode ( <b>TOP (FLOF) / List</b> ) (p. 22)
		<b>Teletext Character Set</b> Selects teletext language ( <b>West / East1 / East2</b> ) ● West: English, French, German, Greek, Italian, Spanish, Swedish, Turkish, etc. ● East1: Czech, English, Estonian, Lettish, Rumanian, Russian, Ukrainian, etc. ● East2: Czech, Hungarian, Lettish, Polish, Rumanian, etc.
		<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>Default Guide</b> Selects the default TV Guide type when the GUIDE button is pressed ( <b>TV Guide / Channel List</b> ) TV Guide : Electronic Programme Guide (EPG) is available. ● To use EPG ➔ p. 20 Channel List: EPG is not available and the channel list will appear instead of it.
		<b>Input Labels</b> Labels or skips each input terminal (p. 43)
		<b>Banner Display Timeout</b> Sets how long the Information banner (p. 17) stays on screen ( <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. 28).
		<b>Radio Mode</b> Sets the timer for turning off the screen automatically when a radio channel is selected ( <b>Off / 5 / 10 / 15 / 20 seconds</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 radio channel.
	<b>Common Interface</b> Uses include to watch pay-TV (p. 44)	
	<b>Network Setup</b> Sets the network setting to use in your network environment (p. 64)	
	<b>DivX® VOD</b> Displays DivX VOD registration code (p. 83)	
	<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.	



Menu	Item		Adjustments / Configurations (alternatives)	
Setup	System Menu	USB Keyboard Layout	Selects the language that your USB Keyboard supports <ul style="list-style-type: none"><li>● Use a USB Keyboard to enter characters in VIERA CAST (p. 71).</li><li>● Characters may not be displayed correctly on the TV screen depending on the connected keyboard or the keyboard layout setting.</li></ul>	
		Shipping Condition	Resets all settings, for example, when moving house (p. 45)	
		System Update	Downloads new software to TV (p. 46)	
		Software Licence	Displays the software licence information	
		System Information	Displays the system information of this TV	
	Other Settings	AV Colour System	Selects optional colour system based on video signals in AV mode ( <b>Auto / PAL / SECAM / M.NTSC / NTSC</b> )	
		GUIDE Plus+ Settings	Update	Performs the update of the GUIDE Plus+ schedule and advertising informations for the GUIDE Plus+ system (p. 21)
			Postcode	Sets your postcode to display advertisements in the GUIDE Plus+ system (p. 21)
			System Information	Displays the system information of the GUIDE Plus+ system
		Intelligent Frame Creation	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>● 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>	
		24p Smooth Film	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>	
		Super Resolution	Enhances the picture resolution to make the image sharper ( <b>Off / Mid / Max</b> ) <ul style="list-style-type: none"><li>● This function is available for SD (Standard definition) signal.</li><li>● As for HD (High definition) signal, this function is available when aspect mode is set to 16:9 (16:9 Overscan is set to “On”), 4:3 Full or Zoom.</li><li>● Not valid on PC, VIERA CAST and Media Player</li></ul>	
		Auto Standby	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>● Starting Timer Programming automatically does not affect this function.</li><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>	
		Power Save	Reduces brightness of picture to economise on power consumption ( <b>Off / On</b> )	
		16:9 Overscan	Selects the screen area displaying the image ( <b>Off / On</b> ) On : Enlarged the image to hide the edge of the image. Off : Displayed the image in the original size. <ul style="list-style-type: none"><li>● Set to “On” if noise is generated on the edge of the screen.</li><li>● This function is available when aspect is set to Auto (16:9 signal only) or 16:9.</li><li>● This function can be memorized separately for SD (Standard definition) and HD (High definition) signals.</li></ul>	
		Time Zone	Adjusts the time data <ul style="list-style-type: none"><li>● The time data will be corrected based on GMT.</li><li>● Set to “Auto” to adjust the time automatically according to your area.</li></ul>	
		DVI Input Setting	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><li>● For HDMI input mode with DVI input signal only</li></ul>	

● A different menu will be displayed when "Advance(isfccc)" in the Setup Menu is set to "On" or in the mode of PC input, Media Player or Network service operations. (p. 47 - 49, 55 - 61 and p. 70)

● Only available items can be selected.

# Retuning from Setup Menu

## DVB-C channels

Automatically retune all the DVB-C channels supplied.

- This function is available if DVB-C channel tuning is already performed.
- Only DVB-C channels are retuned.
- All the previous tuning settings are erased.
- If a Child Lock PIN number (p. 42) has been set, it must be entered.



1

### Select DVB-C

→ p. 16

TV

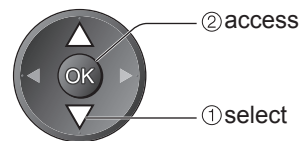
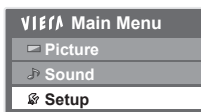
2

### Display the menu

MENU

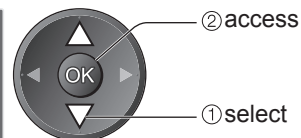
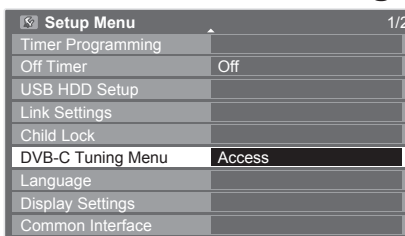
3

### Select "Setup"



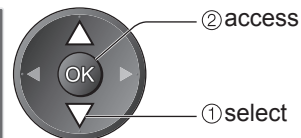
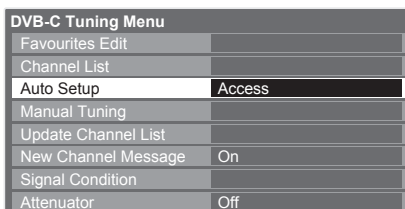
4

### Select "DVB-C Tuning Menu"



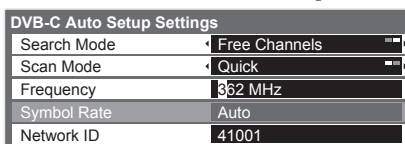
5

### Select "Auto Setup"



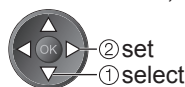
6

### Set the Auto Setup settings



- Normally set Symbol Rate "Auto".

• Search mode, Scan mode



- Frequency, Network ID



Store

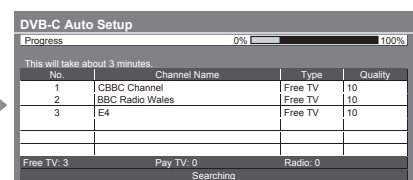
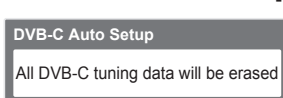


Full: scans the whole frequency range  
Quick: scans the suitable frequency in your country

Enter the Home Frequency and Network ID specified by your cable provider. Depending on the country you select, "Auto" is displayed and you do not have to enter them.

7

### Start Auto Setup



Settings are made automatically

#### ■ To return to TV



#### ■ For Auto Setup, using the buttons on the side panel of the TV (p. 9)

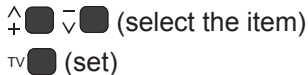
- ① Press repeatedly until "Auto Setup" appears



- ② Access "Auto Setup"



- ③ Set the search mode and scan mode



TV (set)

- ④ Start "Auto Setup"



- To return to TV → F

#### Note

- If tuning has not been done completely → "Manual Tuning" (p. 37)

When the operation is completed, the channel at the lowest position will be displayed.

## DVB-T or Analogue channels

Automatically retune all DVB-T or Analogue channels received in the area.

- Auto Setup is available if channel tuning is already performed.
- Only DVB-T channels are retuned in DVB-T mode.
- Only Analogue channels are retuned in Analogue mode.
- All the previous tuning settings are erased.
- If a Child Lock PIN number (p. 42) has been set, it must be entered.

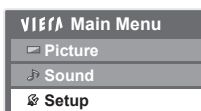


### 1 Select DVB-T or Analogue

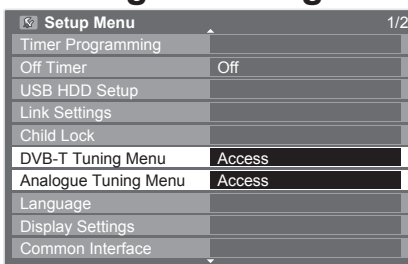
→ p. 16

### 2 Display the menu

### 3 Select "Setup"

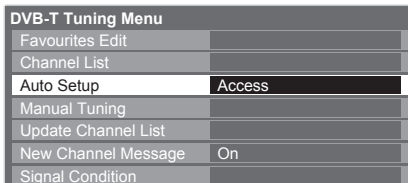


### 4 Select "DVB-T Tuning Menu" or "Analogue Tuning Menu"

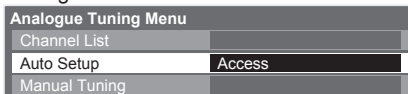


### 5 Select "Auto Setup"

DVB-T:

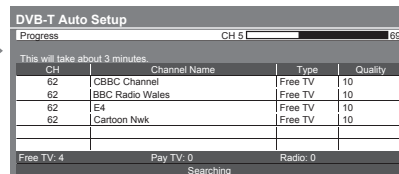
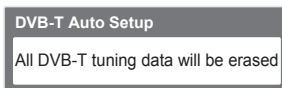


Analogue:

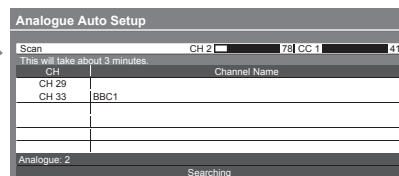
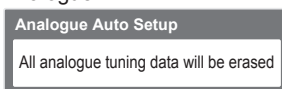


### 6 Start Auto Setup

DVB-T:



Analogue:



Settings are made automatically

#### ■ To return to TV



#### ■ For Auto Setup, using the buttons on the side panel of the TV (p. 9)

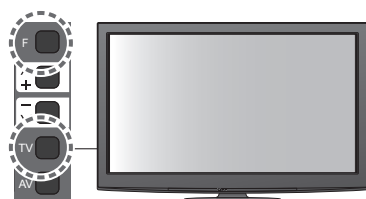
- ① Press repeatedly until "Auto Setup" appears



- ② Access "Auto Setup"



- ③ Start "Auto Setup"



- To return to TV → F

#### Note

- If tuning has not been done completely  
→ "Manual Tuning" (p. 37 and p. 39)


- The channel, language, country / region settings are downloaded to a Q-Link or VIERA Link compatible equipment connected to the TV.



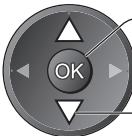

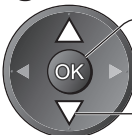
**When the operation is completed, the channel at channel position "1" will be displayed.**


# Tuning and Editing Channels

## (DVB)

You can retune channels or make your favourite channel lists, skip unwanted channels, etc.



- 1 Select DVB-C or DVB-T**    
 ➔ p. 16
- 2 Display the menu** 
- 3 Select "Setup"**    
 ② access  
 ① select
- 4 Select "DVB-C Tuning Menu" or "DVB-T Tuning Menu"**    
 ② access  
 ① select  
 ● "DVB-C Tuning Menu" is available in DVB-C mode only.  
 ● "DVB-T Tuning Menu" is available in DVB-T mode only.
- 5 Select one of the following functions and set**    
 ② access  
 ① select  
 ● The function items vary depending on the country you select (p. 12).  
 ● Auto Setup ➔ "Retuning from Setup Menu" (p. 34 and p. 35)

**To return to TV**  
 EXIT 

## Update DVB channel automatically **Update Channel List**

You can add new channels, delete removed channels, update channel name and position automatically to Channel List.

DVB-T Update Channel List			
Process	CH 5	dB	
This will take about 3 minutes.			
Ch	Channel Name	Type	Quality
Free TV: 0			
Pay TV: 0			
Searching			
Radio: 0			

- Channel List is updated while keeping your settings in Favourites Edit, Channel List, Child Lock, etc.

## Display a notification message **New Channel Message**

Selects whether to give a notification message when a new DVB channel is found. (Off / On)

New channels found!  
Press OK to update channel list.  
Press EXIT to ignore.

- Selecting OK will perform "Update Channel List".

## Check DVB signal **Signal Condition**

Selects a channel and checks the DVB signal condition.

- To change the channel ➔ 

DVB-T Signal Condition			
Channel Name	70 CBBC Channel		
Signal Quality	0		10
Signal Strength	0		10
Bit Error Rate	0.00E+00		
Network Name	Wenvoe		
Parameter	[CH62] 802.00 MHz		

A good Signal Strength is not an indication of suitable signal for DVB reception. Please use the Signal Quality indicator as follows:

### Signal Quality:

- Green bar ➔ Good
- Yellow bar ➔ Poor
- Red bar ➔ Bad (Check the Terrestrial aerial or cable)

## Reduce the DVB-C signal **Attenuator**

If the DVB-C signal is too strong, the interference may occur. In this case set to "On" to reduce the signal automatically.

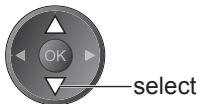
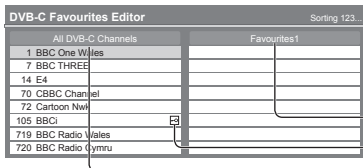
- This function is available only for DVB-C signal.

## List favourite DVB channels **Favourites Edit**

Create your favourite channel lists from various broadcasters (up to 4: Favourites1 to 4).

The DVB Favourites lists are available from "Category" in the Information banner (p. 17) and the TV Guide (p. 20).

### ① Select a channel to list



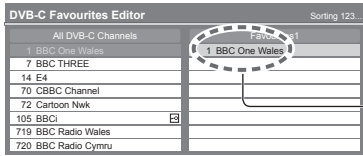
Encrypted channel

● To sort channel names in alphabetical order → blue

● To display other Favourites → green

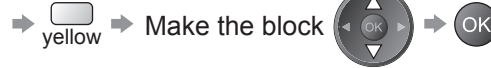
● To change the category → red

### ② Add it to the Favourites list



A channel is added

● To add continuous block of channels to the list at once



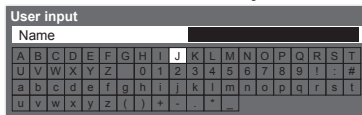
### ■ To edit Favourites list



Select the field of Favourites to edit and:

● To name the Favourites → red

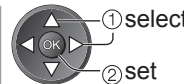
Set characters one by one



(maximum: ten characters)

You can set characters by using numeric buttons.

→ "Characters table for numeric buttons" (p. 84)



● To move the channel → green

Select the new position



Store  
green

### ③ Store



## Skip unwanted DVB channels, Edit DVB Channels **Channel List**

You can hide unwanted DVB channels.

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

### Select a channel and reveal / hide



① select

② reveal / hide

☒: reveal  
☐: hide (skip)

● To reveal all channels



### ■ To edit channels

You can also edit each channel in Channel List.

● To change the category → red

● To swap the channel position (if available) → green

Enter the new position number



Store  
green

● To move the channel position (if available) → green

Select the new position



Store  
green

● To sort channel names in alphabetical order → blue

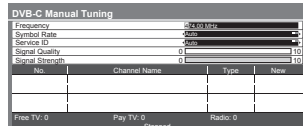
## Set DVB channel manually **Manual Tuning**

Normally use "Auto Setup" or "Update Channel List" to retune DVB channels.

If tuning has not been done completely or for adjusting the direction of the aerial, use this function.

● All channels found will be added to the Channel List.

DVB-C:



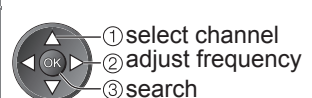
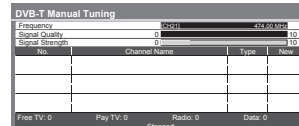
Enter the frequency



Search



DVB-T:





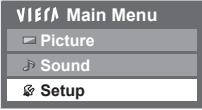

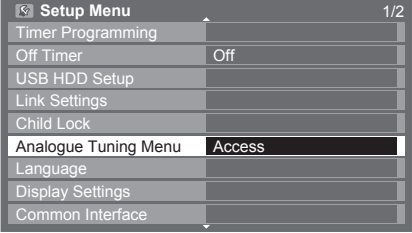

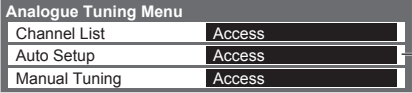

● Normally set Symbol Rate and Service ID to "Auto".


● Set where the level of "Signal Quality" becomes the maximum.

# Tuning and Editing Channels

## (Analogue)

You can retune channels or skip unwanted channels, edit channels etc.

- 1 Select Analogue**  
 ➔ p. 16  

- 2 Display the menu**  

- 3 Select "Setup"**  


- 4 Select "Analogue Tuning Menu"**  


- 5 Select one of the following functions**  


  - The function items vary depending on the country you select (p. 12).
  - Auto Setup  
 ➔ "Retuning from Setup Menu" (p. 35)
- 6 Set**

**■ To return to TV**  
 EXIT  
 ➔ 

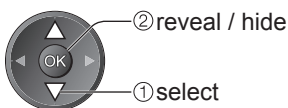
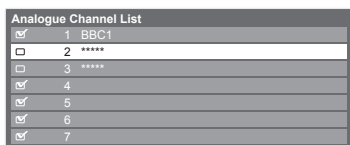


## Skip unwanted Analogue channels, Edit Analogue channels Channel List

You can hide unwanted Analogue channels.

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

### Select a channel and reveal / hide



☒ : reveal  
☐ : hide (skip)

● To reveal all channels  
➔ yellow

### ■ To edit channels

You can also edit each channel in Channel List.



Select a channel to edit and:

● To retune each channel (Manual Tuning) ➔ red (see below)

● To move the channel position ➔ green ➔ Select the new position ➔ Store green

● To rename the channel name ➔ blue ➔ Set characters one by one

Edit channel name  
 Name  
 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 I #  
 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 ( ) + - \* '

Store  
BACK/  
RETURN

(maximum: five characters)  
● You can set characters by using numeric buttons.  
➔ "Characters table for numeric buttons" (p. 84)

#### Note

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

## Set Analogue channel manually Manual Tuning

### ■ Fine Tuning

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

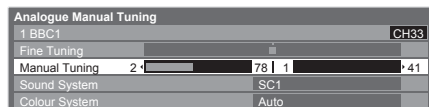
### ■ Manual Tuning

Set Analogue channel manually after Auto Setup.

● Set Sound System and Colour System, and then perform this function.

Normally set Colour System "Auto".

● If a VCR is connected only with the RF cable, select channel position "0".



SC1: PAL B, G, H / SECAM B, G  
SC2: PAL I  
SC3: PAL D, K / SECAM D, K  
F: SECAM L, L'

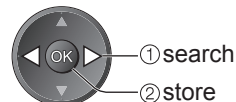
Select the channel position



Select the channel



Search and store



# Timer Programming

## Timer Programming from Menu

The Timer Programming menu allows you to choose programmes that you wish to remind watching or record to the external recorder or the USB HDD. At the correct time, the TV will tune to the correct channel even if the TV is in Standby mode.

TV Guide may also be used to set timer programming event (p. 21).

- This function is not available in Analogue mode.
- Timer Programming can store up to 15 events.
- Timer Programming only works reliably if correct time information is received via the signal from the broadcaster or service provider.
- For recording using Timer Programming, the TV must be either On or in standby. For reminders to be displayed, the TV must be On.
- No other channel can be selected while the recording of Timer Programming is in progress.
- It may not be possible to record an encrypted programme (which is copy-protected).
- When recording programmes to the external recorder, be sure to make the proper settings on the recorder connected to the TV.

If a compatible recorder with Q-Link, VIERA Link or similar technologies is connected to the TV (p. 74 and p. 75) and the "Link Settings" (p. 30) are completed, no setting of the recorder is required. Also read the manual of the recorder.

- If the recorder is not compatible with Q-Link, VIERA Link or similar technologies, set "Q-Link" in the Setup Menu (p. 30) to the connected terminal (AV1 or AV2), and make timer programming of the recorder. For preparations of a recorder, read the manual of the recorder.
- When recording programmes to the USB HDD, be sure to register the USB HDD and enable it for recording in the "USB HDD Setup" (p. 50).
- Recordings are always in standard definition composite video via SCART, even if the original programme is in high definition.
- 2 mins. before the starting time, a reminder message appears if you are watching TV.

• To remove the message and start the programming → **OK**

• To cancel the programming → **EXIT**



### 1 Select the mode you want to set

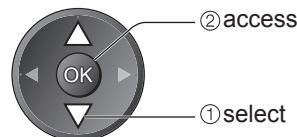
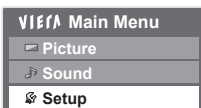
→ p. 16

**TV**

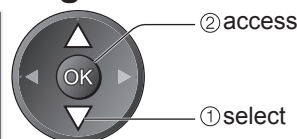
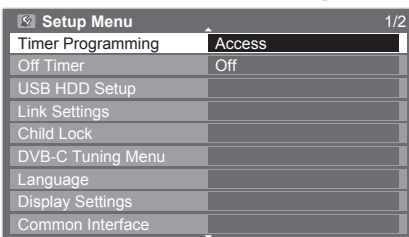
### 2 Display the menu

**MENU**

### 3 Select "Setup"



### 4 Select "Timer Programming"



■ To return to TV

→ **EXIT**

■ To unlock the tuner (stop recording)

→ **GUIDE** → **EXIT**

### 5 Set

## ① Start making the settings



## ② Select the function (Ext Rec., USB HDD Rec. or Reminder)



select

Ext Rec. / : to record the programme to the external recorder (Ext Rec.) or the USB HDD Rec. USB HDD (USB HDD Rec.)

When the start time comes, the channel will be switched automatically and the video and audio signals will be output. 2 mins. before the starting time, a reminder message appears if you are watching TV.

Reminder : to remind watching the programme  
When you are watching TV, a reminder message appears 2 mins. before the start time.  
Press the OK button to switch to the programmed channel.

## ③ Set the channel, date and time (repeat the operations as below)

Set items in the order of ① to ④.



select the item



set

①, ③ and ④ can also be entered with numeric buttons.



Displayed if the timer programming events are overlapped

Timer Programming USB HDD Remaining Capacity 500GB (50%) Wed 28.10.2009 10:46				
Function	No.	Channel Name	Date	Start End
Reminder	D 7	BBC7 <TIMER>	Wed 28.10.2009	17:00   18:30 (90 min.)
Ext Rec.	D 1	BBC1 <TIMER>	STTL Wed 28.10.2009	18:00   20:00 (120 min.)
Ext Rec.	C 3	ITV1 <TIMER>	Thu 29.10.2009	21:30   22:30 (60 min.)

Information of the USB HDD (if available)

Records with subtitles (if available)

To indicate this (press again to remove subtitles)

Duration (automatic display)

④ Ending time

③ Starting time

① Channel number

② Date

C: DVB-C  
D: DVB-T

You cannot change the mode within the menu.



one day ahead

daily or weekly (press repeatedly)

- Daily Sun-Sat: Sunday to Saturday
- Daily Mon-Sat: Monday to Saturday
- Daily Mon-Fri: Monday to Friday
- Weekly Sat/Fri/Thu/Wed/Tue/Mon/Sun: Same time on the same day every week

## ④ Store



### ■ To change a timer programming event

→ Select the programme to be changed



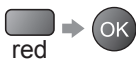
② access

① select

→ Correct as necessary (as above)

### ■ To cancel a timer programming event

→ Select the programme to be deleted



red



### ■ To record with subtitles (if available)

→ Select the programme to record with subtitles



yellow

● Each time pressed: auto ↔ off

### ■ To cancel a timer programming event temporarily

→ Select the programme to be cancelled



blue

● Each time pressed: cancel ↔ stop cancelling

- Check that the LED is orange. If not, timer programmes are not active or not stored.
- Timer Programming reminder messages will remain displayed until one of the following occurs:
  - You press the OK button to view the programme or the EXIT button to cancel the reminder.
  - The timer programming event that the reminder is set for ends.
- "!" identifies that any timer programming events have overlapped. "Ext Rec." and "USB HDD Rec." are given priority over "Reminder". As for the overlapped two or more "Ext Rec." / "USB HDD Rec.", the first timer programming event starts and finishes as programmed. The next timer programming event can then start.
- The recording of Timer Programming will automatically change to the programmed channel 10 seconds before the start time.
- To stop recording the timer programming event directly prior to the start time, it may be necessary to stop the recorder manually.
- The recording of Timer Programming will be performed even if the TV is in REW LIVE TV recording (p. 53) and Pause Live TV recording (p. 77). In this case, these recordings will be cancelled.

# 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"**  
VIEW Main Menu  
Picture  
Sound  
Setup

**3 Select "Child Lock"**  
Setup Menu  
Timer Programming  
Off Timer Off  
USB HDD Setup  
Link Settings  
Child Lock Access  
DVB-C Tuning Menu  
Language  
Display Settings  
Common Interface

**4 Set**  
EXIT

## Control channel audience **Child Lock**

### ① Enter the PIN number (4 digits)

Child Lock-PIN Entry  
Please enter new PIN  
PIN

1 2 3  
4 5 6  
7 8 9  
0

- Enter the PIN number twice at first setting.
- Make a note of the PIN number in case you forget it.
- "0000" may be stored as the default PIN number which depends on the country you select (p. 12).

### ② Select "Child Lock List"

Child Lock  
Change PIN  
Child Lock List Access  
Parental Rating No Limit

② access  
① select

### ③ Select the channel / input to be locked

Child Lock List - TV and AV

Name	Input	Type	Lock
101 BBC 1 Wales	DVB-C	FreeTV	2
7 BBC THREE	DVB-T	FreeTV	2
14 E4	DVB-T	FreeTV	2
VCR	Analogue	Analogue	2
1 BBC1	Analogue	Analogue	2
2 ****	Analogue	Analogue	2
AV1	External	AV	2
AV2/S	External	AV	2

② lock  
① select

Appears when the channel / input is locked

- To cancel → Select the locked channel / input → OK
- To jump to the top of the next input → red
- To lock all → green
- To cancel all locks → yellow
- To sort channel names in alphabetical order → blue

### ■ To change the PIN number

Select "Change PIN"

Child Lock  
Change PIN Access  
Child Lock List  
Parental Rating No Limit

② access  
① select

Enter a new PIN number twice

1 2 3  
4 5 6  
7 8 9  
0

### ■ To set Parental Rating

- The availability of this function depends on the country you select (p. 12).
- If the DVB programme has the rated information for over the selected age, you have to enter the PIN number to watch (depending on the broadcaster).

Select "Parental Rating" and set an age for the restriction of programmes.

Child Lock  
Change PIN  
Child Lock List  
Parental Rating No Limit

② set  
① select


#### Note

- Setting "Shipping Condition" (p. 45) erases the PIN number and all settings.

# Input Labels

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

- To select the input mode ➔ p. 24



**1 Display the menu**  
MENU

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

**3 Select "Display Settings"**  
Setup Menu 1/2  
Timer Programming  
Off Timer Off  
USB HDD Setup  
Link Settings  
Child Lock  
DVB-C Tuning Menu  
Language  
Display Settings Access  
Common Interface

**4 Select "Input Labels"**  
Display Settings  
Preferred Subtitle Type Standard  
Teletext TOP  
Teletext Character Set West  
Side Panel Off  
Default Guide TV Guide  
Input Labels Access  
Banner Display Timeout 3 seconds  
Playing Time Display On  
Radio Mode Off

**5 Select a input terminal and set**  
Input Labels 1/2  
AV1 DVD  
AV2/S AV2/S  
AV3 AV3  
COMPONENT COMPONENT  
PC PC  
HDMI1 HDMI1  
HDMI2 HDMI2  
HDMI3 HDMI3  
HDMI4 HDMI4  
Input Labels 2/2  
DVB-C DVB-C  
DVB-T DVB-T  
Analogue Analogue

② access  
① select

② access  
① select

② access  
① select

② set  
① select

■ To return to TV  
EXIT

The labels you set will be displayed in "Input Selection" menu (p. 24), "TV Selection" menu (p. 16) or banner.

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

## ■ User input

You can name each input mode freely.

Select "User input"

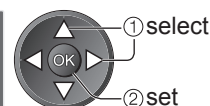
Set characters one by one



(maximum: ten characters)

- You can set characters by using numeric buttons.

➔ "Characters table for numeric buttons" (p. 84)



Store



# Using Common Interface

The Common Interface Module menu provides access to software contained on Common Interface (CI) Modules.

● This function may not be available in some countries or regions.

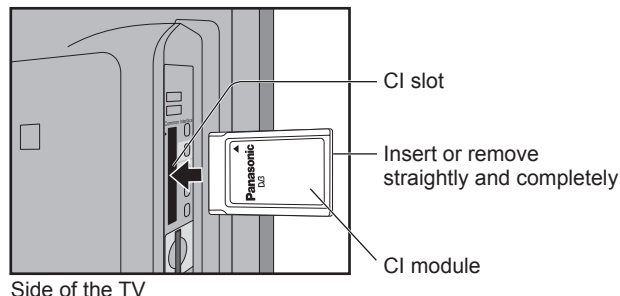
Although CI module may enable you to view some services, this TV does not guarantee all services (e.g. pay-TV).

Please use only the approved CI module by the broadcaster.

Consult your local Panasonic dealer or broadcasters for more information and conditions of the services.

## Caution

- Turn Off Mains power On / Off switch whenever inserting or removing the CI module.
- If a view card and a card reader come as a set, first insert the card reader, then insert the view card into the card reader.
- Insert the module in the correct direction.



## Insert the CI module (optional)

- The features that appear on screen are dependent on the contents of the selected CI module.
- Normally pay-TV channels will appear. Follow the on screen operation guide. If pay-TV channel does not appear, perform below.
- For more details, see the manual of the CI module, or check with the broadcaster.

**1** Select DVB-C or DVB-T  
→ p. 16  
TV

**2** Display the menu  
MENU

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

**4** Select "Common Interface"  
Setup Menu 1/2  
Timer Programming  
Off Timer Off  
USB HDD Setup  
Link Settings  
Child Lock  
DVB-C Tuning Menu  
Language  
Display Settings  
Common Interface Access

**5** Access Common Interface  
Common Interface  
Slot 1: Module inserted

**6** Follow the on screen operation guide  
For example: select, go → OK

Coloured characters → red green yellow blue

■ To return to TV



- On screen operation guide may not correspond to the remote control buttons.



# Shipping Condition

Resets the TV to its original condition, i.e. no channels tuned in.

All settings other than “USB HDD registration” are reset (channels, picture, sound settings, etc.).

- 1 Display the menu**  
MENU
- 2 Select “Setup”**  
VIERA Main Menu  
Picture  
Sound  
Setup
- 3 Select “System Menu”**  
Setup Menu 2/2  
Network Setup  
DivX® VOD  
Advance(isfcc) Off  
System Menu Access  
Other Settings
- 4 Select “Shipping Condition”**  
System Menu  
USB Keyboard Layout English(UK)  
Shipping Condition Access  
System Update  
Software Licence  
System Information
- 5 Set**  
EXIT

## Restore Settings Shipping Condition

- Check the message and initialise**  
Shipping Condition  
All tuning data will be erased  
Are you sure?  
Are you sure?  
Confirm OK (confirm)  
EXIT  
RETURN OK (confirm)  
OK (start Shipping Condition)
- Follow the on screen instructions**  
Reset to Factory Shipping Condition Completed.  
Please switch off TV.

● “Auto Setup” 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**  
➔ “Retuning from Setup Menu” (p. 34 and p. 35)

# Updating the TV Software


From time to time, a new version of software may become available for download to enhance the performance or operations of the TV.

If there is an update available, a notification banner is displayed when the channel has the update information.

● To download →

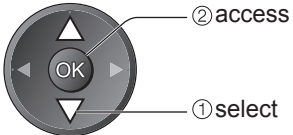
● If you choose not to download →

You can update any new software automatically or update manually.

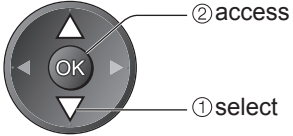


- 1 Display the menu**  
MENU
- 2 Select "Setup"**  

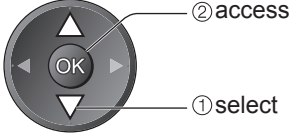
VIEWA Main Menu	
Picture	
Sound	
Setup	


- 3 Select "System Menu"**  

Setup Menu 2/2	
Network Setup	
DivX® VOD	
Advance(isfcc)	Off
System Menu	Access
Other Settings	


- 4 Select "System Update"**  

System Menu	
USB Keyboard Layout	English(UK)
Shipping Condition	
System Update	Access
Software Licence	
System Information	

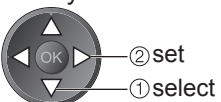

- 5 Set**

## Update TV's software system System Update

### ■ To update automatically

Select "Auto Update Search in Standby"

System Update	
Auto Update Search in Standby	Off
System Update Search Now	



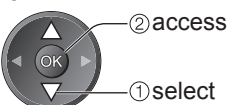
- Every time you set, the TV automatically performs a search in standby and downloads an update, if any software updates are available.
- The automatic updating is performed under the following conditions:
  - Standby (TV turned Off with the remote control)
  - Recording of Timer Programming, Direct TV Recording or One Touch Recording is not in progress.

**If System Update is performed, the software will be updated (it may change TV functions). If you do not wish to do so, set "Auto Update Search in Standby" to "Off".**

### ■ To update immediately

Select "System Update Search Now"

System Update	
Auto Update Search in Standby	Off
System Update Search Now	Access



Searches for an update (for several mins.) and displays a corresponding message if any

Download



#### Note

- Download may take for about 60 mins.
- During software download and update, DO NOT switch Off the TV.
- The message might be the notification beforehand. In this case, the schedule information (the date that the new version can be used) will appear. You can set the reservation for update. The update will not start when the TV is set to Off.

# Displaying PC Screen on TV

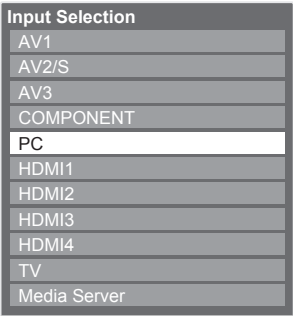
The screen of the PC connected to the TV can be displayed on the TV.  
You can also listen to PC sound with the audio cable connected.

●To connect PC ➡ p. 80



**1 Select the external input**  
**AV**

**2 Select "PC"**



■To return to TV  
➡ **TV**

■PC menu setting

●To make settings ➡ "How to Use Menu Functions" ① to ④ (p. 27)

Menu	Item	Adjustments / Configurations (options)
Picture	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> )
		<b>Reset to Defaults</b> Press the OK button to reset to the default Advanced Settings
Setup	PC Setup	<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> Chooses another synchronous signal if the image is distorted ( <b>H &amp; V / On Green</b> ) ●H & V : by the horizontal and vertical signals from your PC On Green: by the green signal from your PC (if available)
		<b>Reset to Defaults</b> Press the OK button to reset to the default PC Setup settings

●Other items ➡ p. 28 - 33

**Note**

●For HDMI-compatible PC, possible to connect to HDMI terminals (HDMI1 / HDMI2 / HDMI3 / HDMI4) by using HDMI cable (p. 85).



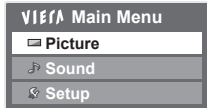

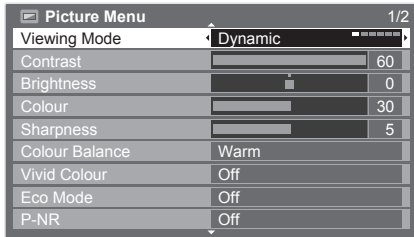

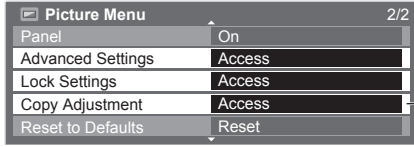

●Displaying PC Screen on TV  
●Updating the TV Software


Advanced

# 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. 32
- For PC input mode, some functions are available without setting "Advance(isfccc)".

- Select the input mode to adjust and setup**  
 ➔ p. 16 and p. 24  

- Display the menu**  

- Select "Picture"**  


- Select "Viewing Mode" and set the mode**  


- Select one of the following functions**  


  - "Copy Adjustment" is available when "Viewing Mode" in the Picture Menu is set to "Professional1" or "Professional2".
- Set**

**■ To return to TV**  


## Lock the picture setting **Lock Settings**

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

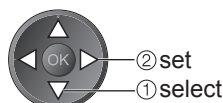
Additionally, Contrast, Brightness, Colour, Sharpness, Tint and Reset to Defaults in the Picture Menu can be locked for "Professional1" and "Professional2".

### ① Enter the PIN number (4 digits)



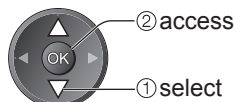
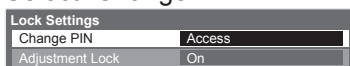
- Enter the PIN number twice at first setting.
- Make a note of the PIN number in case you forget it.

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



### ■ To change the PIN number

Select "Change PIN"

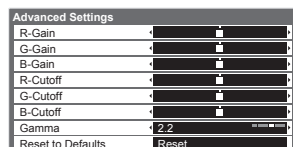


Enter a new PIN number twice



## Adjust the detailed picture settings Advanced Settings

- To make settings → “How to Use Menu Functions” ① to ④ (p. 27)



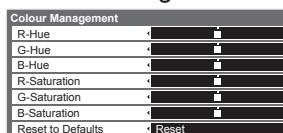
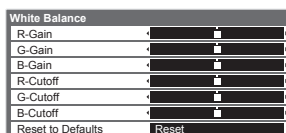
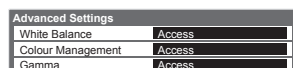
Menu	Item	Adjustments / Configurations (alternatives)
Picture	Advanced Settings	<b>R-Gain</b> Adjusts the white balance of bright red area
		<b>G-Gain</b> Adjusts the white balance of bright green area
		<b>B-Gain</b> Adjusts the white balance of bright blue area
		<b>R-Cutoff</b> Adjusts the white balance 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> )
	<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

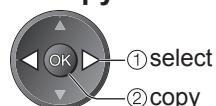


Menu	Item		Adjustments / Configurations (alternatives)	
Picture	Advanced Settings	White Balance	R-Gain	Adjusts the white balance of bright red area
			G-Gain	Adjusts the white balance of bright green area
			B-Gain	Adjusts the white balance of bright blue area
			R-Cutoff	Adjusts the white balance of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

## Copy the settings to the other input Copy Adjustment

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.

# USB HDD Recording

You can record the digital TV programmes to the connected USB HDD and enjoy playing back in various ways.

- Analogue TV programme cannot be recorded to the USB HDD.
- The data broadcasting (MHEG, etc.), radio broadcasting and the periods without any signal will not be recorded.
- Not all the programmes can be recorded depending on the broadcaster and service provider.
- This TV supports USB HDD with capacity from 160 GB up to 2 TB.
- If the remaining capacity of the USB HDD is run out, the recording cannot be done.
- Regarding the performance, not all USB HDDs are guaranteed.

Check the USB HDDs that have been tested for the performance with this TV at the following website. (English only)

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

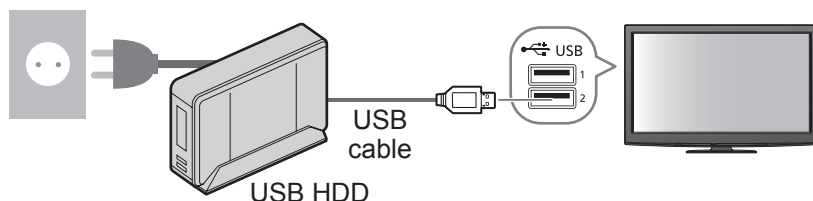
## Caution

- Register the USB HDD with this TV in order to use it for recording. Please note that USB HDD will be formatted and all data (including the data from your PC, etc.) in it will be erased when you register it.
- In order to use the USB HDD with your PC after you use it with this TV for recording, format the drive on your PC. To format, refer to the manual of the PC. Please note that all data in the USB HDD will be erased when it is formatted.
- The data recorded to the USB HDD with this TV can only be played back on this TV. You cannot playback its contents with another TV (including the TV of the same model number) or any PCs.
- If your TV is repaired due to a malfunction, the registered USB HDD may not be available with your repaired TV. Register this USB HDD again to use it with your repaired TV. (All data in it will be erased.)

## USB HDD connection

Connect the USB HDD to the USB 1 or 2 port.

socket outlet



- Be sure to connect the USB HDD to the socket outlet.
- Do not turn off or disconnect the USB HDD during operation. It may cause malfunction of the drive or damage the recorded data.
- To remove the USB HDD safely from the TV  
➔ p. 51 and p. 55

## Setting for USB HDD

Register and setup the USB HDD with this TV in order to use it for recording. Connect the USB HDD before starting this settings. ➔ “USB HDD connection” (above)

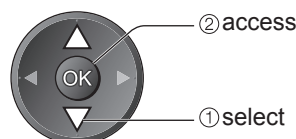
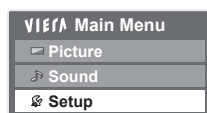
- Before the settings, be sure to turn on the USB HDD.
- You cannot change the settings for the USB HDD while recording is in progress.
- Please note that USB HDD will be formatted and all data in it will be erased when you register it.



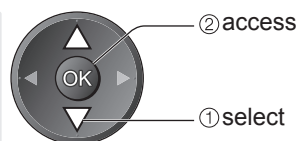
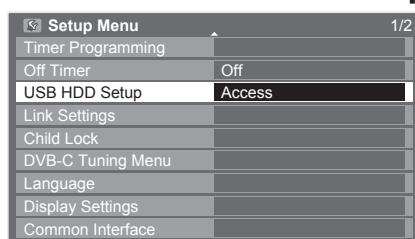
### 1 Display the menu



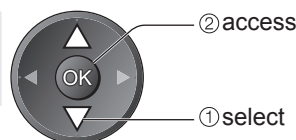
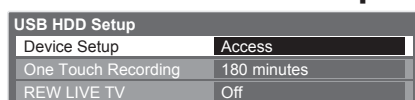
### 2 Select “Setup”



### 3 Select “USB HDD Setup”



### 4 Select “Device Setup” and set



■ To return to TV

EXIT





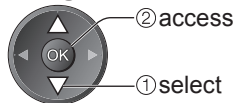
## Register and setup the USB HDD **Device Setup**

All the USB devices recognized as a mass storage device will be listed. You can only register USB HDDs.

- Up to 8 USB HDDs can be registered with this TV. However you can only choose one USB HDD for recording at a time.
- Some USB HDD may not be registered.

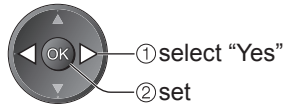
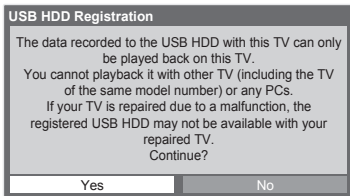
### Select the USB HDD for recording and start registration / setup

USB HDD Device Setup		
Connect	Product	Name
Yes	USB Drive A	
Yes	USB Flash Disk	

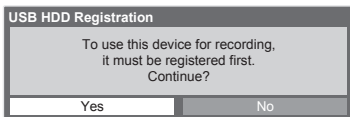


- For the information of the highlighted device ➔

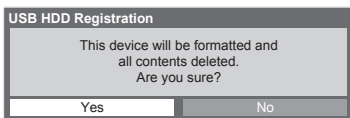
### ● Caution of USB HDD recording and playing back



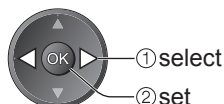
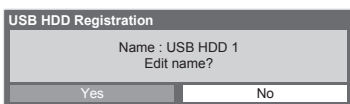
### ● Confirmation of USB HDD registration



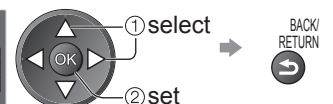
### ● Confirmation of USB HDD format



### ● Confirmation of USB HDD name



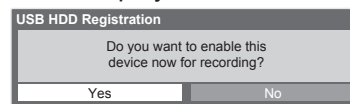
The name for the registered USB HDD is created automatically. If you want to edit the name, select "Yes". Set characters one by one



- You can set characters by using numeric buttons.

### ● Confirmation to enable USB HDD for recording

If the registered USB HDD for recording already exists, this confirmation screen will be displayed to switch to enable this USB HDD for recording.



- : The USB HDD is registered and available for recording / playing back if the connection status is "Yes". Only one registered USB HDD on the list can be available for recording.

- : The USB HDD is registered and available for playing back if the connection status is "Yes".

Name is displayed if the registration is completed

Connection status (Yes: connected / No: not connected)

**To remove the USB HDD safely from the TV, ensure the status is "No" before removing.**

- To change the status ➔

- You can also remove the USB HDD safely from Media Player ➔ "Remove the USB devices safely" (p. 55)

### ■ To unregister the registered USB HDD

- Once you unregister the USB HDD, it will not be possible to playback any of the recorded content on any TV.

Select the USB HDD

Unregister



- The confirmation screen will be displayed twice. Select "Yes" to unregister.

# USB HDD Recording

## Recording the TV programme to USB HDD

You can record the current programme immediately by using “One Touch Recording”. You can also record the current programme constantly for the selected period by using “REW LIVE TV” so that you can go back or pause the current programme.

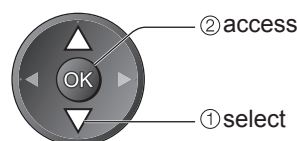
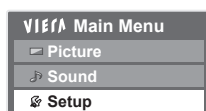
- Ensure the connection, registration and setup are completed before start recording ➔ p. 50 and p. 51
- Ensure not to connect or disconnect any USB devices during USB HDD recording. Otherwise the recording may not work properly.



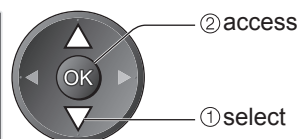
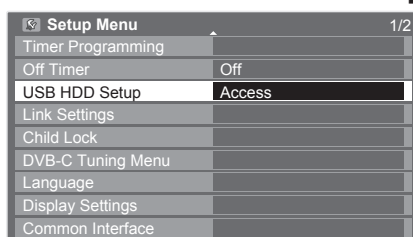
### 1 Display the menu



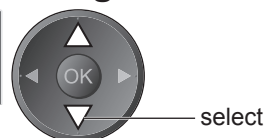
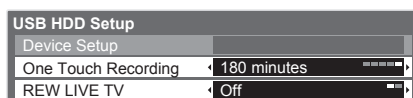
### 2 Select “Setup”



### 3 Select “USB HDD Setup”



### 4 Select “One Touch Recording” or “REW LIVE TV”



■ To return to TV



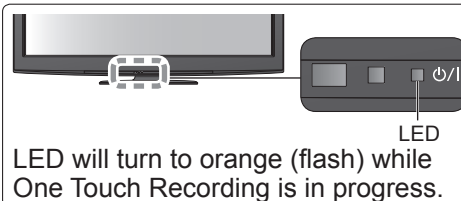
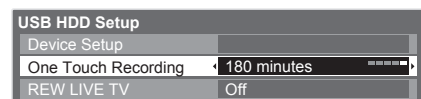
### 5 Set

## One touch direct TV recording - What you see is What you record One Touch Recording

Recording the current programme in the USB HDD immediately.

**Select the maximum recording time**

**(30 / 60 / 90 / 120 / 180 minutes)**



### ■ To start One Touch Recording

Set the position to "TV"



Start



- No other channel can be selected while the recording is in progress.

### ■ To stop recording on the way



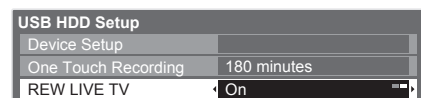
### ■ To playback or delete the recorded contents

- ➔ "Using Media Player" (p. 59) or "Video" in VIERA TOOLS (p. 26)
- Even if One Touch Recording is in progress, you can playback all the contents. However, the recording may not work properly while playback.

## Record constantly REW LIVE TV

Recording the current programme constantly.

**Select "On" to start REW LIVE TV**



- When you select "On", the recording will start automatically.

### ■ To operate the REW LIVE TV

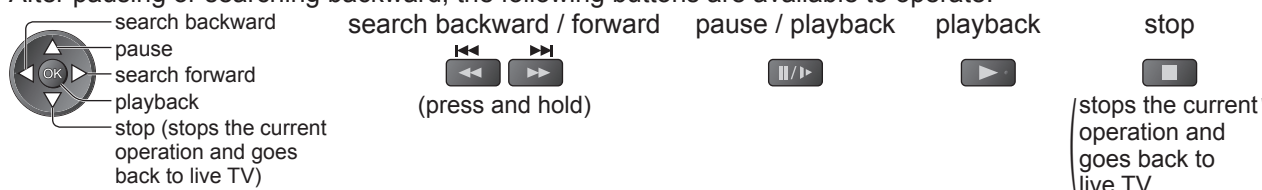
Set the position to "TV"



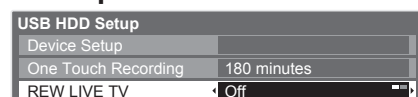
- To pause ➔

- To search backward ➔ (press and hold)

- After pausing or searching backward, the following buttons are available to operate.



### ■ To stop the REW LIVE TV



- If you stop the REW LIVE TV, the recorded content for the REW LIVE TV will be deleted.

- REW LIVE TV will be stopped and the recorded content deleted automatically in the following conditions: (Even if REW LIVE TV stops for the following conditions, as long as the setting is "On", the new recording will start automatically in a condition that makes the recording available.)

- selected other channels
- selected locked channel
- selected invalid channel
- no TV signal
- when the other recording starts
- when the TV is turned off or standby

# Using Media Player

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

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 : (For SD Card or USB Flash Memory) Moving pictures recorded by digital video cameras will be played back.

(For registered USB HDD) TV programmes recorded in USB HDD registered to this TV will be played back.

Music mode : Digital music data will be played back.

- During the operation, audio signal is output from AV1, AV2, AUDIO OUT and DIGITAL AUDIO OUT terminals. But no video signals are output. AV1 and AV2 can output audio signal if "AV1 / AV2 out" is set to "Monitor" in the Setup Menu (p. 30).
- "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. 83
- 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  
(A USB HDD formatted by PC is not supported in Media Player.)

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

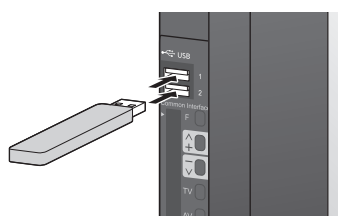
### Note

- 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

- For the USB HDD Connection ➡ p. 50

### USB Flash Memory



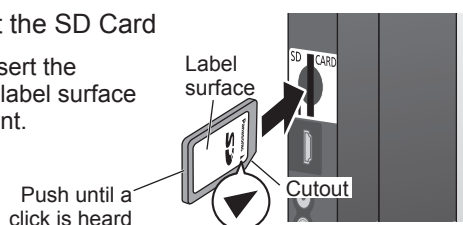
- Insert or remove straightly and completely.
- Before removing the USB Flash Memory, ensure to perform "Remove the USB device safely" (p. 55)



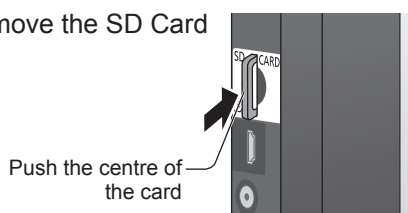
### SD Card

- To insert the SD Card

Gently insert the SD Card label surface facing front.



- To remove the SD Card



- For more information of the SD Card ➡ p. 82

## Starting Media Player



1

### Insert the SD Card or USB Flash Memory

- For registered USB HDD, ensure the connection status is "Yes". ➔ p. 51

2

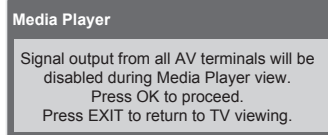
### Switch to Media Player

SD CARD

- When SD Card is inserted, switching will be done automatically.

3

### Start Media Player



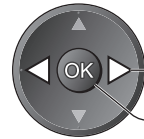
OK

4

### Select the icon you want to access to



selected device name



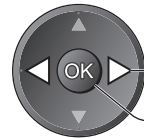
① select

② access

- If two or more devices are not connected, this step will be skipped.
- For the registered USB HDD, all the USB HDD of which the connection status is "Yes" is available.
  - ➔ "Register and setup the USB HDD" (p. 51)

5

### Select the content



① select

② access

- For registered USB HDD, this step will be skipped and recorded contents list will be displayed. ➔ p. 59

#### ■ To return to TV



#### ■ To return to the previous screen



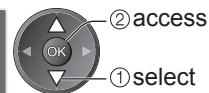
## Change the device

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"



Appears if the USB device is connected to the TV.

Select the icon you want to access to



selected device name



## Remove the USB devices safely

Before remove the USB devices, please take the following steps in order to protect the devices.

Display the menu

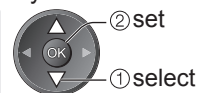
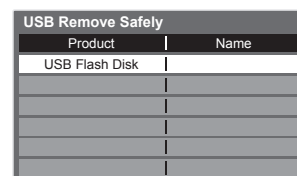


Select "USB Remove Safely"



Appears if the USB device is connected to the TV.

Select the USB Flash Memory or USB HDD to remove





# Using Media Player

## Photo mode

Photo mode will read all ".jpg" extension files in the SD Card or USB Flash Memory.



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



(Thumbnail - All photos)

selected device name

The thumbnail of all the photos in the SD Card or USB Flash Memory will be displayed.

- You can also access Photo mode directly by using VIERA TOOLS.

- ➔ "How to Use VIERA TOOLS" (p. 26)

- To change the back ground music

- ➔ "Photo Setup" (p. 57)

- To display the information of the highlighted photo

- ➔ File name 1/48 - file number / total file number



- To change the number of photos on a thumbnail screen at a time

- ➔ yellow (7 × 4 ↔ 10 × 6)

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

Folder view : Displays the thumbnail grouped by folder

- The files which are not into a folder will be collected to the folder named "I".

Sort by Date : Displays the thumbnail grouped by the same date

- The group of the photos without recorded date is shown as "Unknown".

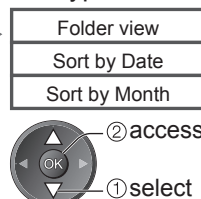
Sort by Month: Displays the thumbnail grouped by the same month

- The group of the photos without recorded date is shown as "Unknown".

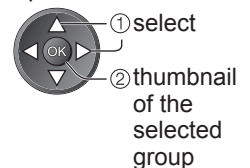
Display the view selection



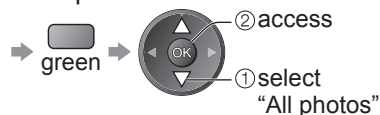
Select the sort type



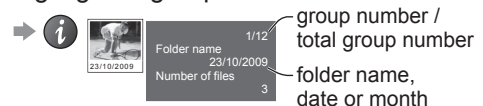
Select one of the sorted group to display the thumbnail of the selected group



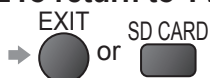
- To return to the thumbnail of all photos



- To display the information of the highlighted group



### ■ To return to TV

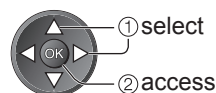


### ■ To return to the previous screen



### ■ Single view - Displayed one at a time

Select the file from the thumbnail of photos to be viewed

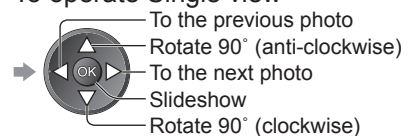


Operation guide

- 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 ➔

### Note

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



## Photo Setup

Setup the settings for Photo mode.

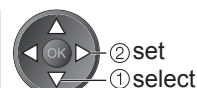
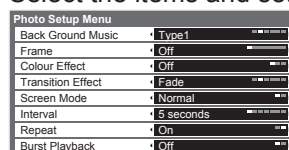
Display the menu



Select "Photo Setup"



Select the items and set



● Other items → p. 28 - 30, 55, 60 and p. 61

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 SD Card 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. 61)</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 on Single view and Slideshow (<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. ● This function is available when "Frame" is set to "Off".</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. 55)

While the thumbnail is displayed, display the contents selection



Select the contents



- Photo → "Photo mode" (p. 56)
- Video → "Video mode" (p. 58)
- Music → "Music mode" (p. 61)

# Using Media Player

## Video mode

### For SD Card or USB Flash Memory

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

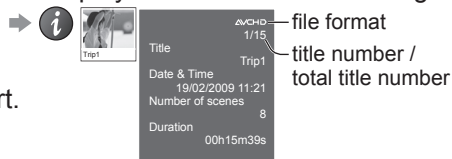


Film icon will be displayed if the file does not support thumbnail view.  
Error display (images that could not be loaded, etc.)



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  
➔ "How to Use VIERA TOOLS" (p. 26)
- To off the preview ➔ "Video Setup" (p. 60)
- To display the information of the highlighted title



#### ■ Playback from Title view

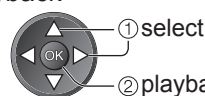
Playback of the selected title will start.  
Select the title Start playback



- DivX contents cannot be played back from Title view. Select DivX folder and press the OK button to display DivX files, and then select one of the file to be played back.

#### ■ 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

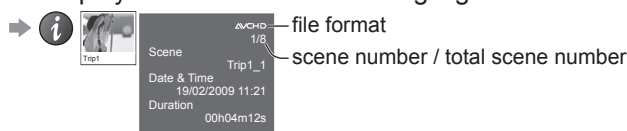


The preview will start when the scene is highlighted if it supports a preview.

- To off the preview  
➔ "Video Setup" (p. 60)

- To repeat playback  
➔ "Video Setup" (p. 60)

- To display the information of the highlighted scene



#### ■ To return to TV



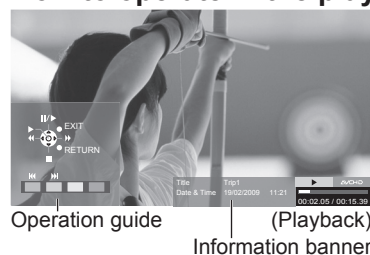
#### ■ To return to the previous screen



#### Note

- The structure of titles and scenes may vary depending on the digital video camera used.

#### ■ How to operate in the playback



- To change aspect (only for the 4:3 video content)  
➔ ASPECT

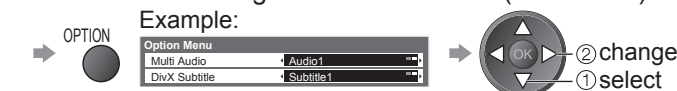


- To return to thumbnail ➔ BACK/RETURN

- You can also use the following buttons. (p. 25)  
Set the position to "TV"



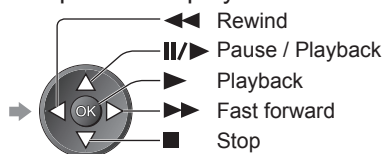
- To confirm or change the current status (if available)



#### ■ To change the content in the current device

- ➔ "Change the contents" (p. 57)

- To display / hide the operation guide and information banner ➔ i
- To operate the playback



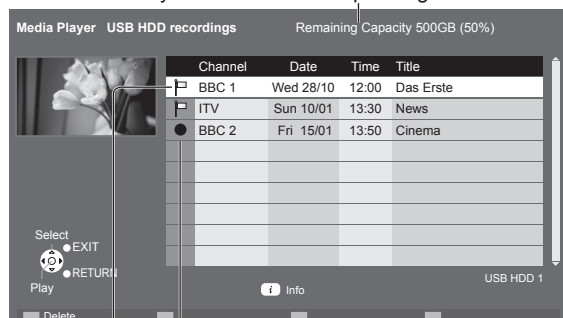
- To the previous scene ➔ red

- To the next scene ➔ green

## For registered USB HDD

Remaining capacity of the HDD

- This value may not be accurate depending on the condition.



Content under recording

- You can playback this content even if under recording.

Content not played back

- Once you playback the content, this icon will disappear.

Contents list of the registered USB HDD will be displayed.

- You can also access the contents list directly by using VIERA TOOLS.

➔ “How to use VIERA TOOLS” (p. 26)

- To display the information of the highlighted content



### ■ Playback the content from the list

Select the content

Start playback



### ■ Delete the selected content

Select the content

Delete the content

Confirm



### ■ How to operate in the playback



Operation guide

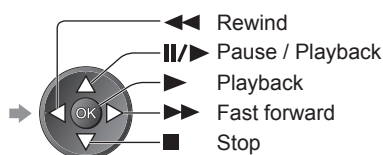
(Playback)

Information banner

- To display / hide the operation guide and information banner



- To operate the playback



- To change aspect ➔ ASPECT



- To display the subtitle (if available) ➔ STTL



- To return to list ➔ BACK/RETURN



- You can also use the following buttons. (p. 25)

Set the position to “TV”

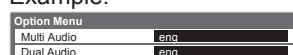


(press and hold)

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



Example:



② change  
① select

#### Note

- Depending on the recorded programmes, some playback operations may not work properly.

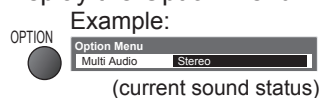
# Using Media Player

## Sound Settings

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

■ **To confirm or change the current sound status** (during playback)

Display the Option menu



Change the sound (if the video has multiple audio signals)



● It may take several seconds to change the sound.

■ **Audio output settings**

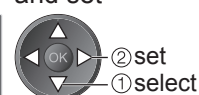
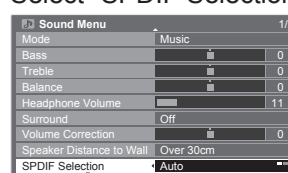
Display the menu



Select "Sound"



Select "SPDIF Selection" and set



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

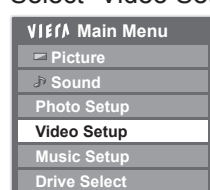
Setup the settings for Video mode.

● These settings are not available for the registered USB HDD.

Display the menu



Select "Video Setup"



● Other items

➔ p. 28 - 30, 55, 57 and p. 61

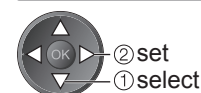
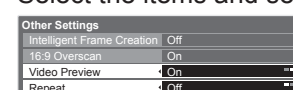
Select "Other Settings"



● Display Settings

➔ p. 32

Select the items and set



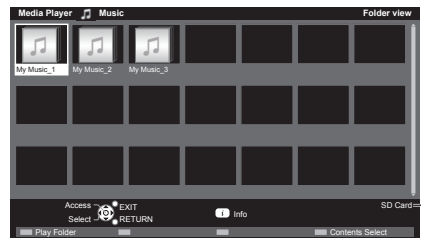
● Other items

➔ p. 33

Menu	Item	Adjustments / Configurations (alternatives)
Video Setup	Other Settings	
	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.

## Music mode

Music mode supports MP3 and AAC file format.



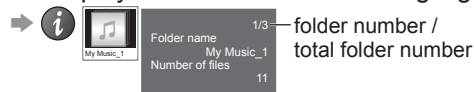
selected device name

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

➔ "How to use "VIERA TOOLS" (p. 26)

- 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

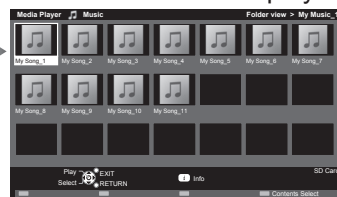
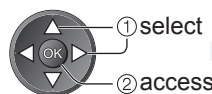


### ■ Playback from File view

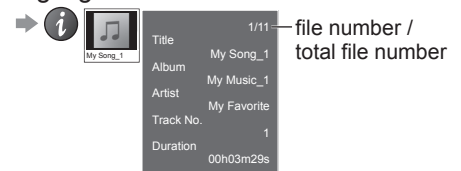
Playback of the selected file will start.

Select the folder

Select the file to start playback



- To display the information of the highlighted title



### ■ How to operate in the playback

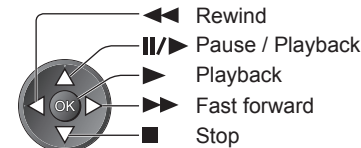


Operation guide (Playback) information banner

- To display / hide the operation guide and information banner



- To operate the playback



- To the previous track



- To the next track



- To return to thumbnail



### ■ To return to TV



### ■ To return to the previous screen



### ■ To change the content in the current device

➔ "Change the contents" (p. 57)

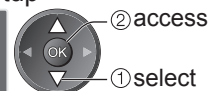
## Music Setup

Setup the setting for Music mode.

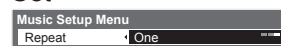
Display the menu



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. 57)

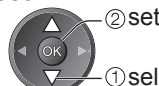
- If you remove the device in which the registered music is stored, the setting of "User" will be reset.

While playing

music, display the selection screen



Select "File" or "Folder" and set



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 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. 58).

- Music files are not supported by DLNA, but MP3 and AAC files can be played back by Media Player (p. 61).

#### ■ 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. 63)

#### ■ Network setup

- ➔ p. 64 - 67

#### ■ DLNA operations

- ➔ p. 68 - 70

### 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, videos, 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. 63)

#### ■ Network setup

- ➔ p. 64 - 67

#### ■ VIERA CAST operations

- ➔ p. 71

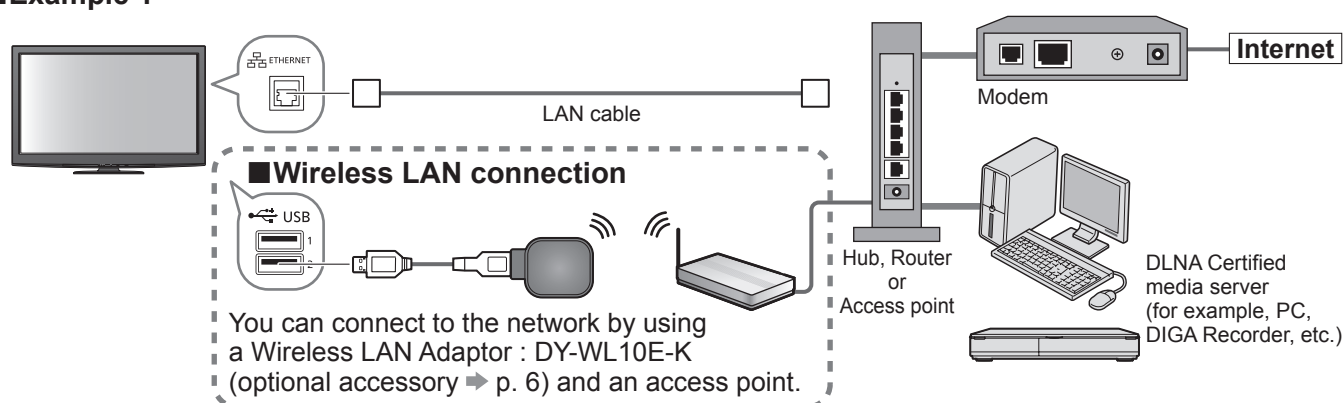


## Network connections

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 a 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.
- Read the manual of the network equipment, too.

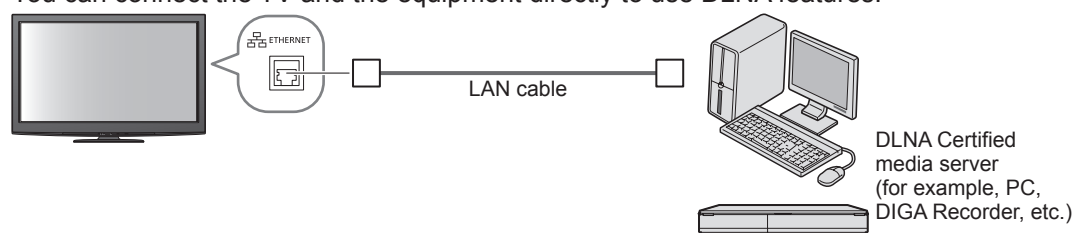
### ■ Example 1



- 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

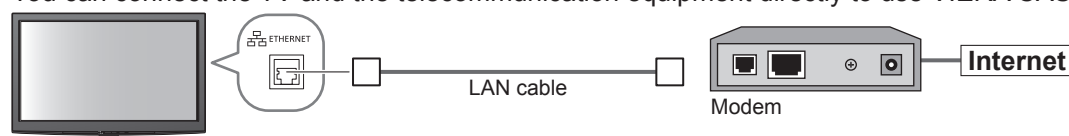
You can connect the TV and the equipment directly to use DLNA features.



- 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.

# Using Network Services

## (DLNA / VIERA CAST)

### Network Setup

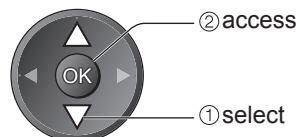
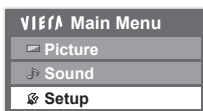
- Ensure the connections are completed before starting Network Setup.  
→ “Network connections” (p. 63)



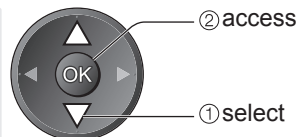
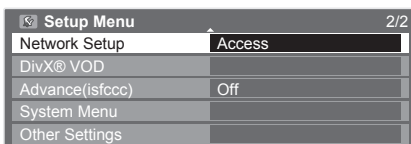
#### 1 Display the menu

MENU

#### 2 Select “Setup”



#### 3 Select “Network Setup”



■ To return to TV

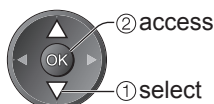
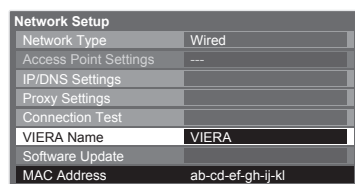


#### 4 Set

### Edit the name of this TV

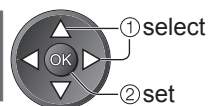
You can set your favourite name for this TV. This name will be used to display the name of this TV on the screen of the other DLNA compatible equipment.

Select “VIERA Name”



Edit the name

Set characters one by one



Store

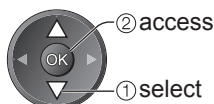
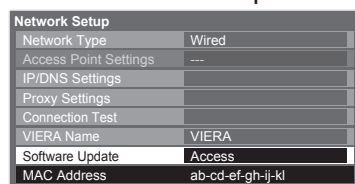


- You can set characters by using numeric buttons.  
→ “Characters table for numeric buttons” (p. 84)

### 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”

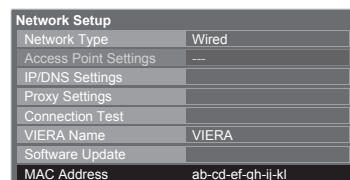


- Follow the on screen instructions

#### Note

#### MAC Address

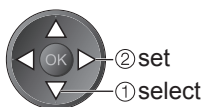
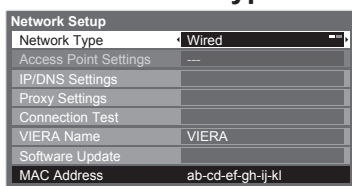
- MAC address is a unique address that identifies hardware in the network.  
(for information only)



## Network settings for the LAN Cable connection

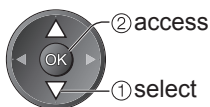
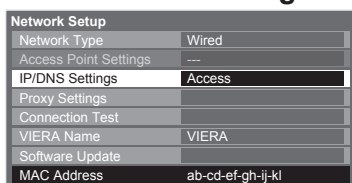
This setting is for the network connection by using the LAN cable.

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



If you make the network connection like "Example2" (p. 63), 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 →



#### ■ Acquire IP Address

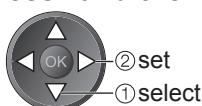
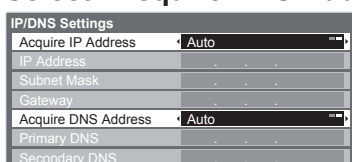
#### ■ Acquire DNS Address

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

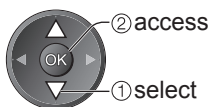
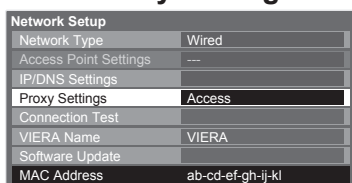
If you wish to set these functions manually, select "Manual".

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

Move the cursor and enter the number



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



After settings, return to "Network Setup" screen →

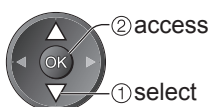


#### ■ Proxy

Sets Proxy address.

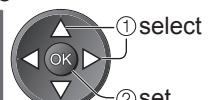
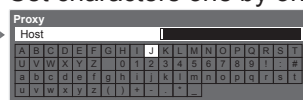
- This is the address of the relay server that is connected to the target server instead of the browser and sends data to the browser. Setting is required if specified by the provider.

Select "Proxy"



Enter the address

Set characters one by one



Store



- 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.

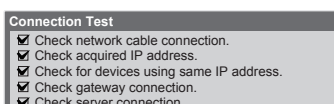
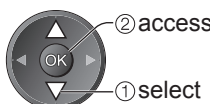
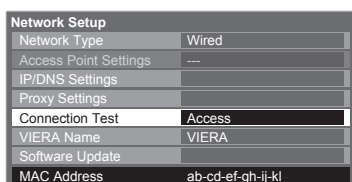
Select "Proxy Port"



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.)

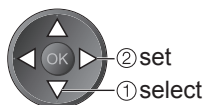
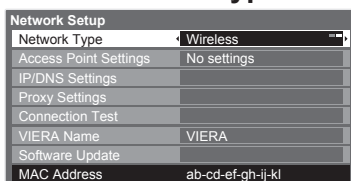
# Using Network Services

## (DLNA / VIERA CAST)

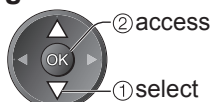
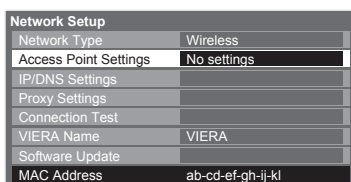
### Network settings for the Wireless LAN connection

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

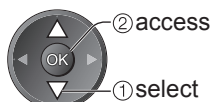
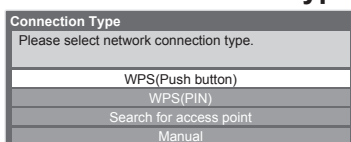
#### ① Select “Network Type” and set to “Wireless”



#### ② Select “Access Point Settings”



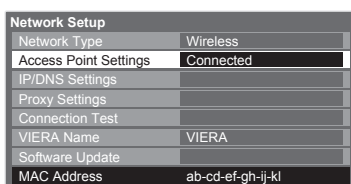
#### ③ Select the connection type and set



● For details of each connection type ➔ p. 67

After settings, return to “Network Setup” screen ➔

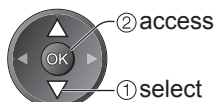
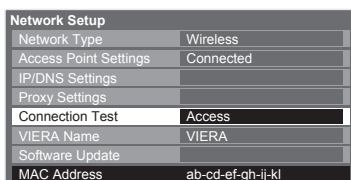
#### ④ Confirm the connection status of “Access Point Settings”



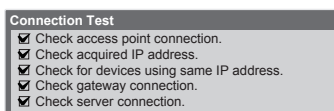
- : “Wired” is selected in “Network Type”.
  - No adaptor : Wireless LAN Adaptor is not connected.
  - No settings : Setting for connecting to the access point has not been set.
  - Connecting... : Connecting to the access point in progress.
  - Connected : Wireless LAN connection to the access point 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 ➔ p. 89

#### ⑤ Select “Connection Test” and access to test



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

## ■ WPS(Push button)

### WPS(Push button)

- 1) Please press the 'WPS' button on the access point until its light flashes.
- 2) When light is flashing select 'Connect' on TV.

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

Connect

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.



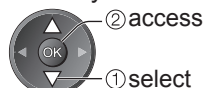
- Ensure that your access point supports WPS for this setup.
- WPS: Wi-Fi Protected Setup

## ■ Search for access point

Access points found automatically are listed.

No.	SSID	Wireless type	Encrypt	Encryption
1	Access Point A	11n(2.4GHz)	■	WPA2-PSK
2	Access Point B	11n(2.4GHz)	■	WPA2-PSK
3	Access Point C	11n(2.4GHz)	■	WPA2-PSK

Select your desired access point



⏏ : Encrypted access point

- To search access points again → yellow
- For the information of the highlighted access point → i
- To set manually → red

**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 the encryption key input mode



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

**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 \* #  
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 \* #

Enter the encryption key of the access point

Set characters one by one



Store  
BACK/  
RETURN

- You can set characters by using numeric buttons.

**Access Point Settings**  
Encryption key is set to:-  
XXXXXXXXXX  
Select 'Yes' to confirm.  
Select 'No' to change.

Yes No

Select "Yes"

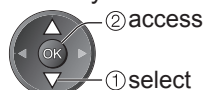


- To re-enter the encryption key, select "No".

## ■ WPS(PIN)

No.	SSID	Wireless type	Encrypt	Encryption
1	Access Point A	11n(2.4GHz)	■	WPA2-PSK
2	Access Point B	11n(2.4GHz)	■	WPA2-PSK
3	Access Point C	11n(2.4GHz)	■	WPA2-PSK

Select your desired access point



- Ensure that your access point supports WPS for this setup.
- To search access points again → yellow
- For the information of the highlighted access point → i
- To set manually → red

**WPS(PIN)**  
Please register the following PIN codes on the access point.  
PIN code : 12345678  
Select 'Connect' after entering and saving settings on the access point.

Connect

Enter the PIN code to the access point, and then select "Connect"



## ■ Manual

You can setup SSID, authentication type, encryption type, and encryption key manually. Follow the on screen instructions and set manually.

- When you use 11n (5GHz) for the wireless system between the Wireless LAN Adaptor and access point, please select "AES" for the encryption type.

**Access Point Settings**  
Please input the SSID.

SSID XXXXXXXX

**SSID Setting**  
SSID is set to:-  
XXXXXXX  
Select 'Yes' to confirm.  
Select 'No' to change.

Yes No

**Authentication Type Settings**  
Connection will be made with the following settings:-  
SSID : XXXXXXXX  
Please select the authentication type.

WPA2-PSK  
WPA-PSK  
Shared key  
Open

# Using Network Services

## (DLNA / VIERA CAST)

### Using DLNA® features

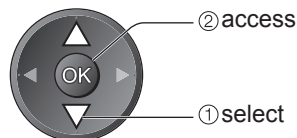
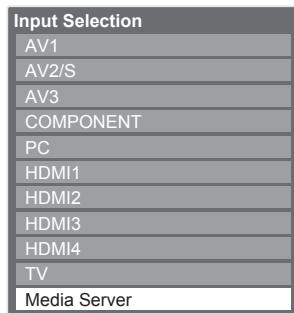
- Ensure the preparation of media server, network connections and network settings are completed.  
 ➔ "Media server" (p. 62), "Network connections" (p. 63), "Network Setup" (p. 64 - 67)



#### 1 Display the Input select menu

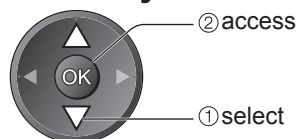
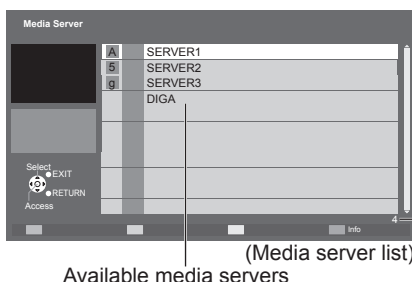
AV

#### 2 Select "Media Server"



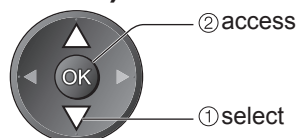
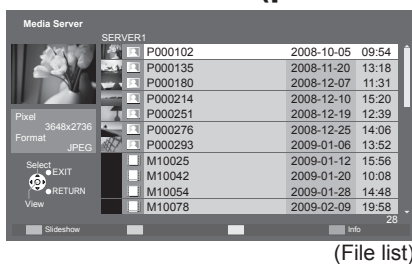
- You can also access directly by using VIERA TOOLS  
 ➔ "How to Use VIERA TOOLS" (p. 26)

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



- To display the information of the highlighted media server ➔ **i** or **blue**

#### 4 Select the file (photo or video) to be viewed



- Depending on the conditions of media server, you may need to select the folder before selecting the file.
- To display the information of the highlighted file ➔ **i** or **blue**

#### ■ To return to TV



#### ■ To return to the previous screen





## For photo file

### ■Single view - Displayed one at a time

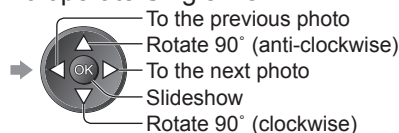


Operation guide

(Single view)

- To display / hide the operation guide →

- To operate Single view



- To return to list →

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

Start Slideshow



red

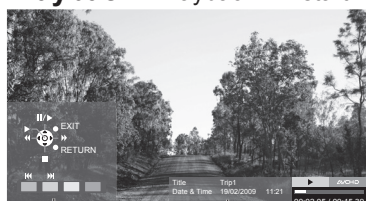
- To display / hide the operation guide →

- To pause (return to Single view) →

- To return to list →

## For video file

### ■Playback - Playback will start.

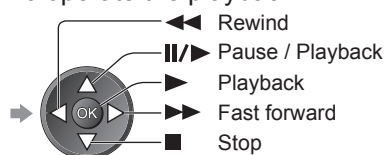


Operation guide

(Playback)  
Information banner

- To display / hide the operation guide and information banner →

- To operate the playback



- To the previous scene →

red

- To the next scene →

green

- To change aspect (only for the 4:3 video content) →

- To return to list →

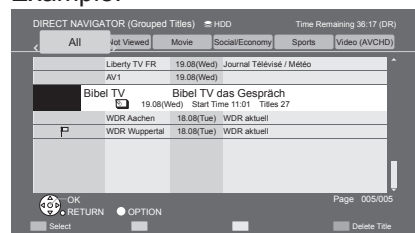
## For DIGA Recorder

### ■Control the DIGA Recorder

The screen of the DIGA Recorder will be displayed. You can control the functions of the DIGA Recorder with this TV remote control according to the operation guide.

- Before operating, register this TV on the DIGA Recorder.
- For details, read the manual of the DIGA Recorder.

Example:



### 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) and Video Setup (for video contents)

Setup the settings for Photo and Video file operations.

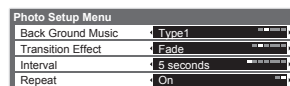
Display the menu



Select "Photo Setup" or "Video Setup"



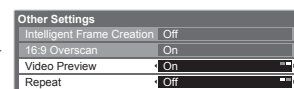
Select the items and set



Select "Other Settings"



Select the items and set



● Other items → p. 28 - 33 and p. 61

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. 61)</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 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.</p>
	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 "Transition Effect" is set to "Motion".</li> </ul>
	Repeat	<p>Slideshow repeat (<b>Off / On</b>)</p>
Video Setup	Other Settings	
	Video Preview	<p>Sets to start the preview of the title or scene in the thumbnail screen (<b>Off / On</b>)</p> <ul style="list-style-type: none"> <li>● Image may not be displayed for an instant in the thumbnail screen. Set the preview "Off" to resolve this.</li> </ul>
	Repeat	<p>Playback repeat within the title (<b>Off / On</b>)</p>

### Sound Settings (for video contents)

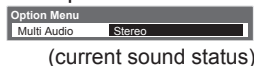
You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO OUT terminal.

■ To confirm or change the current sound status (during playback)

Display the Option menu



Example:



(current sound status)

Change the sound (if the video has multiple audio signals)



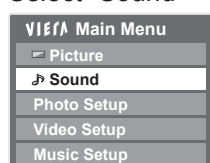
● It may take several seconds to change the sound.

■ Audio output settings

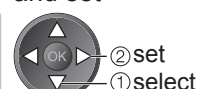
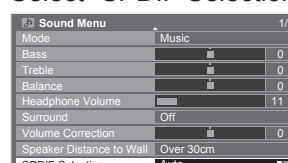
Display the menu



Select "Sound"



Select "SPDIF Selection" and set



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

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. 63), “Network Setup” (p. 64 - 67)

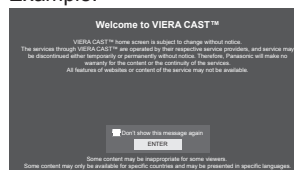


## Access VIERA CAST



- Depending on the usage conditions, it may take a while to read all the data.
- You can also access VIERA CAST by using VIERA TOOLS
  - ➔ “How to Use VIERA TOOLS” (p. 26)

Example:



- Messages might be displayed before VIERA CAST home screen. Please read these instructions carefully and follow the on screen instructions.

Example:



VIERA CAST home screen

## 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 ➔ red green yellow blue
- 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.
- To change the language type ➔ “USB Keyboard Layout” (p. 33)

## 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. 64)
- 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.
- During the operation, audio signal is output from AV1, AV2, AUDIO OUT and DIGITAL AUDIO OUT terminals. But no video signals are output. AV1 and AV2 can output audio signal if “AV1 / AV2 out” is set to “Monitor” in the Setup Menu (p. 30).
- You can set to restrict using VIERA CAST ➔ “Child Lock” (p. 42)
- Turn the TV off, and then on again when changing or reconnecting the network connection.

- Video communication (ex. Skype™) requires an exclusive Communication Camera TY-CC10W (optional accessory ➔ p. 6). For details, read the manual of the Communication Camera.

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

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

# Link Functions (Q-Link VIERA Link)

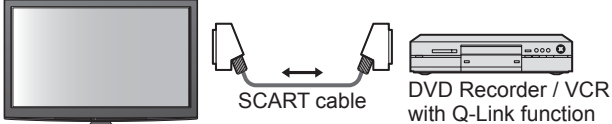
Q-Link connects the TV and DVD Recorder / VCR, and enables easy recording, playback, etc. (p. 74)  
 VIERA Link (HDAVI Control™) connects the TV and the equipment with VIERA Link function, and enables easy control, convenient recording, playback, energy saving, creating home theatre, etc., without complicated setting. (p. 75 - 79)

You can use Q-Link and VIERA Link functions together.

- This TV supports "HDAVI Control 5" function. But available features are depending on the connected equipment's version of HDAVI Control. Please refer to the manual of the equipment to confirm the version.
- VIERA Link features may be available even with other manufacturers' equipment supporting HDMI CEC.

## Summary of Q-Link and VIERA Link features

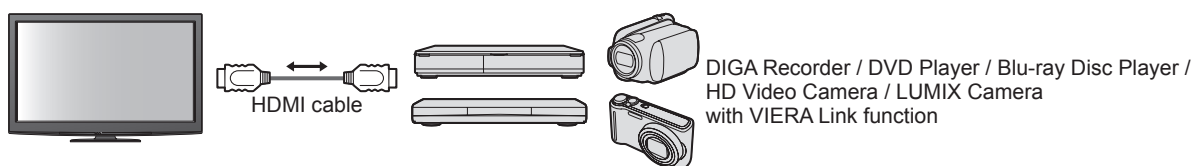
### ■ Q-Link (SCART connection only)

Connected equipment	DVD Recorder / VCR with Q-Link function	Connection
Features		
Preset download	○	 <p>● Use fully wired SCART cable.          ● Connect the DVD Recorder / VCR supporting Q-Link to the TV's AV1 or AV2 terminal via a SCART cable.</p>
Easy playback	○	
Power on link	○	
Power off link	○	
Direct TV Recording	○	

### ■ VIERA Link (HDMI connection only)

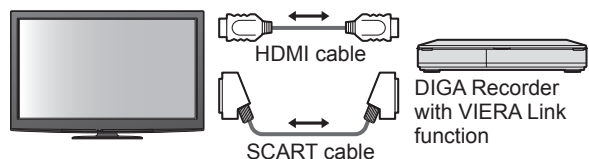
Connected equipment	DIGA Recorder with VIERA Link function	DVD Player / Blu-ray Disc Player with VIERA Link function	HD Video Camera / LUMIX Camera with VIERA Link function
Features			
Preset download	○*2	—	—
Easy playback	○	○	○
Power on link	○	○	○
Power off link	○	○	○
Reduce unnecessary power consumption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

#### Connection



- Use fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV's HDMI1, HDMI2, HDMI3 or HDMI4 terminal via an HDMI cable.
- About HDMI cable for connecting Panasonic HD Video Camera or LUMIX Camera, read the manual of the equipment.

### ■ VIERA Link (HDMI and SCART connections)

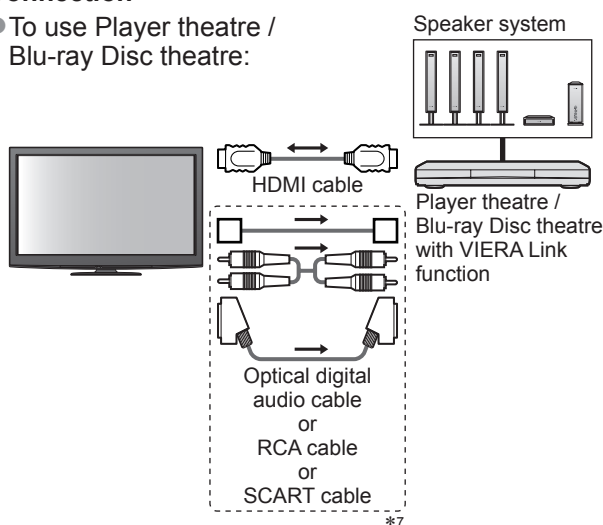
Connected equipment	DIGA Recorder with VIERA Link function	Connection
Features		
Preset download	○	 <p>● Use fully wired HDMI compliant cable.          ● Connect the equipment supporting VIERA Link to the TV's HDMI1, HDMI2, HDMI3 or HDMI4 terminal via an HDMI cable.          ● Use fully wired SCART cable.          ● Connect the equipment supporting VIERA Link to the TV's AV1 or AV2 terminal via a SCART cable.</p>
Easy playback	○	
Power on link	○	
Power off link	○	
Reduce unnecessary power consumption in standby	○*3	
Auto standby for unnecessary equipment	○*3	
Pause Live TV programme	○*2 *4	
Direct TV Recording	○*2	
Control the menu of the connected equipment by VIERA remote control	○*1	
Speaker control	—	

## ■VIERA Link (HDMI and Audio out connections)

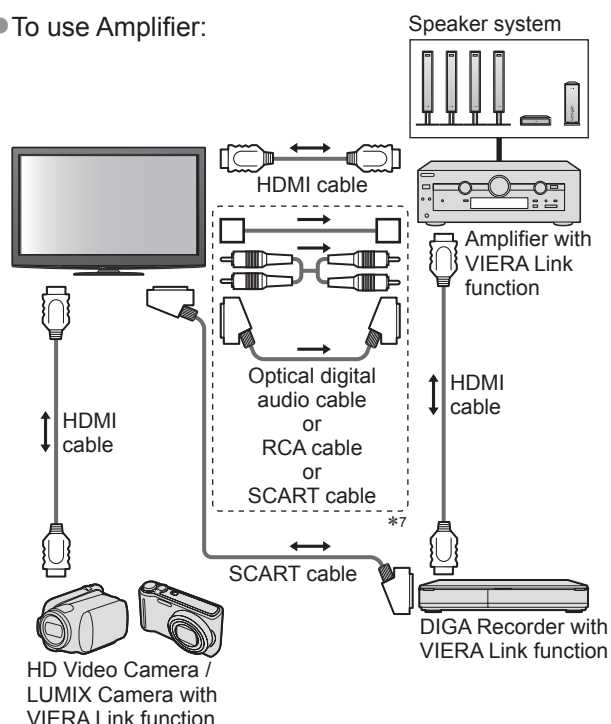
Connected equipment	Player theatre with VIERA Link function	Blu-ray Disc theatre with VIERA Link function	Amplifier with VIERA Link function
<b>Features</b>			
Preset download	—	—	—
Easy playback	○*5	○*5	—
Power on link	○	○	—
Power off link	○	○	○
Reduce unnecessary power consumption in standby	—	○*3	—
Auto standby for unnecessary equipment	○*3 *6	○*3 *6	○*3
Pause Live TV programme	—	—	—
Direct TV Recording	—	—	—
Control the menu of the connected equipment by VIERA remote control	○*1	○*1	—
Speaker control	○	○	○

### Connection

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



- To use Amplifier:



- Use fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV's HDMI2, HDMI3 or HDMI4 terminal via an HDMI cable.
- Use fully wired SCART cable.
- If you use a SCART cable for audio output, connect the equipment supporting VIERA Link to the TV's AV1 or AV2 terminal and set "AV1 / AV2 out" to "Monitor" in the Setup Menu (p. 28).
- Use any one of the optical digital audio cable, RCA cable and SCART cable for audio output from the TV.

\*1: Available with the equipment which has "HDAVI Control 2 or later" function.

\*2: Available with the equipment which has "HDAVI Control 3 or later" function.

\*3: Available with the equipment which has "HDAVI Control 4 or later" function.

\*4: Available with DIGA Recorder which has HDD.

\*5: while playback a disc

\*6: except for watching a disc

\*7: If the connected equipment has "HDAVI Control 5" function, you do not have to use this audio cable (Optical digital audio cable, RCA cable or SCART cable). In this case, connect the equipment to the TV's HDMI2 terminal via an HDMI cable.

### ■VIERA Link Control of compatible equipment (VIERA Link Control ➔ p. 78)

- Table below displays maximum number of compatible equipment that can be controlled by VIERA Link Control. This includes connections to equipment already connected to the TV.  
For example, DIGA Recorder connected to Amplifier which is connected to the TV via an HDMI cable.

Type of the equipment	Maximum number
Recorder (DIGA Recorder, etc.)	3
Player (DVD Player, Blu-ray Disc Player, HD Video Camera, LUMIX Camera, Digital Camera, Player theatre, Blu-ray Disc theatre, etc.)	3
Audio system (Player theatre, Blu-ray Disc theatre, Amplifier, etc.)	1
Tuner (Set top box, etc.)	4



# Link Functions (Q-Link VIERA Link)

## Q-Link

### ■ Preparations

- Connect the DVD Recorder / VCR with the following logos:  
“Q-Link”, “NEXTVIEWLINK”, “DATA LOGIC”, “Easy Link”, “Megalogic” or “SMARTLINK”
- Q-Link connection ➔ p. 72
- Use fully wired SCART cable.
- Set up the DVD Recorder / VCR. Read the manual of the recorder.
- Q-Link terminal setup in the Setup Menu ➔ “Q-Link” (p. 30), “AV1 / AV2 out” (p. 30)
- Download preset - channel, language, country / region settings ➔ “Preset download” (see below)

### ■ Features available

#### Preset download

Channel, language, country / region settings can be downloaded to the recorder.

- DVB-C channel setting cannot be downloaded.
- To download settings ➔ “Download” (p. 30) or “Auto Setup” (p. 35) or “Auto Setup” - when first using the TV (p. 12 and p. 13)

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

Recording the current programme in DVD Recorder / VCR immediately.



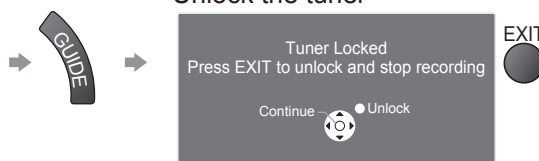
- Available conditions:

Current mode	Using tuner	How to record
Analogue	TV	TV monitor out
	Recorder	Recorder's tuner
DVB	TV	TV monitor out
AV (watching recorder's tuner)	Recorder	Recorder's tuner
AV (watching recorder's external input)	—	Recorder's external input
AV (watching TV's external input)	—	TV monitor out

- When Direct TV Recording is performed, the recorder is automatically turned on if it is in Standby mode.
- Changing channel or turning off the TV is available while the recorder is recording from its own tuner.
- Changing channel is not available while the recorder is recording from the TV tuner.

#### ■ To stop recording

Unlock the tuner



#### Power on link and Easy playback

**Set Power on Link “On” in the Setup Menu to use this function ➔ “Power on Link” (p. 30)**

When DVD Recorder / VCR starts playback or direct navigator / function menu for the equipment are activated, the TV is turned on and input mode is switched automatically so that you can view the content. (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. 30)**

When TV is set to Standby mode, the recorder is also automatically set to Standby. (Only when the videocassette or disc is not active.)

- This function will work even if the TV enters Standby mode automatically by auto power standby function.

- “DATA LOGIC” (a trademark of Metz Corporation)
- “Easy Link” (a trademark of Philips Corporation)

- “Megalogic” (a trademark of Grundig Corporation)
- “SMARTLINK” (a trademark of Sony Corporation)

#### Note

- Some recorders are not applicable. Read the manual of the recorder.



## VIERA Link “HDAVI Control™”\*

\*Enjoy additional HDMI Inter-Operability with Panasonic products which have “HDAVI Control” function. This TV supports “HDAVI Control 5” function.

Connections to the equipment (DIGA Recorder, HD Video Camera, Player theatre, Amplifier, etc.) with HDMI and SCART cables allow you to interface them automatically (p. 72 and p. 73).

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 other manufacturers’ equipment supporting VIERA Link function.
- About applicable Panasonic equipment, consult your local Panasonic dealer.

### ■ Preparations

- Connect the equipment supporting VIERA Link.
- VIERA Link connection ➔ p. 72 and p. 73
- 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)
- Use fully wired SCART cable.
- Set up the connected equipment. Read the manual of the equipment.
- For optimal recording, the settings of the recorder may need to be changed. For details, read the manual of the recorder.
- Download preset - channel, language, country / region settings ➔ “Preset download” (see below)
- Set VIERA Link On in the Setup Menu ➔ “VIERA Link” (p. 30)
- Set up the TV
  - ➔ **After connection, turn the equipment on and then switch the TV on.**  
**Select the input mode to HDMI1, HDMI2, HDMI3 or HDMI4 (p. 24), 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

### ■ Features available

#### Preset download

Channel, language, country / region settings can be downloaded to the recorder.

- DVB-C channel setting cannot be downloaded.
- To download settings ➔ “Download” (p. 30) or “Auto Setup” (p. 35) or “Auto Setup” - when first using the TV (p. 12 and p. 13)

#### Easy playback

Automatic Input switching - When the connected equipment is operated, input mode is switched automatically. When it is stopped operating, input mode is returned.

#### Power on link

**Set Power on Link “On” in the Setup Menu to use this function ➔ “Power on Link” (p. 30)**

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. 30)**

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.

# Link Functions (Q-Link VIERA Link)

## ■ Features available

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

#### Set Standby Power Save "On" in the Setup Menu to use this function

➔ "Standby Power Save" (p. 30)

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".

### Auto standby for unnecessary equipment **Intelligent Auto Standby**

#### Set Intelligent Auto Standby "On (With reminder)" or "On (No reminder)" in the Setup Menu to use this function

➔ "Intelligent Auto Standby" (p. 30)

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".

## ■ Features available (Using VIERA Link Menu)

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

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 Q-Link and VIERA Link features" (p. 72 and p. 73), "Preparations" (p. 75)
- If you wish to record the programme which DIGA Recorder does not support, SCART connection is required and the programme is recorded by Q-Link function (p. 74).
- Depending on the programme, SCART connection may be required to record.
- Changing channel or turning off the TV is available while the recorder is recording from its own tuner.
- Changing channel is not available while the recorder is recording from the TV tuner.




#### Display "VIERA Link Menu"

#### 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

● You can also start recording directly ➔ 

#### ■ To stop recording


Select "Stop" in "Direct TV Rec" and access

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


① select  
② stop


● You can also stop recording directly.

Unlock the tuner



Tuner Locked  
Press EXIT to unlock and stop recording

Continue  Unlock



## ■Features available (Using VIERA Link Menu)


### Pause Live TV programme **Pause Live TV**

You can pause the live TV programme and resume later.

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


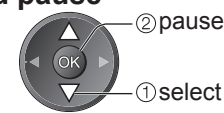
- This function is available with DIGA Recorder which has HDD.
- If you connect a variety of recorders including other manufacturers' recorders at the same time, please connect DIGA Recorder which has HDD to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, in this case connect DIGA Recorder which has HDD to HDMI1.
- If you cannot operate, check the settings and the equipment
  - ➔ "Summary of Q-Link and VIERA Link features" (p. 72 and p. 73), "Preparations" (p. 75)

#### Access and pause the live TV programme




**1** Display "VIERA Link Menu"

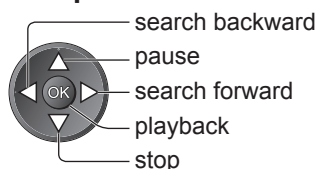
**2** Select "Pause Live TV" and pause

The 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)
- Follow the operation guide to operate Pause Live TV function.

#### ■To operate Pause Live TV



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

- 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.

# Link Functions (Q-Link VIERA Link)

■ **Features available** (Using VIERA Link Menu)

**Control the menu of the connected equipment by VIERA remote control**

## VIERA Link Control

You can control some functions of the connected equipment with this TV remote control (point the remote control at the TV's signal receiver).

- If you cannot operate, check the settings and the equipment
  - ➔ "Summary of Q-Link and VIERA Link features" (p. 72 and p. 73), "Preparations" (p. 75)
- For details of the operations for the connected equipment, read the manual of the equipment.

**Access and operate the menu of the equipment**



1

**Display "VIERA Link Menu"**

2

**Select "VIERA Link Control"**

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



select

3

**Select the equipment you want to access**

The type of the connected equipment is displayed. Select the type of the equipment and access.

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



① select

② access

**Recorder / Player / Home Cinema / Video Camera / LUMIX / Digital Camera / Other**

- You can also access directly by using VIERA TOOLS
  - ➔ "How to Use VIERA TOOLS" (p. 26)
- 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.

### ■ If multiple recorders or players are connected

VIERA Link Menu	
Pause Live TV	Start
Direct TV Rec	Start
VIERA Link Control	Recorder2
Speaker Selection	Home Cinema

**Recorder1-3 / Player1-3**

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

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

The 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.

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

4

**Operate the menu of the equipment**

Available VIERA remote control buttons:  
(depending on the connected equipment)



① **Set the position to "TV"**



② **Follow the operation guide**

- To display the operation guide ➔
  - If other manufacturers' equipment is accessed, Setup / Contents Selection menu may be displayed.

- When the key words are displayed on colour bar

➔ 
 red green yellow blue

### Note

- Some operations may not be available depending on the equipment. In this case use its own remote control to operate the equipment.

## ■Features available (Using VIERA Link Menu)

### Speaker control **Speaker Selection**

You can control the theatre speaker with this TV remote control (point the remote control at the TV's signal receiver).

- If you cannot operate, check the settings and the equipment
  - ➔ "Summary of Q-Link and VIERA Link features" (p. 72 and p. 73), "Preparations" (p. 75)

#### Access and control the speaker volume



**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. 73), 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. 73).

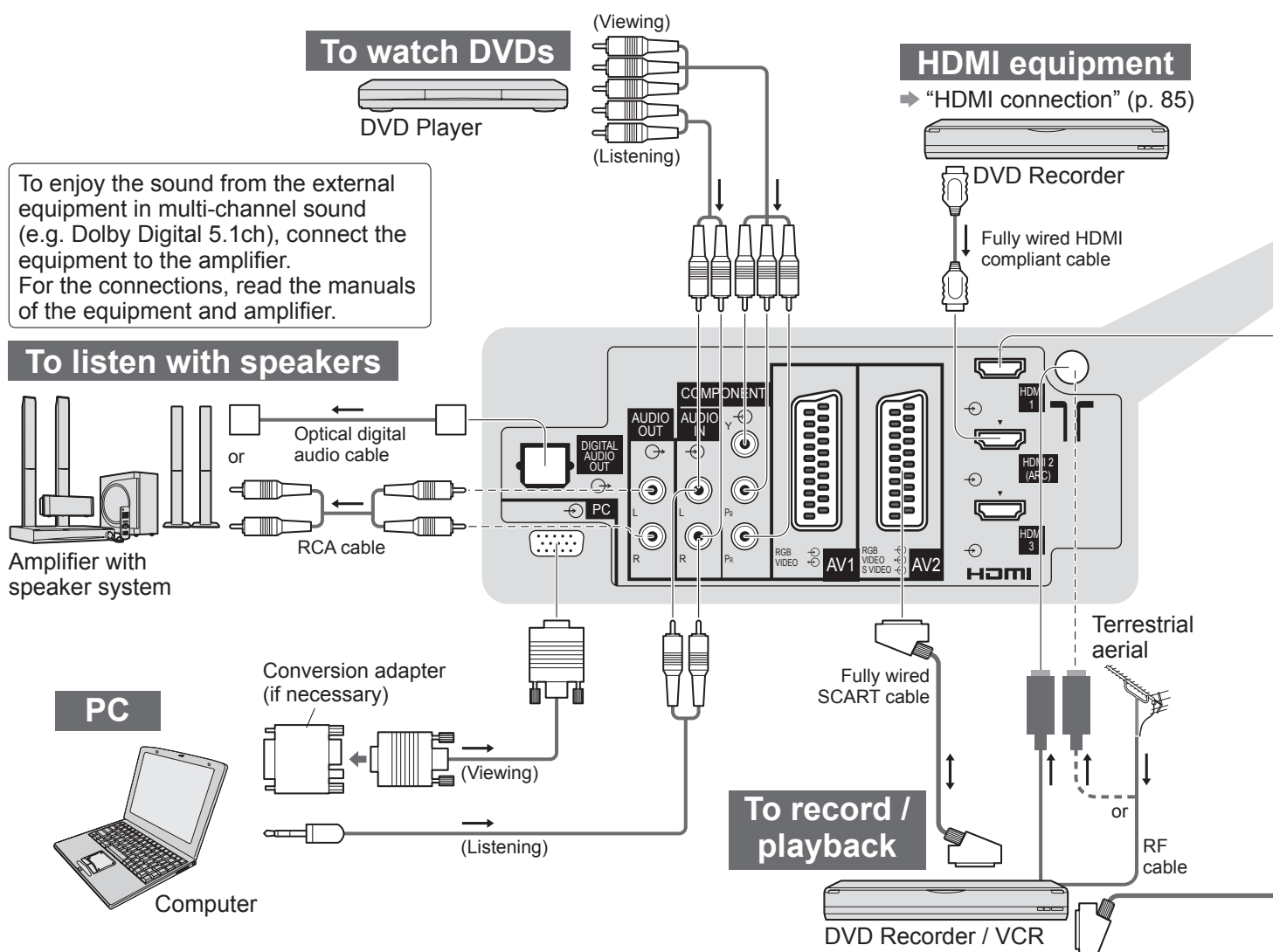
#### Note

- 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. 33)



# External Equipment

These diagrams show our recommendations for connection of your TV to various pieces of equipment. For other connections, consult the instructions for each piece of equipment, the table below, and the specifications (p. 91).



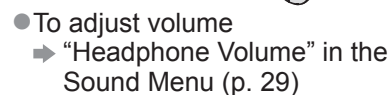
## Types of connectable equipment to each terminal

Terminal	AV1	AV2	AV3 (Side panel of the TV)	
Recording / Playback (equipment)				
To record / playback videocassettes / DVDs (VCR / DVD Recorder)	○	○		
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				
USB HDD Recording				
Q-Link	○	○		
VIERA Link	○ (with HDMI)	○ (with HDMI)		
Direct TV Recording	○	○		

○ : Recommended Connection

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



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# Technical Information

## Auto Aspect

The optimum size and aspect can be chosen automatically, and you can enjoy finer images. (p. 18)

### ■ Aspect Control Signal

“WIDE” will appear in the top left of the screen if a Widescreen signal (WSS) or a Control signal through SCART / HDMI terminal is found.

The aspect will switch to the appropriate 16:9 or 14:9 widescreen ratio.

This function will work in any aspect mode.

Input terminal	Input signal format	Aspect Control Signal	
		Widescreen signal (WSS)	Control signal through SCART (pin8) / HDMI terminal
Cable RF	DVB-C	○	
	DVB-T	○	
	PAL B, G, H, I	○	
	PAL D, K	○	
	SECAM B, G	○	
	SECAM L, L'	○	
	SECAM D, K	○	
	PAL 525/60 6.5 MHz	—	
	PAL 525/60 6.0 MHz	—	
	PAL 525/60 5.5 MHz	—	
	M.NTSC 6.5 MHz	—	
	M.NTSC 6.0 MHz	—	
	M.NTSC 5.5 MHz	—	
AV1 (Composite) AV2 (Composite or S-Video) AV3	PAL	○	○
	SECAM	○	○
	PAL 525/60	—	○
	M.NTSC	—	○
	NTSC	—	○
COMPONENT	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	—	
HDMI1 HDMI2 HDMI3 HDMI4	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	—	○

### ■ Auto mode

Auto mode determines the best aspect ratio to fill the screen. It does this using a four step process (WSS, Control signal through SCART / HDMI terminal, Letterbox detection, or Justify to fill the screen) to determine. This process may take several minutes, depending on the darkness of the image.

Letterbox detection: If black bands at the top and bottom of the screen are detected, Auto mode chooses the best ratio and expands the image to fill the screen.

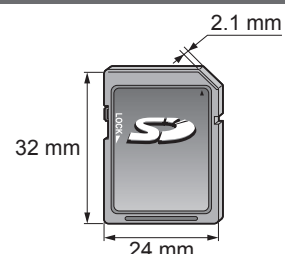
If no aspect signals are detected, Auto mode enhances the image for optimum viewing pleasure.

#### Note

- The ratio varies depending on the programme, etc. If the ratio is out of the standard 16:9, black bands at the top and bottom of the screen may appear.
- If the screen size looks unusual when a widescreen-recorded programme is played back on a VCR, adjust the tracking of the VCR. Read the manual of the VCR.

## 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.)



## DivX

### ABOUT DIVX VIDEO:

DivX® is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video. Visit [www.divx.com](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, TMPlayer

- 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.

### 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. 32)

- 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.

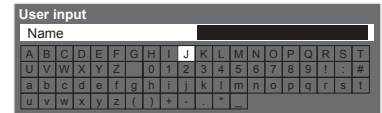
# Technical Information

## Characters table for numeric buttons

You can enter characters by using numeric buttons for free input items.

Press the numeric button repeatedly until you reach the desired character.

- The character is set automatically if you leave for one second.
- You can also set the character by pressing the OK button or other numeric buttons within one second.



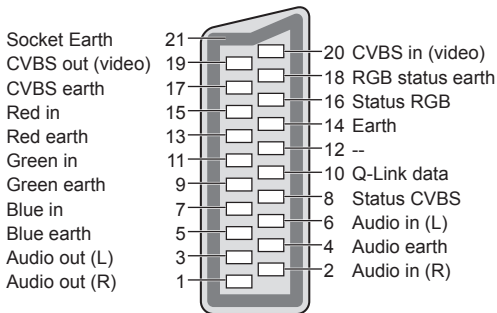
Characters table:

The number of times to press	1	2	3	4	5	6	7	8	9	10	11
Numeric buttons											
1	.	1	!	:	#	+	-	*	_	(	)
2 <sub>abc</sub>	a	b	c	2	A	B	C				
3 <sub>def</sub>	d	e	f	3	D	E	F				
4 <sub>ghi</sub>	g	h	i	4	G	H	I				
5 <sub>jkl</sub>	j	k	l	5	J	K	L				
6 <sub>mno</sub>	m	n	o	6	M	N	O				
7 <sub>pqrs</sub>	p	q	r	s	7	P	Q	R	S		
8 <sub>tuv</sub>	t	u	v	8	T	U	V				
9 <sub>wxyz</sub>	w	x	y	z	9	W	X	Y	Z		
0	Space	0									

## SCART and HDMI terminal information

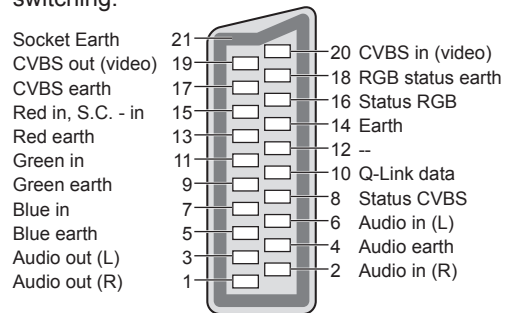
### ■ AV1 SCART terminal (RGB, VIDEO, Q-Link)

Suitable inputs for AV1 include RGB (Red / Green / Blue).

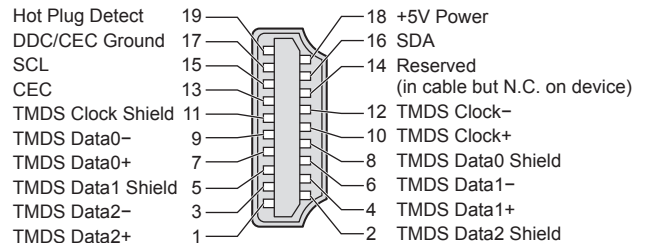


### ■ AV2 SCART terminal (RGB, VIDEO, S-VIDEO, Q-Link)

AV2 - Pins 15 and 20 are dependent on AV2 S-VHS / VIDEO switching.



### ■ HDMI terminal



## 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<sup>(\*)</sup> 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. 80).

### ■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. 86)
  - Match the output setting of the digital equipment.
- Input PC signal : ➔ "Input signal that can be displayed" (p. 86)
  - Match the output setting of the PC.
- VIERA Link (HDAVI Control 5) : ➔ "VIERA Link" (p. 75)
- Deep Colour
- x.v.Colour™
- Audio Return Channel<sup>(\*)</sup> (HDMI2 terminal only)

### ■DVI connection

If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adapter cable<sup>(\*)</sup>.

When the DVI to HDMI adapter cable is used, connect the audio cable to the audio input terminal (HDMI1 / 2 / 3: use COMPONENT-AUDIO terminals / HDMI4: use AV3 audio terminals).

#### Note

- Audio settings can be made on the "HDMI1 / 2 / 3 / 4 Input" in the Sound Menu. (p. 30)
- 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): Enquire at your local digital equipment retailer shop.

(\*3): Audio Return Channel (ARC) is a function to be able to send digital sound signals via an HDMI cable.

## 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 adapter 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
  - ➔ "Input signal that can be displayed" (p. 86)
- 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)

# Technical Information

## USB connection

- It is recommended to connect the USB HDD or 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 HDD + USB Flash Memory
- USB HDD + Wireless LAN Adaptor
- USB HDD + USB Keyboard
- 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/>

## Input signal that can be displayed

### COMPONENT (Y, P<sub>B</sub>, P<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 × 768 @60 Hz	47.70	60.00
1,280 × 1,024 @60 Hz	63.98	60.02
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.



# 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.

## Block noise, frozen or disappearing image occurs in DVB mode / White spots or shadow image (ghosting) occurs in Analogue mode / Some channels cannot be tuned

- Check the position, direction and connection of the aerial.
- Check "Signal Condition" (p. 36). If "Signal Quality" is displayed in red, the DVB signal is weak.
- Weather conditions will affect signal reception (heavy rain, snow, etc.), in particular in poor reception areas. Even during good weather, the high pressure can cause poor reception of some channels.
- Due to the digital reception technologies involved, quality of the digital signals may be relatively low in some cases, despite good reception of analogue channels.
- Turn the TV off with the Mains power On / Off switch, and then on again.
- If problem persists, consult your local dealer or service provider for the availability of services.

## Neither image nor sound is produced

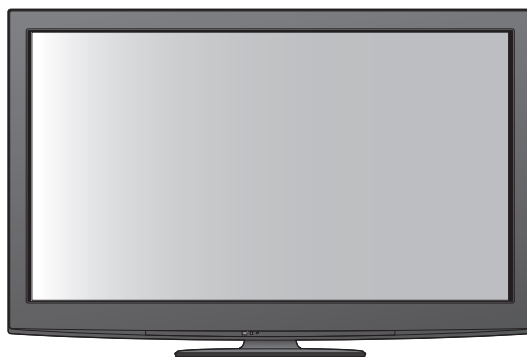
- Is the TV in AV mode?
- Check the correct AV input mode is selected.
- Check the mains lead is plugged into the socket outlet.
- Has the TV been turned On?
- Check the Picture Menu (p. 28) and volume.
- Check all required cables and connections are firmly in place.

## Auto aspect

- Auto aspect is designed to provide you with the best ratio to fill the screen. (p. 82)
- Press the ASPECT button if you would like to change the aspect ratio manually (p. 18).

## S-Video / black and white picture

- Check that the output of the external equipment matches the input of the TV. If the output of the external equipment is set to S-Video, the TV must also be set to S-Video (p. 24).



## No programmes shown on TV Guide

- Check the digital transmitter.
- Adjust the direction of the aerial to another transmitter installed nearby.
- Check the analogue broadcast.  
If the image quality is poor, check the aerial and consult your local dealer.

## Input mode, i.e. EC/AV1 remains on the screen

- Press the **i** button to clear these.  
Press again to redisplay.

## Q-Link function does not work

- Confirm SCART cable and connection.  
Also set "AV1 / AV2 out" in the Setup Menu (p. 30).

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

- Confirm the connection. (p. 72 and p. 73)
- Turn the connected equipment on and then switch the TV on. (p. 75)

## Recording does not start immediately

- Check the settings of the recorder. For details, read the manual of the recorder.

## Contrast is reduced

- Contrast is lowered in the following conditions without any user operation for a few minutes:
  - no signal in DVB or AV mode
  - selected locked channel
  - selected invalid channel
  - selected radio channel
  - displayed menu
  - Thumbnail, list or still picture in Media Player or DLNA operations

# FAQs

	Problem	Actions
Screen	Chaotic image, noisy	<ul style="list-style-type: none"> <li>● Set "P-NR" in the Picture Menu (to remove noise). (p. 28)</li> <li>● Check nearby electrical products (car, motorcycle, fluorescent lamp).</li> </ul>
	No image can be displayed	<ul style="list-style-type: none"> <li>● Is "Contrast", "Brightness" or "Colour" in the Picture Menu set to the minimum? (p. 28)</li> </ul>
	Blurry or distorted image (no sound or low volume)	<ul style="list-style-type: none"> <li>● Reset channels. (p. 34 and p. 35)</li> </ul>
	Unusual image is displayed	<ul style="list-style-type: none"> <li>● Turn the TV Off with Mains power On / Off switch, then turn it On again.</li> <li>● If the problem persists, perform "Shipping Condition" (p. 45).</li> </ul>
Sound	No sound is produced	<ul style="list-style-type: none"> <li>● Is "Sound mute" active? (p. 8)</li> <li>● Is the volume set to the minimum?</li> </ul>
	Sound level is low or sound is distorted	<ul style="list-style-type: none"> <li>● Sound signal reception may be deteriorated.</li> <li>● Set "MPX" (p. 29) in the Sound Menu to "Mono". (Analogue only)</li> </ul>
	Unusual sound from the TV	<ul style="list-style-type: none"> <li>● When power is on, drive noise may be heard from inside the TV (not a sign of faulty operation).</li> </ul>
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. 30)</li> <li>● If digital sound connection has a problem, select analogue sound connection. (p. 85)</li> </ul>
	Pictures from external equipment are unusual when the equipment is connected via HDMI	<ul style="list-style-type: none"> <li>● Check the HDMI cable is connected properly. (p. 80)</li> <li>● Turn the TV and equipment Off, then turn them On again.</li> <li>● Check an input signal from the equipment. (p. 86)</li> <li>● Use an equipment compliant with EIA/CEA-861/861B.</li> </ul>

Problem		Actions
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. 63)</li> <li>● Check the connections and settings. (p. 63 - 67)</li> <li>● Check the network equipment and network environment.</li> <li>● The router may not be set to issue IP address automatically. If the network administrator prefers to allocate an IP address, set an IP address manually. (p. 65)</li> <li>● The router may be using MAC address filtering (security setting). Confirm the MAC Address of this TV (p. 64) and set the router to be able to use it.</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 of the connected equipment prepared? (p. 62)</li> <li>● Check applicable data format. (p. 62)</li> </ul>
	Cannot operate VIERA CAST	<ul style="list-style-type: none"> <li>● Check the connections and settings. (p. 63 - 67)</li> <li>● The server or connected line might be busy now.</li> </ul>
Other	The TV does not switch On	<ul style="list-style-type: none"> <li>● Check the mains lead is plugged into the socket outlet.</li> </ul>
	The TV goes into "Standby mode"	<ul style="list-style-type: none"> <li>● Off Timer 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. 8)</li> <li>● Has the TV been switched On?</li> <li>● The batteries may be running low. Replace them.</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>
	Permanently lit spots on screen	<ul style="list-style-type: none"> <li>● 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.</li> </ul>
	Overcurrent error message appears	<ul style="list-style-type: none"> <li>● The connected USB device might cause this error. Remove the device and turn the TV Off with Mains power On / Off switch, then turn it On again.</li> <li>● Check if foreign objects are inside the USB port.</li> </ul>
	An error message appears	<ul style="list-style-type: none"> <li>● Follow the message's instructions.</li> <li>● If the problem persists, contact your local Panasonic dealer or the authorized Service Centre.</li> </ul>

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		TX-P42G20E TX-P42G20ES	TX-P46G20E TX-P46G20ES	TX-P50G20E TX-P50G20ES
Power Source		AC 220-240 V, 50 / 60 Hz		
Rated Power Consumption		280 W	290 W	325 W
On mode Average Power Consumption (based on IEC 62087 Ed.2) (measurement method )		129 W	150 W	175 W
Standby Power Consumption		0.40 W 17.00 W (With monitor out recording)		
Display panel	Aspect Ratio	16:9		
	Visible screen size	106 cm (diagonal) 921 mm (W) × 518 mm (H)	117 cm (diagonal) 1,019 mm (W) × 573 mm (H)	127 cm (diagonal) 1,105 mm (W) × 622 mm (H)
	Number of pixels	2,073,600 (1,920 (W) × 1,080 (H)) [5,760 × 1,080 dots]		
Sound	Speaker	120 mm × 35 mm × 2 pcs, 6 Ω		
	Audio Output	20 W (10 W + 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		<b>PAL B, G, H, I, SECAM B, G, SECAM L, L'</b> VHF E2 - E12                      VHF H1 - H2 (ITALY) VHF A - H (ITALY)              UHF E21 - E69 CATV (S01 - S05)                CATV S1 - S10 (M1 - M10) CATV S11 - S20 (U1 - U10)    CATV S21 - S41 (Hyperband) <b>PAL D, K, SECAM D, K</b> VHF R1 - R2                      VHF R3 - R5 VHF R6 - R12                    UHF E21 - E69 <b>PAL 525/60</b> Playback of NTSC tape from some PAL Video recorders (VCR) <b>M.NTSC</b> Playback from M.NTSC Video recorders (VCR) <b>NTSC (AV input only)</b> Playback from NTSC Video recorders (VCR) <b>DVB-T</b> Digital terrestrial services (MPEG2 and MPEG4-AVC(H.264)) <b>DVB-C</b> Digital cable services (MPEG2 and MPEG4-AVC(H.264)) Countries that DVB-C is available: Germany, Switzerland, Denmark, Sweden, Norway, Finland, Netherlands ● Check the latest information on the available services at the following website. (English only) <a href="http://panasonic.jp/support/global/cs/tv/">http://panasonic.jp/support/global/cs/tv/</a>		
Aerial input		VHF / UHF		
Operating Conditions		<b>Temperature</b> : 0 °C - 35 °C <b>Humidity</b> : 20 % - 80 % RH (non-condensing)		
Connection Terminals	AV1 (SCART terminal)		21 Pin terminal (Audio/Video in, Audio/Video out, RGB in, Q-Link)	
	AV2 (SCART terminal)		21 Pin terminal (Audio/Video in, Audio/Video out, RGB in, S-Video in, Q-Link)	
	AV3	VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)
		AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]
	COMPONENT	VIDEO	Y	1.0 V[p-p] (including synchronization)
			P <sub>B</sub> , P <sub>R</sub>	±0.35 V[p-p]
	Others	HDMI 1 / 2 / 3 / 4	TYPE A Connectors HDMI1 / 3 / 4 : HDMI (Version 1.4 with Content Type) and HDMI (Version 1.3a with Deep Colour, x.v.Colour™)	
			HDMI2 : HDMI (Version 1.4 with Content Type, Audio Return Channel) and HDMI (Version 1.3a with Deep Colour, x.v.Colour™)	
			● This TV supports "HDAVI Control 5" function.	
		PC	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)	
		Card slot	SD Card slot × 1 Common Interface slot (complies with CI Plus) × 1	
		ETHERNET	RJ45, IEEE802.3 10BASE-T / 100BASE-TX	
Output	USB 1 / 2	USB2.0 DC 5 V, Max 500 mA ● For available USB devices ➡ p. 86		
	AUDIO L - R	RCA PIN Type × 2 0.5 V[rms] (high impedance)		
	DIGITAL AUDIO OUT	PCM / Dolby Digital / DTS, Fiber optic		
Dimensions (W × H × D)		1,029 mm × 693 mm × 308 mm (With Pedestal) 1,029 mm × 654 mm × 82 mm (TV only)	1,132 mm × 761 mm × 335 mm (With Pedestal) 1,132 mm × 722 mm × 82 mm (TV only)	1,218 mm × 808 mm × 335 mm (With Pedestal) 1,218 mm × 769 mm × 82 mm (TV only)
Mass		23.5 kg Net (With Pedestal) 20.5 kg Net (TV only)	27.0 kg Net (With Pedestal) 24.0 kg Net (TV only)	29.0 kg Net (With Pedestal) 26.0 kg Net (TV only)

- Design and Specifications are subject to change without notice. Mass and Dimensions shown are approximate.
- This equipment complies with the EMC standards listed below.  
EN55013, EN61000-3-2, EN61000-3-3, EN55020, EN55022, EN55024

### Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

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

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

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



#### For business users in the European Union

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

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

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



Cd

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

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

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<http://www.europe.guideplus.com/>



#### Declaration of Conformity (DoC)

If you want to get a copy of the original DoC of this TV, please visit the following website:

<http://www.doc.panasonic.de>

Authorized Representative:

Panasonic Testing Centre

Panasonic Marketing Europe GmbH

Winsbergring 15, 22525 Hamburg, Germany

#### Customer's Record

The model number and serial number of this product may be found on its rear panel. You should note this 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

M0210-1030

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

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