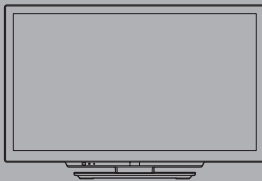


Panasonic®

Model No.
TC-L42D30L

Operating Instructions

42" Class 1080p LCD HDTV
(42.0 inches measured diagonally)



VIERA

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

English

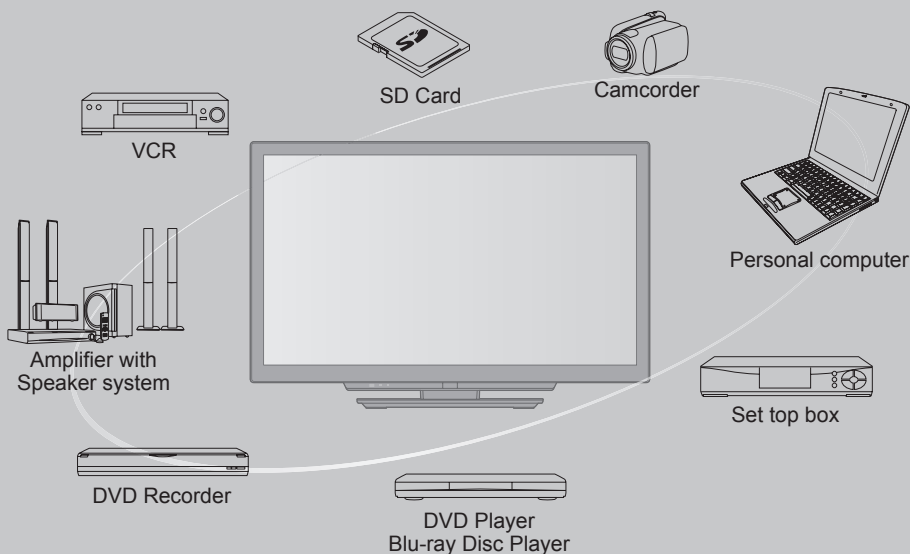


TQB2AC0042

Experience an amazing level of multimedia excitement

Receive digital terrestrial services using an integrated Digital TV tuner
Sharp pictures with HDMI terminal
Create home theatre and DVD recorder link-ups with "VIERA Link" without complicated settings!

Enjoy rich multimedia



Notice for Digital terrestrial broadcasting functions

- Any functions related to Digital broadcasting will work in the areas where the digital terrestrial broadcasting services are received. Consult your local Panasonic Dealer with coverage areas.
- This TV has the capability for Digital broadcasting specifications. But future Digital broadcasting services cannot be guaranteed.

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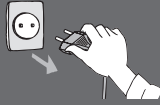
Safety Precautions

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.
- Do not touch the mains plug with a wet hand. (This may cause 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 the lead.
 - Do not use a damaged mains plug or socket outlet.

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



AC 220 V,
50 / 60 Hz



- Mains plug types vary between countries.

Power source / Installation

- This TV is designed for:
AC 220 V, 50 / 60 Hz
- Table top use

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 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 place the TV on sloped or unstable surfaces

- The TV may fall off or tip over.

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.

Use only the dedicated pedestals / mounting equipment

- Using an unapproved pedestal or other fixtures may make the TV unstable, risking injury. Be sure to ask your local Panasonic dealer to perform setup.
- Use approved pedestals (p. 6) / wall-hanging brackets (p. 8).

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 allow children to handle SD Card

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

Caution

This appliance is intended for use in tropical climates

When cleaning the TV, remove the mains plug

- Cleaning an energised TV may cause electrical shock.

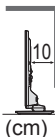
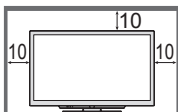
When the TV is not going to be used for a long period of time, remove the mains plug

- 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

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.
- If using a Wall-hanging bracket, refer to its manual.

Do not block the rear air vents

- Blocked ventilation by newspapers, table cloths, curtains, etc. may cause overheating, fire or electrical shock.

Do not apply strong force or impact to the display panel

- This may cause damage resulting in injury.

Notes

Auto power standby function

- The TV will automatically go into 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 Timer Menu (p. 19)
 - no operation is performed for the period selected in [Auto Standby] (p. 30)

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.

When you insert the main plug into the socket outlet, the TV is in the same condition as the last time you pulled the plug out as follows.

- Last time: TV off (Standby Mode) ➔ the TV will be in the standby mode.
- Last time: TV on ➔ the TV will be turned on (skip the Standby Mode)

Accessories / Options

Standard accessories

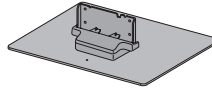
- Remote Control**
- N2QAYB000497
or
 - N2QAYB000678



- Batteries for the Remote Control (2)**
- R6 (AA)



- Pedestal**
→ (p. 7)



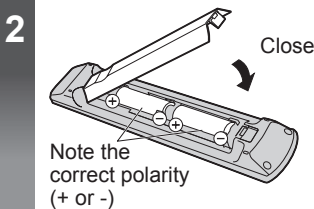
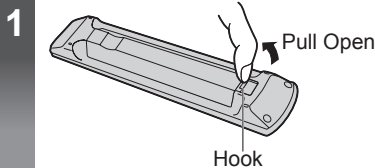
- AC Plug converter**



Operating Instructions

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

Inserting and removing remote's batteries



Caution

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

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 pedestal other than that provided with this TV.

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

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

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

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

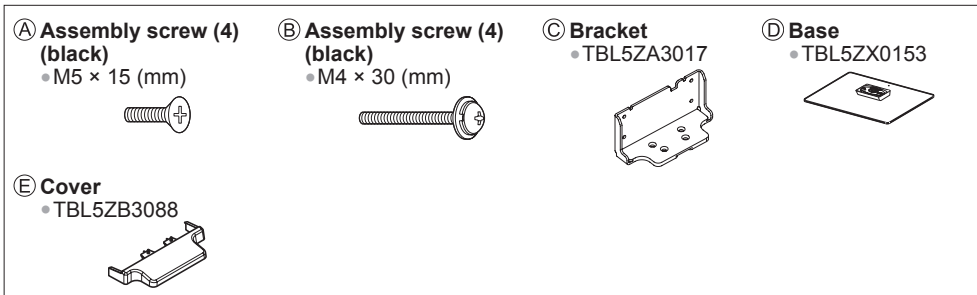
- If insufficient care is taken to ensure screws are properly tightened during assembly, the pedestal will not be strong enough to support the TV, and it might fall over and become damaged, and personal injury may result.

Ensure that the TV does not fall over.

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

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

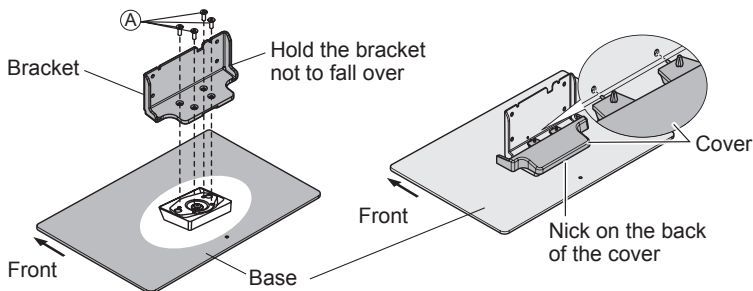
- If two or more people are not present, the TV may be dropped, and personal injury may result.



Assembling the pedestal

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

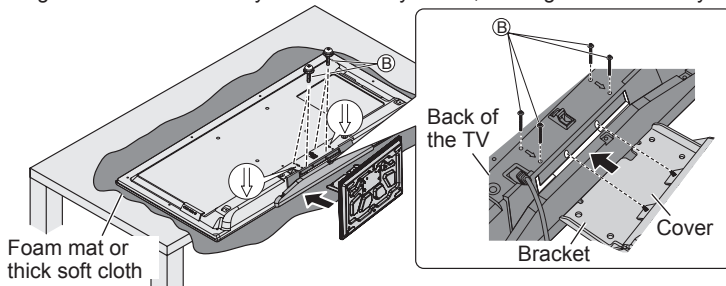
- Make sure that the screws are securely tightened.
 - Forcing the assembly screws the wrong way will strip the threads.
 - Attach the cover
 - Place the cover (E) so that it covers up the screws for the bracket.
 - Insert the protrusion of the cover into the opening of the bracket.
- * The cover has a nick on the back. Attach the cover so that the nick fits underneath the bracket.



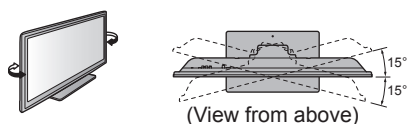
Securing the TV

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

- Tighten the four assembly screws loosely at first, then tighten them firmly to fix securely.



Adjust the LCD panel to your desired angle



- Ensure that the pedestal does not hang over the edge of the base even if the TV swivels to the full rotation range.
- Do not place any objects or hands within the full rotation range.

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 and Extension cable



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

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

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

Caution

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

Communication Camera

- TY-CC10W

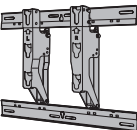


Caution

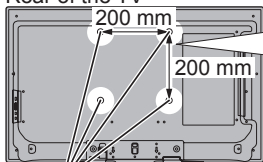
- This camera can be used on VIERA Connect (p. 16).
- Please also read the manual of the camera.
- Depending on the area, this optional accessory may not be available. For details, consult your local Panasonic dealer.

Wall-hanging bracket

- TY-WK3L2RW
The angle of wall-hanging bracket can be adjusted in "zero tilting (vertical)" and "5 or 10-degree tilting" for this TV.



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 4 mm
maximum 11 mm

Screw Thread Type: M6

(View from the side)

Warning

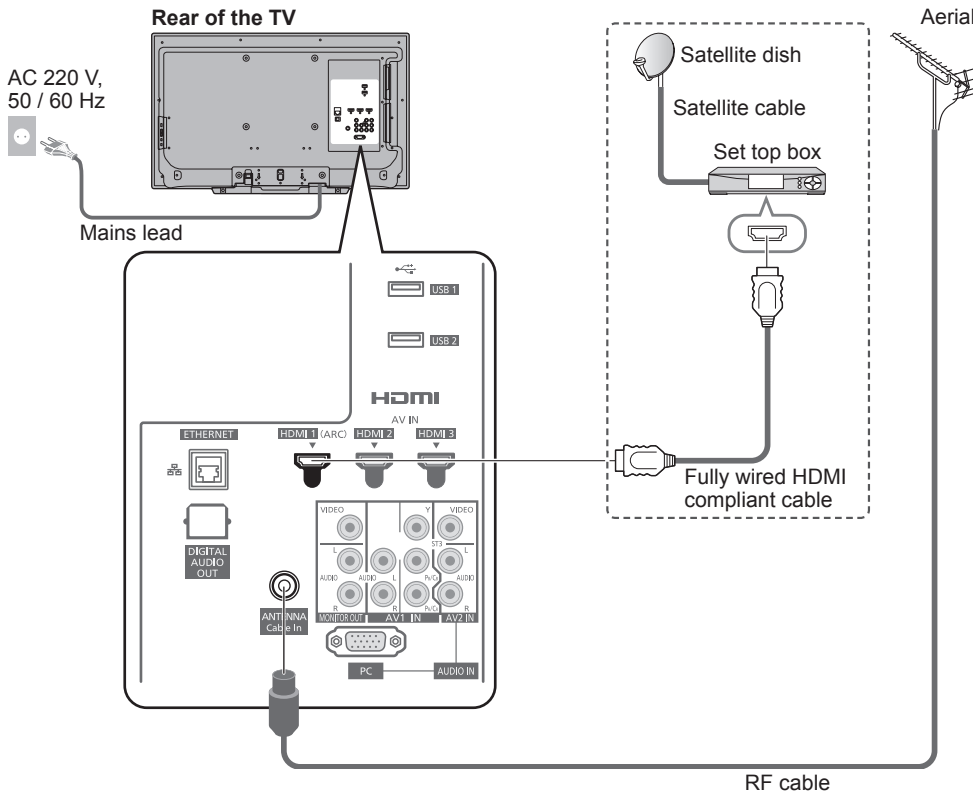
- Using other wall-hanging brackets, or installing a wall-hanging bracket by yourself have the risk of personal injury and product damage. In order to maintain the unit's performance and safety, be absolutely sure to ask your dealer or a licensed contractor to secure the wall-hanging brackets. Any damage caused by installing without a qualified installer will void your warranty.
- Do not mount the unit directly below ceiling lights (such as spotlights, floodlights or halogen lights) which typically give off high heat. Doing so may warp or damage plastic cabinet parts.
- Take care when fixing wall brackets to the wall. Always ensure that there are no electrical cables or pipes in the wall before hanging bracket.
- To prevent fall and injury, remove the TV from its fixed wall position when it is no longer in use.

Basic Connection

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

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

Connecting aerial

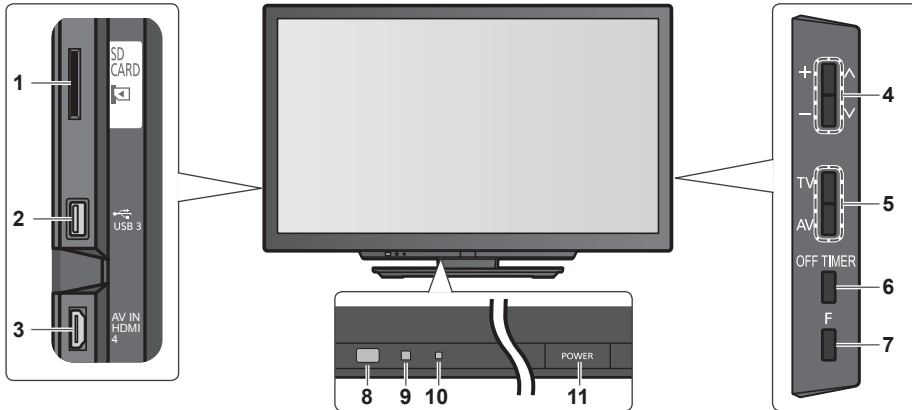


Note

- Keep RF (antenna) cable away from the mains lead to avoid and minimise mains interference pickup.
- Do not place the RF cable under the TV.
- To obtain optimum quality picture and sound, an aerial, the correct cable (75 Ω coaxial), and the correct terminating plug are required.
- If a communal aerial system is used, you may require the correct connection cable and plug between the wall aerial socket and the TV.
- Your local Television Service Centre or dealer may be able to assist you in obtaining the correct aerial system for your particular area and the accessories required.
- Any matters regarding aerial installation, upgrading of existing systems or accessories required, and the costs incurred, are the responsibility of you, the Customer.
- VIERA Link connection → (p. 61)
- Other equipment connection → (p. 65 - 67, 76)
- Read the manual of the equipment, too.

Identifying Controls

TV

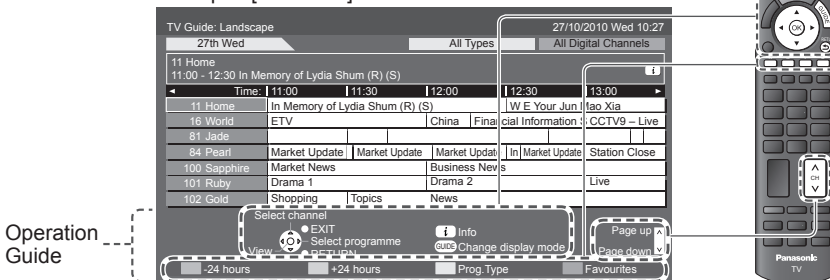


- 1 SD Card slot**
- 2 USB3 port**
- 3 HDMI4 terminal**
- 4 Channel Up / Down, Value change (when using the F button)**
- 5 Changes the input mode**
- 6 Off Timer**
 - Sets the time the TV automatically turns off ➔ (p. 19)
- 7 Function select**
 - [Volume] / [Backlight] / [Contrast] / [Brightness] / [Colour] / [Sharpness] / [Tint] (NTSC signal) / [Bass] ([Music] or [Speech] mode in the Sound Menu) / [Treble] ([Music] or [Speech] mode in the Sound Menu) / [Balance] / [Digital TV Auto Tuning] or [Analogue TV Auto Tuning]
- 8 Remote control signal receiver**
 - Do not place any objects between the TV remote control signal receiver and remote control.
- 9 C.A.T.S. (Contrast Automatic Tracking System) sensor**
 - Senses brightness to adjust picture quality when [Eco Mode] in the Picture Menu is set to [On] ➔ (p. 26)
- 10 Power LED**
 - On: Red
 - Off: No light
 - The TV consumes some electric energy for downloading the EPG even when the power LED is off.
- 11 POWER button**
 - Switches TV On or Off (standby)

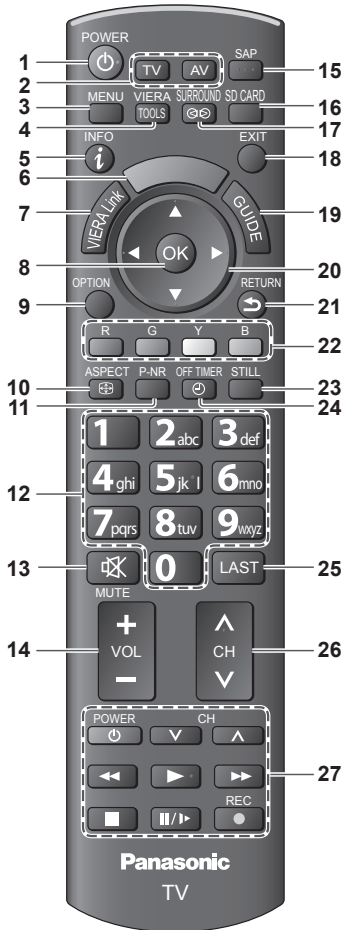
About the Operation Guide - On Screen Displays

The Operation Guide is displayed at the bottom of the on Screen Displays. The button used on this screen and manner of operation is displayed.

Example: [TV Guide]



Remote Control



- 1 Standby On / Off switch**
 - Switches TV On or Off standby
- 2 Input mode selection**
 - TV - switches Digital TV / Analogue TV mode ➔ (p. 17)
 - AV - switches to AV input mode from Input Selection list ➔ (p. 22)
- 3 [Main Menu] ➔ (p. 25)**
 - Press to access Picture, Sound and Setup Menus
- 4 VIERA TOOLS ➔ (p. 24)**
 - Displays some special feature icons and accesses easily
- 5 Information ➔ (p. 18)**
 - Displays channel and programme information
- 6 [VIERA Connect] ➔ (p. 16)**
 - Displays VIERA Connect home screen
- 7 [VIERA Link Menu] ➔ (p. 63)**
 - Accesses VIERA Link Menu
- 8 OK**
 - Confirms selections and choices
 - Press after selecting channel positions to quickly change programme
- 9 [Option Menu] ➔ (p. 19)**
 - Easy optional setting for viewing, sound, etc.
- 10 Aspect ➔ (p. 20)**
 - Changes aspect ratio
- 11 P-NR key ➔ (p. 27)**
 - Displays P-NR setting bar
- 12 Numeric buttons**
- 13 Sound Mute**
 - Switches sound mute On or Off
- 14 Volume Up / Down**
- 15 SAP**
 - Selects Audio mode for TV viewing ➔ (p. 17)
- 16 [Media Player] ➔ (p. 43)**
 - Switches to SD Card and USB device viewing / listening mode
- 17 Surround ➔ (p. 29)**
 - Switches surround sound setting
- 18 Exit**
 - Returns to the normal viewing screen
- 19 Guide ➔ (p. 21)**
 - Displays TV Guide
- 20 Cursor buttons**
 - Makes selections and adjustments
- 21 Return**
 - Returns to the previous menu / page
- 22 Coloured buttons**
 - Used for the selection, navigation and operation of various functions
- 23 STILL**
 - Still picture ➔ (p. 18)
- 24 Off Timer ➔ (p. 19)**
 - Sets the time the TV automatically turns off
- 25 Last View ➔ (p. 19)**
 - Switches to previously viewed channel or input modes
- 26 Channel Up / Down**
 - Selects channel in sequence
- 27 Connected equipment operations ➔ (p. 23, 48)**

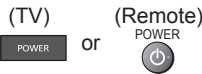
Auto Tuning

Search and store TV channels automatically.

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



1 Turn the TV On with the POWER button



2 Select your language



3 Select your country



4 Select the antenna input type



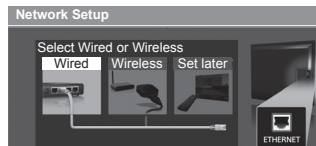
Auto Tuning starts

Auto Tuning - Digital TV and Analogue				
Digital TV Scan	CH 1	69		
Analogue TV Scan	CH 2	69		
This will take about 6 minutes.				
CH	Channel Name	Type	Quality	
16	Service 7	Digital TV	10	
16	Service 8	Digital TV	10	
16	Service 5	Digital TV	10	
69	DIGITAL 107.2	Digital TV	10	
69	DIGITAL 107.2	Digital TV	10	
69	Service name_max20	Digital TV	10	
Digital TV: 11	Analogue TV: 0	Searching		

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

5 Setup the network connection

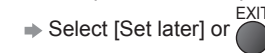
Select the network type



- [Wired]:** wired connection → (p. 14)
- [Wireless]:** wireless connection → (p. 15)



- To setup later on or skip this step



6 Select [Home]



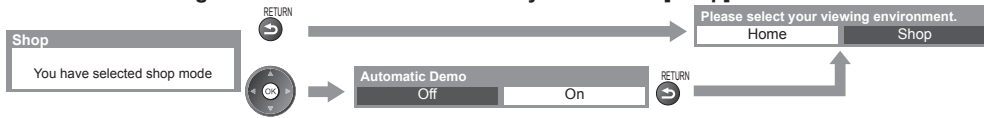
Auto Tuning is completed

*Viewing environment mode

Home : Recommended mode for viewing at home. Select [Home] for optimal picture / power consumption. [Viewing Mode] is set as [Normal] (p. 26).

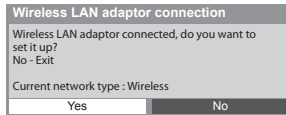
Shop : Demonstration mode to explain main features of this TV (for in-store display). [Viewing Mode] is set as [Dynamic] (p. 26).

To return to viewing environment selection mode if you selected [Shop]



- To change viewing environment mode later on, reset all settings by accessing Shipping Condition.
➔ [Shipping Condition] (p. 40)

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. 56)

Setup the network connection

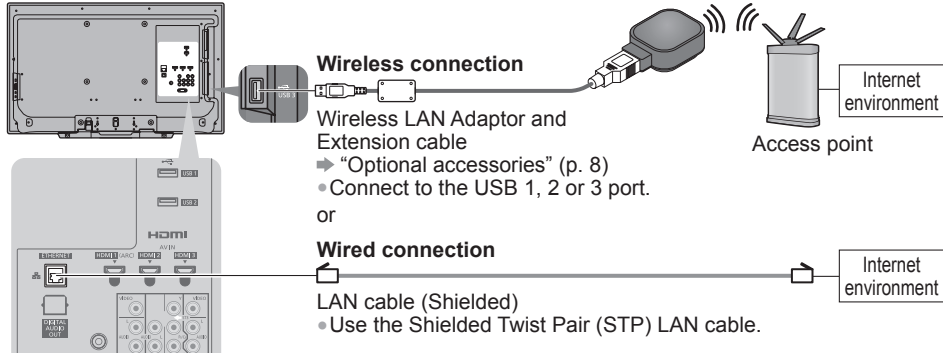
Set up the network connection to enable the network service functions such as VIERA Connect, etc. (p. 16, 60)

- To set up the wireless connection, the Wireless LAN Adaptor is required.
- Please note that this TV does not support wireless public access points.
- Ensure the network connections and network environment are completed before starting setup.

1 Connect the LAN cable or Wireless LAN Adaptor

To enable the network service functions (VIERA Connect, etc.), you need to connect the TV to a broadband network environment.

Rear of the TV



- If you do not have any broadband network services, please consult your retailer for assistance.
- For more information of the network connections (p. 52)

2 Select [Wired] or [Wireless]



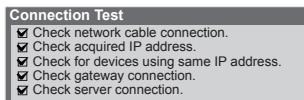
3 Start the settings

■ [Wired]

Select [Auto]



- To set manually, select [Manual] and set each item. For details ➔ (p. 54)



Automatically setup is done and the test of the network connection starts.

☑ : succeeded

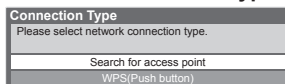
The test is successful and the TV is connected to the network.

☒ : failed

Check the settings and connections, and then select [Retry]

3

■ [Wireless] Select the connection type



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

■ [Search for access point]

Access points found automatically are listed.

Available Access Points				
No.	SSID	Access Point	Encryption	Recorded
1	Access Point A	11n(2.4GHz)	<input type="checkbox"/>	
2	Access Point B	11n(5GHz)	<input type="checkbox"/>	
3	Access Point C	11n(5GHz)	<input type="checkbox"/>	

1 Select your desired access point

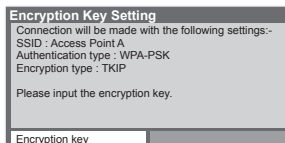


- To search access points again
- For the information of the highlighted access point
- To set manually (p. 56)

2 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.



3 Enter the encryption key of the access point (Set characters one by one)



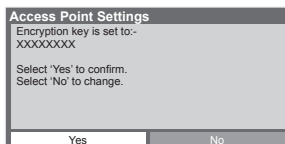
- You can set characters by using numeric buttons.



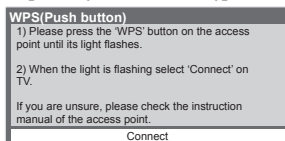
4 Select [Yes]



- 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.



■ [WPS(Push button)]

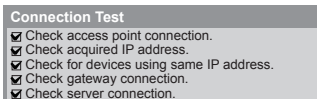


Press the WPS button on the access point until the light flashes. And then, press the OK button to connect the Wireless LAN Adaptor and the access point.



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

Perform the connection test after the access point setting is finished



: **succeeded**

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

: **failed**

Check the settings and connections, and then select [Retry].

- To set manually, select [Manual] and set each item. For details → (p. 56)

4

Complete the network connection



(Press twice)

Using “VIERA Connect”

VIERA Connect is a gateway to the internet services unique to Panasonic and has expanded VIERA CAST features greatly. VIERA Connect allows you to access some specific websites supported by Panasonic, and enjoy internet contents such as photos, videos, games, etc. from VIERA Connect home screen.

- This TV has no full browser function and all features of websites may not be available.

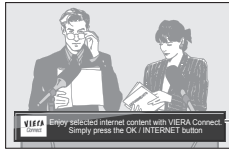


1

Turn power on

(TV) (Remote)
POWER or POWER

• Press for about 1 second



Every time you turn on the TV, VIERA Connect introduction banner appears. The banner is subject to change.

2

Access VIERA Connect

While the banner is displayed



or



• The button design varies depending on the remote control.

Example:



- Depending on the usage conditions, it may take a while to read all the data.
- Messages might be displayed before VIERA Connect home screen. Please read these instructions carefully and follow the on screen instructions.

Example: VIERA Connect home screen



- To go to the next level
➔ [MORE]
- To back to the previous level
➔ [BACK]

■ To exit from VIERA Connect

EXIT



- To set the VIERA Connect instruction banner display off
➔ [VIERA Connect Banner] (p. 32)

■ How to operate VIERA Connect (current as of January, 2011)

- To move the cursor / select the item
- To access
- To return to the previous screen



- When the key words are displayed on colour bar



- When options with numbers are displayed



- To return to VIERA Connect home screen



- Video communication requires an exclusive Communication Camera TY-CC10W.
➔ “Optional accessories” (p. 8)

For details, read the manual of the Communication Camera.

- You can connect a keyboard and a gamepad via USB port for character input and playing games in VIERA Connect. You can also operate the TV with a keyboard or a gamepad other than VIERA Connect features. For more information ➔ “USB connection” (p. 73)

Note

- If you cannot access VIERA Connect, check the network connections and settings (p. 14 - 15).
- For more information of VIERA Connect ➔ (p. 60)

Watching TV



1 Turn power on

■ VIERA Connect banner appears

You can access to VIERA Connect and enjoy the various contents.

- To remove this banner, leave for about 5 seconds or press any buttons (except the buttons to access VIERA Connect).
- To set this banner display off
→ [VIERA Connect Banner] (p. 32)



2 Select Digital TV or Analogue TV mode



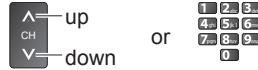
The selected mode is displayed.

Information banner appears whenever you select a channel

- For details → (p. 18)

- It is also possible to select the mode pressing the TV button repeatedly on the side panel of the TV. (p. 10)
- If you use an RF selector, switch it whenever you switch between Digital TV and Analogue TV mode.

3 Select a channel



- To select the two or three-digit channel number, e.g. 112

1 1 2 (in a short time)

- If one or two-digit channel number, e.g. 39



(quickly changes the channel)

■ To select from the Channel List



All Digital Channels	
05.1	Cartoon Nwk
05.2	BBC Radio Wales
05.3	BBC Radio Cymru
05.4	BBC ONE Wales
05.5	BBC THREE
05.6	BBCI
05.7	CBBC Channel



① select channel

② watch

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

Other useful functions

Display the SUB MENU listen with SAP (Secondary Audio Programme)

Selects Audio mode for watching TV



Digital TV mode

Switch the audio signal (if available).
(Audio 1 / Audio 2 / Audio n ...)

Analogue TV mode

Select the desired audio mode.
(Stereo / SAP / Mono)

Display Information banner

Display Information banner



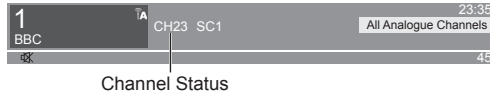
• Also appears when changing a channel



Digital TV mode



Analogue TV mode



Features available / Message meanings

	Sound mute On	[CC]	Closed caption service available
[Bad signal]	Poor TV signal quality (Digital TV mode)	[Text]	Digital text service available (Digital TV mode)
[Encrypted]	Scrambled programme (Digital TV mode)	[SAP]	Audio mode available ➔ (p. 17)
[Dolby D+], [Dolby D], [HE-AAC]	Dolby Digital Plus, Dolby Digital or HE-AAC audio track (Digital TV mode)	1 - 90	Off Timer remaining time • For settings ➔ (p. 19)

- To confirm another tuned channel name



- To watch the programme listed in the banner



- Information on the next programme (Digital TV mode)



- To select a favourite list (Digital TV mode) (if the favourite list is created) in [Favourites Edit] ➔ p. 35)



- To update the TV software (if available)



- To hide



- Extra information (press again to hide the banner) (Digital TV mode)



- To set display timeout
➔ [Banner Display Timeout] (p. 32)

* The clock time displayed on the TV is broadcasted by digital TV station and you cannot adjust the time.

STILL

Freeze / unfreeze picture



Display the selectable settings for the current programme

1 Check or change the current programme status instantly



2 Select



3 Change



[Multi Audio] (Digital TV mode)

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

[Dual Audio] (Digital TV mode)

Allows you to select stereo / monaural (if available)

[Digital CC] (Digital TV mode)

Allows you to select the digital closed caption (if available)

[Digital Text] (Digital TV mode)

Allows you to select the digital text (superimposed) (if available)

[Channel Colour Set] (Analogue TV mode)

Sets colour density ➔ [Picture Menu] (p. 26)

[Analogue CC] (Analogue TV mode)

Allows you to select the analogue closed caption (if available)

[Volume Correction]

Adjusts the volume of an individual programme or input mode ➔ [Sound Menu] (p. 29)

Last view

Switch to previously viewed channel or input mode easily

LAST • Press again to return to the present view.

Note

• Watching less than 10 seconds is not regarded as the previously viewed channel or input mode.

Off Timer

Turn the TV off automatically after a fixed period of time [0 / 15 / 30 / 45 / 60 / 75 / 90 minutes]



- Also possible to set the time from [Off Timer] in the Timer Menu (p. 30) or the Off timer button on TV (p. 10)
- To cancel ➔ Set to [0] or turn the TV off.
- To display the remaining time ➔ Display Information banner (p. 18)
- When the remaining time is within 3 minutes, the remaining time will flash on screen.

Change aspect ratio

Enjoy viewing the image at its optimum size and aspect.

Press repeatedly until you reach the desired mode

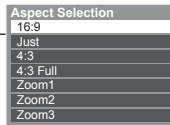
ASPECT



■ If Aspect Selection list is displayed

1 Display Aspect Selection list

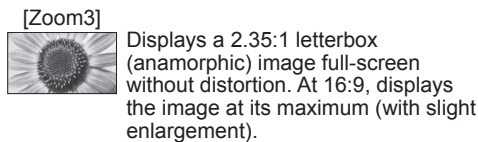
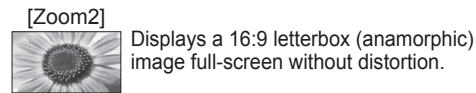
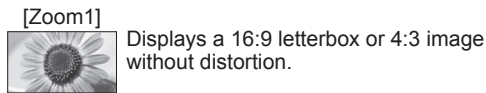
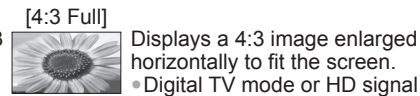
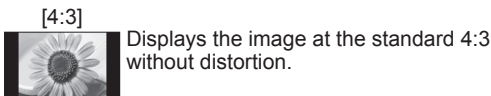
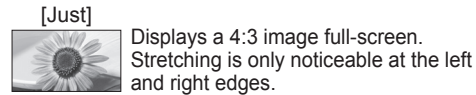
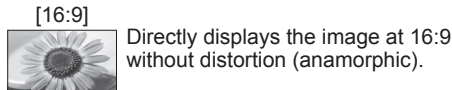
ASPECT



2 While the list is displayed, select the mode



- ① select
- ② change



Note

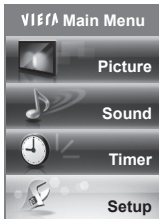
- For HD signal in Digital TV mode, only [16:9] and [4:3 Full] are available.
- For SD signal in Digital TV mode, only [16:9], [4:3], and [4:3 Full] are available.
- Only [16:9] and [4:3] are available in PC input mode.
- Aspect is fixed to [16:9] when [Viewing Mode] is set to [Game] in the Picture Menu.
- Aspect mode can be memorised separately for each SD (Standard definition) and HD (High definition) signals except in Digital TV mode.

Change OSD language

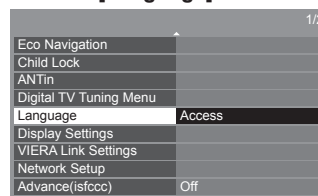
You can change language for on screen displays.

1 Display the menu

MENU



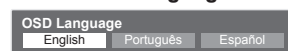
3 Select [Language]



4 Select [OSD Language]



5 Select the language and set



Using TV Guide (Digital TV mode)

Using TV Guide enables you to select a programme easily, view programme information, etc. TV Guide - Electronic Programme Guide (EPG) provides an on screen listing of the current and future programmes over the next seven days depending on broadcasters.



1
2

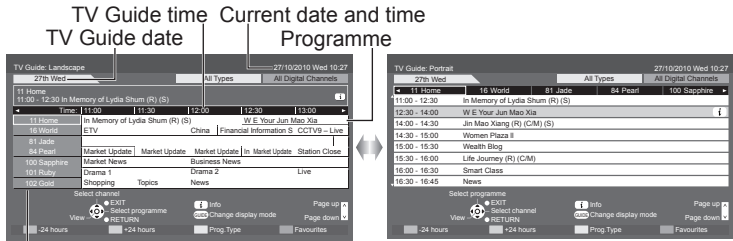
If in Analogue TV mode

Select Digital TV mode

- If you use an RF selector, switch it whenever you switch between Digital TV and Analogue TV mode.

View TV Guide

Each time pressed, the layout will be changed. (Landscape / Portrait)



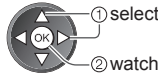
Landscape (Displays by channel)

Portrait (Displays by time)

Channel position and name

To watch the programme

Select the current programme or channel



To view a channel list of the selected favourite list

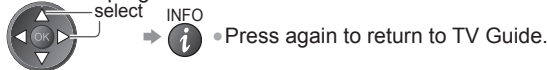
(Favourite list)



To list favourite channels
→ (p. 35)

To view details of the programme

Select the programme



To view a channel list of the selected type

(Type list)



To the previous day **R**

To the next day **G**

To return to TV



Note


- 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.

Watching External Inputs

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

- To connect the equipment → (p. 9, 65 - 67)

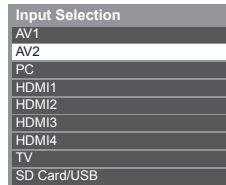


■ To return to TV


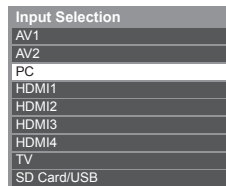
1 Display the Input selection menu

2 Select the input mode connected to the equipment

Example (AV2)



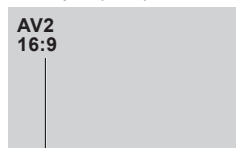
Example (PC)



- You can also select the input using the AV button on the remote control or the side panel of the TV (p. 10). Press the button repeatedly until the desired input is selected.
- You can label or skip each input mode → [Input Labels] (p. 39). Skipped inputs will not be displayed when the AV button is pressed.

3 View

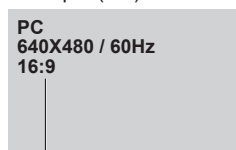
Example (AV2)



Displays the selected mode

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

Example (PC)











Displays the selected mode

- You can also listen to PC sound with the audio cable connected. To connect → (p. 67)
- You can setup some functions → PC Setup (p. 31) in the Setup Menu.
- For HDMI-compatible PC, possible to connect to HDMI terminals (HDMI1 / HDMI2 / HDMI3 / HDMI4) by using HDMI cable (p. 69, 70).

Operating the equipment with the TV remote control

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

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



How to change the code for the type of the equipment

Each type of Panasonic equipment has its own remote control code.

Please change the code for each equipment you want to operate.

If you operate in Video mode of Media Player (p. 48) or the connected equipment in VIERA Link (p. 63), select the code "73".

Press and hold  during the following operations

Enter the appropriate code  → Press 

Type of the equipment	Code
DVD Recorder / DVD Player	70 (default)
Player theatre / Blu-ray Disc theatre	71
VCR	72
Using in Video mode of Media Player → (p. 48) The equipment using in VIERA Link → "VIERA Link Control" (p. 63)	73

Note

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

How to Use VIERA TOOLS

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

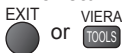


1 Display icons of the feature

2 Select a feature



■ **To return to TV**



■ **Follow the operations of each feature**

[VIERA Link Control]

➔ **“VIERA Link Control”** (p. 63)



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. 44)



[Video]*

➔ **“Video mode”** (p. 47)



[Music]*

➔ **“Music mode”** (p. 50)



[VIERA Connect]

➔ **“Using “VIERA Connect””** (p. 16)



[Media Server]*

➔ **“Using DLNA® features”** (p. 57)



* When two or more available devices are connected, a selection screen will be displayed. Please select the correct description and access.

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 the Menu Functions

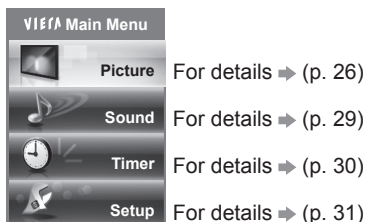
Various menus allow you to make settings for the picture, sound, and other functions.



1 Display the menu

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

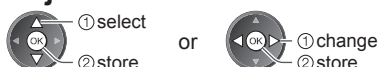
2 Select the menu



3 Select the item



4 Adjust or select



■ Choose from among alternatives



■ Adjust using the slide bar



■ Go to the next screen



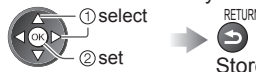
Displays the next screen

■ Enter characters by free input menu

You can enter names or numbers freely for some items.



Set characters one by one



- To delete a character -> R
- To delete all characters -> B

You can set characters by using numeric buttons.



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

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

■ To return to TV at any time



■ To return to the previous screen



■ To change menu pages



■ To reset the settings

- To reset the picture settings only -> [Reset to Defaults] in the Picture Menu (p. 28)
- To reset the sound settings only -> [Reset to Defaults] in the Sound Menu (p. 30)
- To initialise all settings -> [Shipping Condition] in the Setup Menu (p. 40)



Note

- In each Viewing Mode and input, [Backlight], [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.
- Set for each input signal.

Item	Adjustments / Configurations (alternatives)
Viewing Mode <ul style="list-style-type: none"> • Dynamic • Normal • Cinema • True Cinema • Game • Photo • Professional1 • Professional2 	Basic picture mode [Dynamic]: Provides enhanced picture contrast and sharpness when viewing in a bright room. [Normal]: Recommended for viewing under normal ambient room lighting conditions. [Cinema]: For watching movies in a darkened room with improving the performance of contrast, black and colour reproduction [True Cinema]: Precisely reproduces the original quality of the image without any revision. [Game]: Fast response signal specifically to provide suitable images for playing games <ul style="list-style-type: none"> • Not valid on TV mode • A continuous record of time spent using Game mode can be displayed in the top right of the screen. ➔ [Playing Time Display] (p. 32) [Photo]: <ul style="list-style-type: none"> • For HDMI input, Media Player and Network service operations [Professional1] / [Professional2]: Allows you to set the professional picture settings in [Advanced Settings], [Lock Settings] and [Copy Adjustment] (p. 27 - 28) <ul style="list-style-type: none"> • This mode is available only when [Advance(isfcc)] in the Setup Menu is set to [On] • Not valid on VIERA Connect • If the certified professional dealer sets these modes, [Professional1] and [Professional2] may be displayed as [isf Day] and [isf Night]
Backlight	
Contrast	
Brightness	Increases or decreases the levels of these options according to your personal preference
Colour	
Sharpness	
Tint	The picture hue can be adjusted to suit your taste <ul style="list-style-type: none"> • For NTSC signal, Component (Y, P_B/C_B, P_R/C_R) or HDMI input • Not valid when [Viewing Mode] for HDMI input is set to [Photo]
Colour Balance <ul style="list-style-type: none"> • Cool • Normal • Warm 	Allows you to set the overall colour tone of the picture <ul style="list-style-type: none"> • Not valid when [Viewing Mode] is set to [True Cinema]
Channel Colour Set	Colour density varying between broadcast channels can be adjusted to three levels for each reception channel <ul style="list-style-type: none"> • Select the channel you want to adjust and set this function.
Vivid Colour <ul style="list-style-type: none"> • Off • On 	Automatically adjusts colours to vivid ones <ul style="list-style-type: none"> • Not valid on PC signal • Not valid when [Viewing Mode] is set to [True Cinema], [Professional1] or [Professional2]
Eco Mode <ul style="list-style-type: none"> • Off • On 	Automatically adjusts the screen brightness appropriately as the surrounding light level lowers to reduce the power consumption <ul style="list-style-type: none"> • Not available in Shop mode (Dynamic picture mode)

P-NR • Off • Min • Mid • Max		Picture Noise Reduction Automatically reduces unwanted picture noise and flicker noise in the contoured parts of a picture • Not valid on PC signal	
3D-COMB • Off • On		Makes still or slow moving pictures look more vivid • Occasionally, while viewing still or slow moving pictures, colour patterning may be seen. Set to [On] to display sharper and more accurate colours. • For NTSC signal reception only • Not valid on Component (Y, P _B /C _B , P _R /C _R), PC, HDMI and Media Player	
Setup Level • Normal • With setup 7.5IRE		Selects dark or light picture • You can set this function for each input. • Not valid on Digital TV mode	
Screen Display • Off • On		Turns the screen off when you select [Off] • The sound is active even if the screen turns off. • Press any buttons (except Standby) to turn the screen on. • This function is effective in reducing power consumption when listening to the sound without watching the TV screen.	
Advanced Settings	White Balance*1	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*2	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
		R-Luminance	Adjusts the luminance of red area
		G-Luminance	Adjusts the luminance of green area
		B-Luminance	Adjusts the luminance of blue area
		Reset to Defaults	Press the OK button to reset to the default Colour Management
	Gamma*3	Gamma • 1.8 / 2.0 / 2.2 / 2.4 / 2.6	Switches the gamma curve • Please note the numerical values are reference for the adjustment.
		Reset to Defaults	Press the OK button to reset to the default Gamma
	Motion Picture Pro • Off • Mid • Max		Automatically compensates the picture frame rate and removes juddering movements to make the images smooth and clear • Depending on the contents, images may be noisy. To prevent the noise, change the setting. • 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.
24p Smooth Film • Off • Mid • Max		Automatically compensates the picture frame rate to make the 24p source movie images smooth • This is available only for 24p signal input and displayed instead of [Motion Picture Pro]. • 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.	
Film Cadence Detection • Off • On		Automatically makes the film source movie images clear	

Advanced Settings	Resolution Enhancer <ul style="list-style-type: none"> • Off • Mid • Max 	Enhances the picture resolution to make the image sharper <ul style="list-style-type: none"> • This function is available for SD (Standard definition) signal. • 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]. • Not valid on VIERA Connect and Media Player
	16:9 Overscan <ul style="list-style-type: none"> • Off • On 	[On]: Default - Image is overscanned by ~5% beyond the edge of the screen to hide edge video noise [Off]: Displays image in its original size including edge video noise such as lines, dashes, dots etc. <ul style="list-style-type: none"> • Applicable for video signals when TV aspect is set to [16:9] • Memorised separately for SD and HD channels / signals
	H-Size <ul style="list-style-type: none"> • Normal • Extended 	Switches over horizontal scanning size
	Colour Matrix <ul style="list-style-type: none"> • SD • HD 	Available only with 480p input on video signals in a natural colour from digital equipment connected to AV1 component (Y, P _B /C _B , P _R /C _R) or HDMI1 / HDMI2 / HDMI3 terminals. Select [SD] or [HD] to adjust suitable colour parameters for [SD] (standard definition) or [HD] (high definition) <ul style="list-style-type: none"> • [SD]: Input signal is a normal TV system • [HD]: Input signal is a high definition system
	DVI Input Setting <ul style="list-style-type: none"> • Normal • Full 	Changes the black level in the image for HDMI input mode with DVI input signal manually <ul style="list-style-type: none"> • 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]. • The black level for HDMI input signal will be adjusted automatically. • For HDMI input mode with DVI input signal only
Lock Settings	Locks for each Viewing Mode and input. Additionally, [Backlight], [Contrast], [Brightness], [Colour], [Sharpness], [Tint], and [Reset to Defaults] in the Picture Menu can be locked for [Professional1] and [Professional2]. <ul style="list-style-type: none"> • Make a note of the PIN number in case you forget it. 	
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. <ul style="list-style-type: none"> • You cannot copy to the locked mode. 	
Reset to Defaults	Press the OK button to reset the present Picture Viewing Mode of the selected input to the default settings	

*1 : Only when [Advance(isfccc)] is [ON] and [Lock Settings] is [Off]

*2 : Only when [Viewing Mode] is [Professional1 (isf Day)] or [Professional2 (isf Night)] and [Lock Settings] is [Off]

*3 : Only when [Lock Settings] is [Off]



Item	Adjustments / Configurations (alternatives)
Mode <ul style="list-style-type: none"> • Music • Speech • User 	Selects basic sound mode <ul style="list-style-type: none"> • The selected mode affects all input signals. [Music]: Improves sound quality for watching music videos, etc. [Speech]: Improves sound quality for watching news, drama, etc. • In Music and Speech modes, you can adjust [Bass] and [Treble] settings, and those settings will be stored for each mode. [User]: Adjusts the sounds manually by using the equaliser to suit your favourite sound quality. • For the User mode, [Equaliser] will appear on the Sound Menu instead of [Bass] and [Treble]. Select the [Equaliser] and adjust the frequency. <ul style="list-style-type: none"> ➔ [Equaliser] (below)
Bass	Increases or decreases level to enhance or minimise lower, deeper sound output
Treble	Increases or decreases level to enhance or minimise sharper, higher sound output
Equaliser	Adjusts the frequency level to suit your favourite sound quality <ul style="list-style-type: none"> • This function is available when [Mode] is set to [User]. • Select the frequency and change the frequency level by using the cursor button. • If you want to enhance the bass sound, raise the level of the lower frequency. If you want to enhance the treble sound, raise the level of the higher frequency. • To reset the levels of each frequency to the default settings, select the [Reset to Defaults] by using the cursor button, and then press the OK button.
Balance	Adjusts the volume level of right and left speakers
Surround <ul style="list-style-type: none"> • Off • V-Audio • V-Audio Surround • V-Audio ProSurround 	Surround sound settings <ul style="list-style-type: none"> [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 [V-Audio ProSurround]: Provides a three-dimensional sound space with digital reverb effects
Auto Gain Control <ul style="list-style-type: none"> • Off • On 	Adjusts the current volume level if it is extremely different from the previous viewed channel or input mode
Volume Correction	Adjusts the volume of individual channel or input mode
Speaker Distance to Wall <ul style="list-style-type: none"> • Over 30cm • Up to 30cm 	Adjusts the low frequency sound <ul style="list-style-type: none"> • If the back space between the TV and wall is over 30 cm, [Over 30cm] is recommended. • If the back space between the TV and wall is within 30 cm, [Up to 30cm] is recommended.

<p>SPDIF Selection</p> <ul style="list-style-type: none"> • Auto • PCM 	<p>SPDIF: A standard audio transfer file format Selects the initial setting for digital audio output signal from the DIGITAL AUDIO OUT terminal [Auto]: Dolby Digital Plus, Dolby Digital and HE-AAC (48 kHz) multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM. [PCM]: Digital output signal is fixed to PCM. • For Video mode (p. 47) or Network video contents (p. 58)</p>
<p>HDMI1 / 2 / 3 / 4 Input</p> <ul style="list-style-type: none"> • Digital • Analogue 	<p>Selects to fit the input signal (p. 70) [Digital]: HDMI cable connection [Analogue]: HDMI-DVI adaptor cable connection • HDMI input mode only</p>
<p>Reset to Defaults</p>	<p>Press the OK button to reset settings of the present [Mode], [Balance] and [Surround] in the Sound Menu to the default</p>





Item	Adjustments / Configurations (alternatives)
<p>Off Timer</p> <ul style="list-style-type: none"> • Off • 15 / 30 / 45 / 60 / 75 / 90 minutes 	<p>Sets the time until the TV automatically goes into Standby mode</p>
<p>Auto Standby</p> <ul style="list-style-type: none"> • Off • 2 / 4 hours 	<p>Sets the time the TV automatically goes into Standby mode when no operation is performed for the selected times</p> <ul style="list-style-type: none"> • Automatic input switching with the connected equipment affects this function and time-count will be reset. • The notification message will appear 3 minutes before going into Standby mode.



Setup



Item		Adjustments / Configurations (alternatives)
PC Setup	Input Resolution	Switches to a wide view <ul style="list-style-type: none"> •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
	Clock	Sets to the minimum level if noise occurs.
	H-pos	 Adjusts horizontal position
	V-pos	 Adjusts vertical position
	Clock Phase	Eliminates flicker and distortion <ul style="list-style-type: none"> •Adjust after Clock adjustment •Set to the minimum level if noise occurs
	Sync <ul style="list-style-type: none"> •H & V •On Green 	PC sync signal type [H & V]: by the horizontal and vertical signals from your PC [On Green]: Sync on Green sync from your PC
	Reset to Defaults	Press the OK button to reset the PC Setup settings to the default
Eco Navigation		Automatically sets the TV to the most suitable energy-saving mode <ul style="list-style-type: none"> •If you press the OK button, the following items are set as below: [Eco Mode], [VIERA Link], [Power off Link], [Standby Power Save], [Power Save] ⇒ [On] [Intelligent Auto Standby] ⇒ [On (No reminder)] [Auto Standby] ⇒ [2 hours]
Child Lock		Locks a channel / AV input to prevent access to it (p. 38)
ANT in <ul style="list-style-type: none"> •Cable •Antenna 		Select Antenna input type ([Cable] / [Antenna]) <ul style="list-style-type: none"> •All tuning data will be erased.
Tuning Menu	Favourites Edit	Creates a list of favourite channels (Digital TV mode) (p. 35)
	Channel List	Skips the unwanted channels or edits channels (p. 35, 37)
	Auto Tuning	Sets all Digital TV or Analogue TV channels automatically (p. 36, 37)
	Manual Tuning	Sets the TV channels manually (p. 36, 37)
	Update Channel List	Updates the channel list while keeping your settings (Digital TV mode) (p. 36)
	New Channel Message <ul style="list-style-type: none"> •Off •On 	Selects whether to give a notification message when a new channel is found (Digital TV mode) (p. 36)
	Signal Condition	Checks the Digital TV signal condition (Digital TV mode) (p. 36)
Language	OSD Language <ul style="list-style-type: none"> •English •Portuguese •Spanish 	Changes language for on screen displays

Display Settings	Input Labels	Labels or skips each input terminal (p. 39)
	Banner Display Timeout • 0 (No display) • 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 seconds	Sets how long the information banner stays on screen (p. 18)
	VIERA Connect Banner • Off • On	Sets the VIERA Connect introduction banner display (p. 16)
	Playing Time Display • Off • On	Sets to [On] to display a continuous record of time spent using Game mode every 30 minutes • This function is available when [Game] is selected in [Viewing Mode] (p. 26).
VIERA Link Settings	VIERA Link • Off • On	Sets to use VIERA Link functions • VIERA Link functions become available when [VIERA Link] is set to [On] (p. 62).
	HDMI Content Type • Off • Auto	Adjusts the picture settings according to the content type from the connected equipment via HDMI cable • 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.
	Power on Link • Off • On	Sets to use Power on Link functions (p. 62)
	Power off Link • Off • On	Sets to use Power off Link functions (p. 62)
	Standby Power Save • Off • On	Controls the power consumption in Standby mode of the connected equipment to reduce the power consumption (p. 62) • This function is available when [VIERA Link] is set to [On] and [Power off Link] is set to [On].
	Intelligent Auto Standby • Off • On (With reminder) • On (No reminder)	Makes non-watched or non-used connected equipment go into Standby mode to reduce the power consumption (p. 62) • This function is available when [VIERA Link] is set to [On].
Network Setup		Sets the network setting to use in your network environment (p. 53)
Advance(isfcc) • Off • On		Enables the advanced picture settings • 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.

System Menu	USB Keyboard Layout <ul style="list-style-type: none"> • English (US) • Portuguese (Brazil) • Spanish (Latin American) 	Sets USB keyboard layout
	Shipping Condition	Resets all settings to the original condition (p. 40)
	System Update	Downloads new software to this TV (p. 41)
	Software Licence	Displays the software licence information
	System Information	Displays the system information of this TV
Other Settings	Power Save <ul style="list-style-type: none"> • Off • On 	Reduces brightness of the picture to economise on power consumption
	Daylight Saving Time <ul style="list-style-type: none"> • Auto • Off • +1 hour 	Selects the daylight saving time mode

- A different menu will be displayed in the mode of Media Player / Network service operations. (p. 42 - 60)
- Only available items can be selected.

Tuning and Editing Channels

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



■ **To return to TV**
EXIT

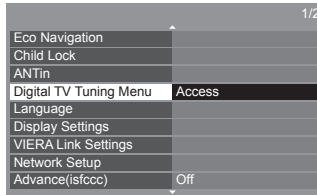
Preparations:

- 1 Select Digital TV or Analogue TV
- 2 Display the menu
- 3 Select [Setup]

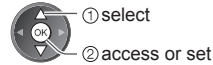
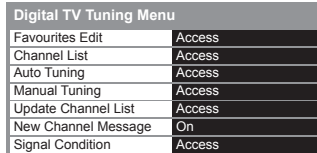
- The selected mode is displayed on the screen (p. 17).
- If you use an RF selector, switch it whenever you switch between Digital TV and Analogue TV mode.

■ When you select Digital TV

1 Select [Digital TV Tuning Menu]



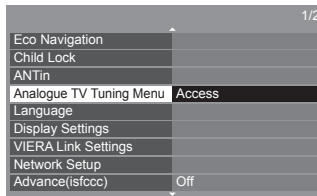
2 Select a function



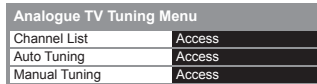
• For details → (p. 35 - 36)

■ When you select Analogue TV

1 Select [Analogue TV Tuning Menu]



2 Select a function



• For details → (p. 37)

For Auto Tuning, using the buttons on the side panel of the TV (p. 10)

1 Press repeatedly until [Auto Tuning] appears



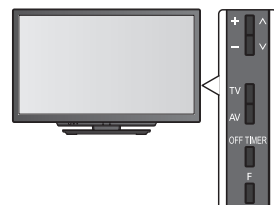
2 Access [Auto Tuning]



3 Start [Auto Tuning]



• To return to TV

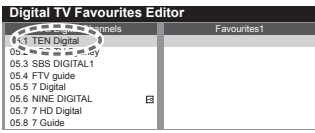


Digital TV Tuning Menu

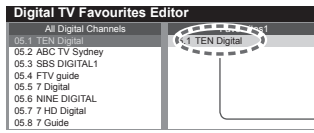
[Favourites Edit] - List favourite channels

Create your favourite channel lists (Favourites) from various broadcasters (up to 4: [Favourites] 1 to 4). The Favourites lists are available from the Information banner (p. 18) and the TV Guide (p. 21).

1 Select a channel to list



2 Add it to the Favourites list



A channel is added

3 Store



• To display other Favourites

• To add all channels to the list

■ To edit list



Select the field of Favourites to edit and:

• To name the Favourites



You can set characters by using numeric buttons (p. 25).

(maximum: ten characters)

• To move the channel



Select the new position

or

Confirm

• To delete the channel

• To delete all channels

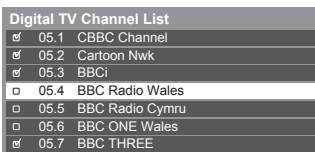
Note

- Channel numbers are defined by the broadcaster and cannot be changed.
- Hidden channels (see below) can be selected but not viewed.

[Channel List] - Skip unwanted channels, Edit Channels

You can hide unwanted 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)

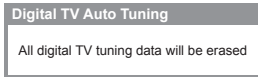
• To reveal all channels

• To retune each channel (Manual Tuning)

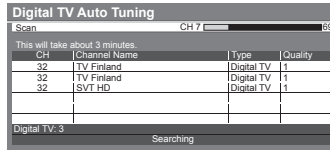
(p. 36)

[Auto Tuning] - Set all Digital TV channels automatically

1 Start Auto Tuning



2 Settings are made automatically

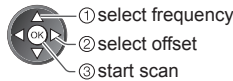
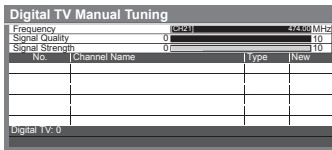


Automatically retune all Digital TV channels received in the area.

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

[Manual Tuning] - Set Digital TV channel manually

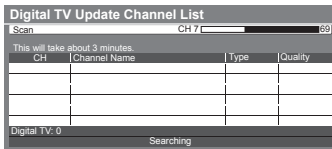
Normally use [Auto Tuning] or [Update Channel List] to update Digital TV channels on your channel list. If tuning has not been done completely or for adjusting the direction of the aerial, use this function.



- All channels found will be added to the Digital TV Channel List.

[Update Channel List] - Update channels automatically

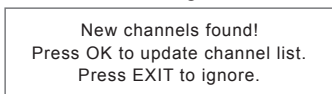
You can add new channels, delete duplicated channels, update channel name and position automatically to Channel List.



- Channel List is updated while keeping your settings in [Favourites Edit], [Channel List], [Child Lock], etc.
- Depending on the signal condition, the update may not work properly.

[New Channel Message] - Display a notification message

Selects whether to give a notification message when a new Digital TV channel is found. **[Off]** / **[On]**

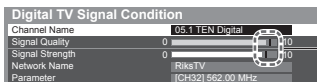


- Selecting OK will perform [Update Channel List].

[Signal Condition] - Check Digital TV signal

Selects a channel and checks the Digital TV signal condition.

- To change the channel



These bars show the maximum signal value of the selected channel.

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

[Signal Quality]:

- Green bar → Good
- Yellow bar → Poor
- Red bar → Bad (Check the aerial)

Analogue TV Tuning Menu

[Channel List] - Skip unwanted channels / Edit Channels (Change name, Move)

You can hide unwanted 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)

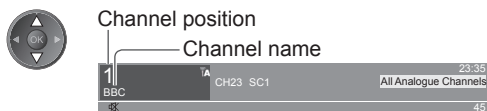
• To reveal all channels

• To retune each channel (Manual Tuning)
 (see below)

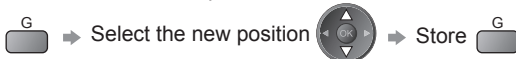
■ To edit channels

You can also edit each channel in the Channel List.

Select a channel to edit and:



• To move the channel position



• To rename the channel name



① select
 ② set
 Set characters

• You can set characters by using numeric buttons (p. 25).

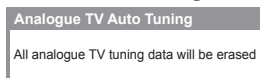
(maximum: five characters)

Note

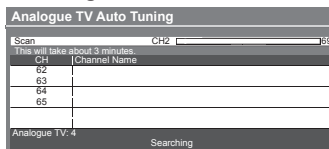
• If a VCR is connected only with the RF cable, edit [VCR].

[Auto Tuning] - Set all Analogue TV channels automatically

1 Start Auto Tuning



2 Settings are made automatically

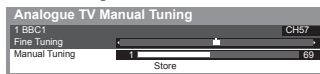


Automatically retune all Analogue TV channels received in the area.

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

[Manual Tuning] - Set Analogue TV channel manually

Set Analogue TV channel manually after Auto Tuning.



Fine Tuning

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

Manual Tuning

Set Analogue TV channel manually after Auto Tuning.

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

1 Select a channel position



2 Select a channel



3 Search



4 Select [Store]



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.



■ To return to TV

EXIT



Preparations:

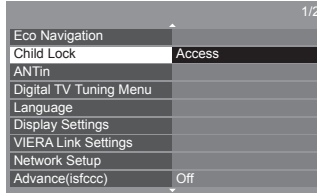
1 Display the menu



2 Select [Setup]

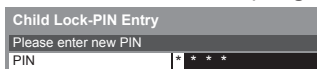


1 Select [Child Lock]



[Child Lock] - Control channel audience

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.

■ To set [Child Lock List]

Name	Input	Type	Lock
05.4 BBC1	Digital TV	Digital TV	
05.5 ****	Digital TV	Digital TV	
07.1 BBC THREE	Digital TV	Digital TV	
07.2 E4	Digital TV	Digital TV	
07.3 BBC 1 Wales	Digital TV	Digital TV	
AV1	External	AV	
AV2	External	AV	



2 Select [Child Lock List]



- To cancel → Select the locked channel / input
- To lock all
- To cancel all locks
- To jump to the top of the next input

: Appears when the channel / input is locked

■ To change the PIN number

1 Select [Change PIN] in [Child Lock]



2 Enter a new PIN number twice.



Note

- Performing [Shipping Condition] (p. 40) 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 terminals that are not connected to any equipment.

- To select the input mode → (p. 22)



Preparations:

- 1 Display the menu



- 2 Select [Setup]



1 Select [Display Settings]

Eco Navigation	
Child Lock	
ANTin	
Digital TV Tuning Menu	
Language	
Display Settings	Access
VIERA Link Settings	
Network Setup	
Advance(sfcc)	Off



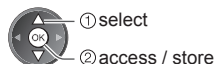
2 Select [Input Labels]

Display Settings	
Input Labels	Access
Banner Display Timeout	3 seconds
VIERA Connect Banner	On
Playing Time Display	On



3 Select an input terminal and set

Input Labels	
AV1	DVD
AV2	AV2
PC	PC
HDMI1	HDMI1
HDMI2	HDMI2
HDMI3	HDMI3
HDMI4	HDMI4
Digital TV	Digital TV
Analogue TV	Analogue TV



The labels you set will be displayed in [Input Selection] menu (p. 22) or banner.

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

■ To return to TV

EXIT



■ User input

You can name each input mode freely.

1 Select [User input]



2 Set characters one by one



(maximum: ten characters)

- You can set characters by using numeric buttons.
- (p. 25)

3 Store



Shipping Condition (Reset settings)

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



Preparations:

1 Display the menu



2 Select [Setup]

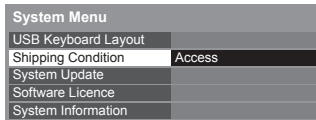


1 Select [System Menu]



① select
② access

2 Select [Shipping Condition]



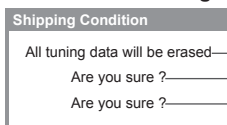
① select
② access

■ To return to TV



[Shipping Condition] - Restore Settings

1 Check the message and reset



(confirm)

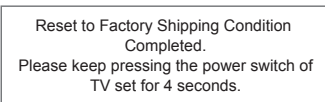


(confirm)



(start [Shipping Condition])

2 Follow the on screen instructions



- Press and hold the POWER switch for about 4 seconds, then release. The TV will restart automatically. Please setup the initial settings. (p. 12).

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

➔ [Auto Tuning] in "Tuning and Editing Channels" (p. 36, 37)


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 



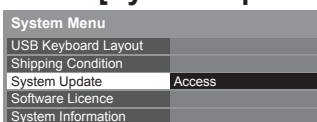

You can update any new software automatically or update manually.



- To return to TV 



Preparations:

- 1 Select Digital TV mode 
- 2 Display the menu 
- 3 Select [Setup] 

- 1 **Select [System Menu]**


 - ① select
 - ② access
- 2 **Select [System Update]**


 - ① select
 - ② access

[System Update] - Update TV's software system

- To update automatically
Select the timing

- ① select
- ② set

- 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)

**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].**

Note

- Download may take about 60 minutes.
- During software download and update, DO NOT switch Off the TV or press any buttons. The TV will automatically be activated after downloading is completed.
- During downloading, the TV will display a blank screen for 40 to 50 seconds. Do not interrupt the TV during this procedure.
- 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.
- Software updates may be distributed in several ways; Automatic Update via the TV antenna, the Internet via the TV's LAN port or downloaded by you from the Internet using your PC, copying the software image to your SD card or USB stick then updating TV software using the TV's USB port or TV SD card slot. No other distribution method is available.

Using Media Player

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

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

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

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

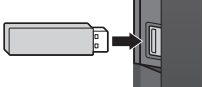
Music mode: Digital music data will be played back.

When these functions are used, the audio signal is output from audio output terminals.

- [Date] shows the date on which the recording was made by the recording equipment. The file without record of the date is shown “**/**/****”.
- 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.
- Partly degraded files might be displayed at a reduced resolution.
- Picture setting may not work depending on the conditions.
- The folder and file names may be different depending on the digital camera or digital video camera used.

To insert or remove the SD Card / USB Flash Memory

■ USB Flash Memory



- Insert or remove straightly and completely.

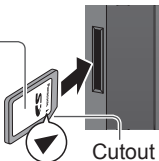
■ SD Card

To insert the SD Card

Gently insert the SD Card label surface facing front.

Label surface


Push until a click is heard



Cutout

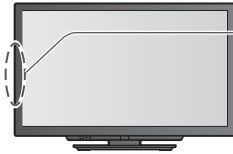
To remove the SD Card

Push the centre of the card



- For more information of the SD Card, USB Flash Memory and supported file format ➔ (p. 71 - 73)

Starting Media Player



1 Insert the SD Card or USB Flash Memory

➔ (p. 42)

When the SD Card is inserted, switching to Media Player will be done automatically.



2 Switch to Media Player

3 Select the icon you want to access



- ① select
- ② access

• If only one device is connected, this step will be skipped.

selected device name

4 Select the content



- ① select
- ② access

[Photo]

➔ "Photo mode" (p. 44)

[Video]

➔ "Video mode" (p. 47)

[Music]

➔ "Music mode" (p. 50)

• You can also access each mode directly by using VIERA TOOLS.

➔ "How to Use VIERA TOOLS" (p. 24)

■ To return to TV

EXIT or SD CARD

■ To return to the previous screen

RETURN

Change the device

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

1 Display the menu



selected device name



- ① select
- ② access

Photo mode

Supported file format → (p. 72)

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

Example: Thumbnail - [All photos]

Media Player Photo All photos

OPTION →

Option Menu
Slideshow Settings
Change Size

① select
[Change Size]
② Set

View EXIT
Select RETURN
Slideshow View Select

Info Option Menu
Drive Select Contents Select

SD Card

Selected Device Name

: Error display

- To change the background music → “Photo Setup” (p. 45)
- To display the information of the highlighted photo

INFO 1/48 — File number / Total file number

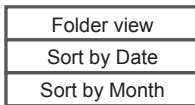
File name p1010001.mpo
Date 23/10/2010
Pixel 1600X1200

■ To sort by folder, recorded date or recorded month

1 Display the view selection



2 Select the sort type



[Folder view]:

Displays the thumbnail grouped by folder

- The files which are not into a folder will be collected to the folder named “/”.

[Sort by Date]:

Displays the thumbnail grouped by the same date

- The group of the photos without a recorded date is shown as [Unknown].

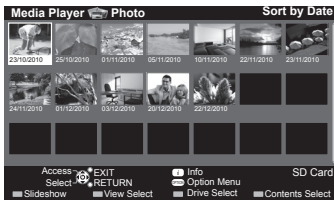
[Sort by Month]:

Displays the thumbnail grouped by the same month

- The group of the photos without a recorded date is shown as [Unknown].



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



- To return to the thumbnail of all photos



- To display the information of the highlighted group

INFO 1/12 — Group number / Total group number

Folder name 23/10/2010
Number of files 3 — Folder name, date or month

[Single view] - Photos are displayed one at a time.
 Select the file from the thumbnail of photos to be viewed



Example:



Operation guide

- To display / hide the operation guide
INFO
- To return to thumbnail
RETURN

- To operate Single view
 - ◀ To the previous photo
 - ▶ Slideshow
 - ▶ To the next photo
 - ◀ Stop (return to thumbnail)
- To rotate 90°
B

[Slideshow] - Slideshow will complete when all photos have been viewed within the present thumbnail.

- 1 Select the file from the thumbnail of photos
- 2 Start Slideshow



- To display / hide the operation guide
INFO
- To pause (return to Single view)
- To return to thumbnail
RETURN

Photo Setup

Setup the settings for Photo mode.

- 1 Display the option menu

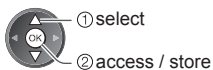


- 2 Select [Slideshow Settings]



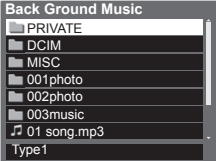

- 3 Select the items and set

Slideshow Settings	
Frame	Off
Colour Effect	Off
Transition Effect	Fade
Screen Mode	Normal
Burst Playback	Off
Interval	5 seconds
Repeat	On
Back Ground Music	



Note

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

Item	Adjustments / Configurations (alternatives)
Frame	Selects the indication frame of the slideshow [Off] / [Multi] / [Collage] / [Drift (+ calendar)] / [Drift] / [Gallery (+ calendar)] / [Gallery] / [Cinema] [Multi] : 9 division display like tiled design [Collage] : A photo is displayed at a random position and at a random scale. [Drift (+ calendar)] / [Drift] : Photos are displayed like flow images. <ul style="list-style-type: none"> You can select to display the calendar or not. To change the month of the calendar, press the left or right cursor button while viewing the slideshow. [Gallery (+ calendar)] / [Gallery] : The various sizes of photos in the frame are displayed. <ul style="list-style-type: none"> You can select to display the calendar or not. To change the month of the calendar, press the left or right cursor button while viewing the slideshow. [Cinema] : Photos are displayed like old films (sepia tone)
Colour Effect	Selects the colour effect of photos on Single view and Slideshow [Off] / [Sepia] / [Gray scale] <ul style="list-style-type: none"> This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema].
Transition Effect	Selects the transition effect for switching the photo during the slideshow [Off] / [Fade] / [Slide] / [Dissolve] / [Motion] / [Random] [Fade] : The next photo fades in gradually. [Slide] : The next photo slides and appears from the left side. [Dissolve] : The photo is replaced by an indefinite block unit. [Motion] : The photo is replaced with enlarged, reduced, moved up or moved down. [Random] : Each transition is selected at random. <ul style="list-style-type: none"> This function is available when [Frame] is set to [Off].
Screen Mode	Selects enlarged or normal viewing on Single view and Slideshow [Normal] / [Zoom] <ul style="list-style-type: none"> This function is not available when [Frame] is set to [Collage], [Drift], [Gallery] or [Cinema]. This function is not available when [Transition Effect] is set to [Motion]. Depending on the photo size, the photo may not be enlarged.
Burst Playback	Selects whether the continuous shots are displayed in rapid interval during the slideshow [Off] / [On] <ul style="list-style-type: none"> This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema]. This function is not available when [Transition Effect] is set to [Motion].
Interval	Selects slideshow interval [5] / [10] / [15] / [30] / [60] / [90] / [120] (seconds) <ul style="list-style-type: none"> This function is not available when [Transition Effect] is set to [Motion].
Repeat	Slideshow repeat [Off] / [On]
Back Ground Music	Selects the background music during Photo mode [Off] / [Type1] / [Type2] / [Type3] / [User] / [Auto] <ul style="list-style-type: none"> [Type1], [Type2] and [Type3] are the fixed music each installed in this TV. [User] : Music data in the current device registered by yourself will be played back. <p>To register the music</p> <ol style="list-style-type: none"> Select the music file Depending on the conditions of the current device, select folders until you reach the desired music file. Select [File] or [Folder] <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>① select ② access</p> </div> <div style="text-align: center;">  <p>① select ② set</p> </div> </div> <p>[File]: The selected music file will be registered as background music. [Folder]: All the music in the folder which contains the selected music file will be registered as background music.</p> <ul style="list-style-type: none"> If no music has been registered or the registered music device is removed, no sound will be produced. [Auto] : Music data stored in the root folder of the current device will be played back randomly. <ul style="list-style-type: none"> If there is no available music data, no sound will be produced.

Change the contents

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

1 While the thumbnail is displayed, display the contents selection



2 Select the contents



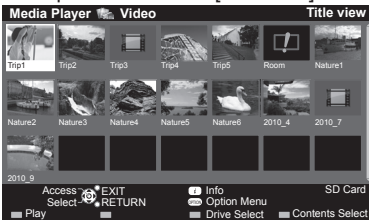
- [Photo] → **“Photo mode”** (p. 44)
- [Video] → **“Video mode”** (below)
- [Music] → **“Music mode”** (p. 50)

Video mode

Supported file format → (p. 72)

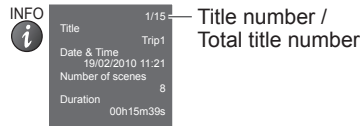
The thumbnail of video titles in the SD Card or USB Flash Memory will be displayed.

Example: Thumbnail - [Title view]



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

- To turn off the preview → **“Video Setup”** (p. 48)
- To display the information of the highlighted title



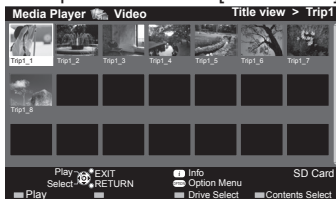
: Error display

: The file does not support thumbnail view.

- To view the scenes of the title

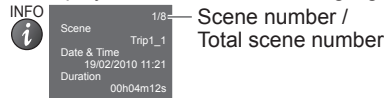
Select the title

Example: Thumbnail - [Scene view]



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

- To turn off the preview → **“Video Setup”** (p. 48)
- To display the information of the highlighted scene



■ Playback from Title view

Playback of the selected title will start.

- To repeat playback → **“Video Setup”** (p. 48)

1 Select the title



2 Start playback



■ Playback from the selected scene in the title

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

- To repeat playback → **“Video Setup”** (p. 48)

1 Select the title



2 Select the scene



3 Start playback



Note

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

■ How to operate playback

Example: Playback



Operation guide Information banner

• To display / hide the operation guide and information banner



• To operate playback



• To change aspect



• To the previous title / scene



• To the next title / scene



• To return to thumbnail



• You can also use the following buttons → (p. 23)

Set the remote control code to “73”



■ To change the content → “Change the contents” (p. 47)

Video Setup

Setup the settings for Video mode.

1 Display the option menu in the thumbnail view

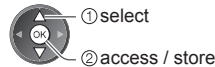


2 Select [Video Setup]



access

3 Select the items and set



① select

② access / store

Item	Adjustments / Configurations (alternatives)
Video Preview	Sets to start the preview of the title or scene in the thumbnail view [Off] / [On] <ul style="list-style-type: none"> Image may not be displayed for an instant in the thumbnail view. Set the preview [Off] to resolve this.
Repeat	Playback repeat within the title or selected file (depending on the content) [Off] / [On]

Confirm or change the current status

You can confirm or change the current status of the content.

• Menu items and selectable options vary depending on the content.

1 Display the option menu during playback

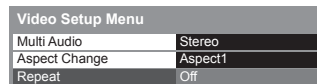


2 Select [Video Setup]



access

3 Select the items and set



① select

② access / store

Item	Adjustments / Configurations (alternatives)
Multi Audio	Allows you to select between selectable sound tracks (if available) <ul style="list-style-type: none"> It may take several seconds to change the sound.
Aspect Change	[Aspect1]: Displays the content square [Aspect2]: Displays the content full-screen [Original]: Displays the content original size <ul style="list-style-type: none"> You can also change the aspect using the ASPECT button. Aspect change may not work depending on the content.

Audio output Settings

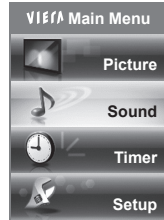
You can enjoy the multi-channel sound via an amplifier connected to the DIGITAL AUDIO OUT terminal.

- To confirm or change the current sound status → **“Confirm or change the current status” (p. 48)**

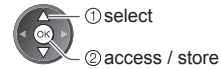
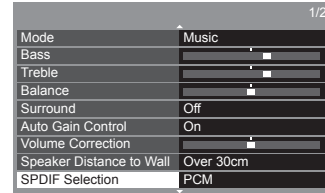
1 Display the menu



2 Select [Sound]



3 Select [SPDIF Selection] and set



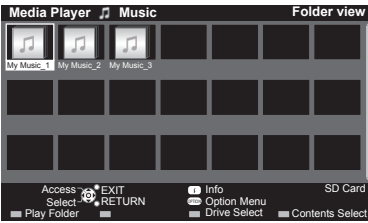
Item	Adjustments / Configurations (alternatives)
SPDIF Selection	SPDIF: A standard audio transfer file format Selects the initial setting for digital audio output signal from the DIGITAL AUDIO OUT and HDMI1 (ARC function) terminals [Auto] / [PCM] [Auto]: Dolby Digital Plus, Dolby Digital and HE-AAC (48 kHz) multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM. [PCM]: Digital output signal is fixed to PCM.

Music mode

Supported file format → (p. 80)

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

Example: Thumbnail - [Folder view]



- To display the information of the highlighted folder
- | | | |
|------|------------|-------------------------------------|
| INFO | 1/3 | Folder number / Total folder number |
| | My Music_1 | Folder name |
| | 11 | Number of files |

■ Playback from Folder view

All the files in the selected folder will be played back.

1 Select the folder



2 Start playback



■ Playback from File view

Selected file will be played back.

1 Select the folder



2 Select the file



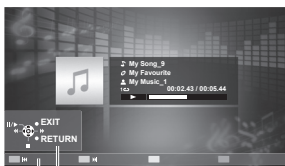
3 Start playback



To display the information of the highlighted title

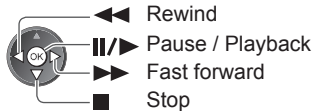
INFO	1/11	File number / Total file number
Title	My Song_1	
Album	My Music_1	
Artist	My Favorite	
Track No.	1	
Duration	00:03m29s	

■ How to operate playback



Operation guide

- To display / hide the operation guide
- To operate playback



- To the previous track
- To the next track
- To return to thumbnail

Music Setup

Setup the setting for Music mode.

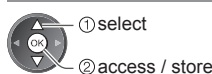
1 Display the option menu



2 Select [Music Setup]



3 Set



[Folder]: Playback repeats within the selected folder
[One]: Playback repeats of the selected one file

Using Network Services

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.

It allows you to share photos, videos and music stored in a DLNA Certified media server (for example, PC with windows 7 installed (with suitable CODEC pack plug-in) etc.) connected to your home network, and enjoy them on the TV.

Supported file format ➔ (p. 72 - 73)

Media server

Ensure the connected equipment is a DLNA Certified media server.

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

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

“TwonkyMedia server 6” and “Windows 7” are the server software that has been tested for the performance with this TV (current as of January, 2011).

For installing, read the manual of the server software.

- When the 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.

DLNA Remote Control

This TV supports the DLNA control function.

- To use this function, set the [Network Link Settings] (p. 53)

- “Windows 7” is the OS that has been tested for compatibility of this TV (current as of January, 2011). For the operations, refer to the help functions of Windows 7.

Network connection

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

Network setup

- ➔ (p. 53 - 56)

DLNA operations

- ➔ (p. 57 - 60)

VIERA Connect™

VIERA Connect is a gateway to the internet services unique to Panasonic and expands VIERA CAST functions greatly.

VIERA Connect allows you to access some specific websites supported by Panasonic, and enjoy internet contents such as photos, videos, games, etc. from VIERA Connect home screen.

- This TV has no full browser function and all features of websites may not be available.

Network connection

- ➔ “Example 1” or “Example 3” in “Network connections” (p. 59)

Network setup

- ➔ (p. 53 - 60)

VIERA Connect operations

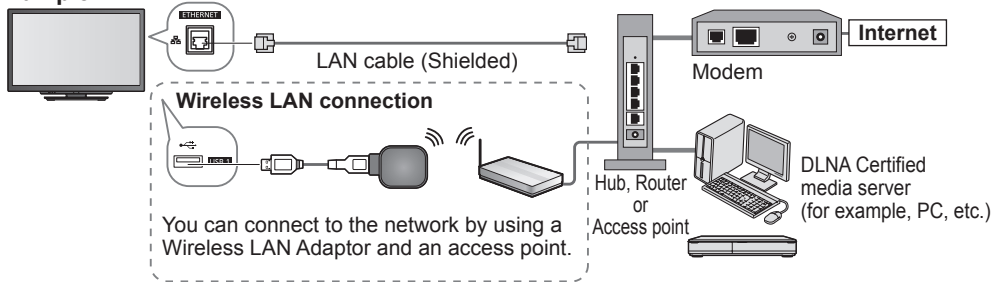
- ➔ (p. 16, 60)

Network connections

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

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

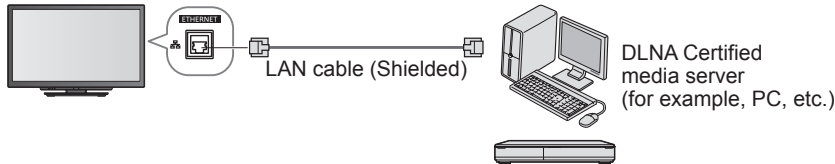
Example 1



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

Example 2

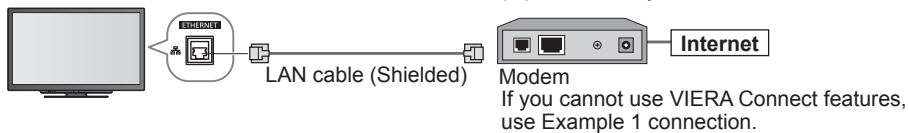
You can connect the TV and the equipment directly to use DLNA features.



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

Example 3

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



Note

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

[Network Setup]

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



Preparations:

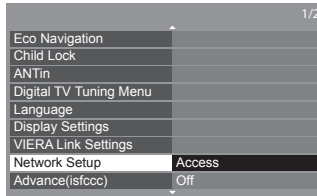
1 Display the menu



2 Select [Setup]



1 Select [Network Setup]



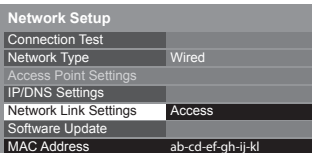
■ To return to TV
EXIT



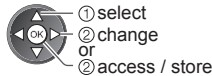
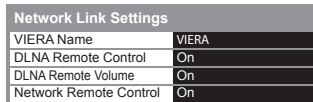
Network Link settings

Sets the link settings to control this TV from the network equipment via the network.

1 Select [Network Link Settings]



2 Select the items and set



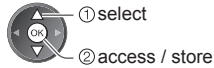
Item	Adjustments / Configurations (alternatives)
VIERA Name	Sets your favourite name for this TV and this name will be used to display the name of this TV on the screen of the other DLNA compatible equipment.
DLNA Remote Control	Enables to control the TV using Windows 7 via the network [On] / [Off]
DLNA Remote Volume	Enables to control the volume of the TV using Windows 7 via the network [On] / [Off]
Network Remote Control	Enables to control the TV from the network equipment (Smartphone, etc.) [On] / [Off] <ul style="list-style-type: none"> • Depending on the area, this function may not be available. For details, consult your local Panasonic dealer. • For more information of this function, visit the following website. (English only) http://panasonic.jp/support/global/cs/tv/

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]

Network Setup	
Connection Test	
Network Type	Wired
Access Point Settings	
IP/DNS Settings	
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc



If you make the network connection like "Example 2" (p. 52), you do not have to set [DNS Address], [Proxy] and [Proxy Port].

2 Select [IP/DNS Settings] and set the items

Network Setup	
Connection Test	
Network Type	Wired
Access Point Settings	
IP/DNS Settings	Access
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc



After settings, return to [Network Setup] screen



■ [Acquire IP Address]

■ [Acquire DNS Address]

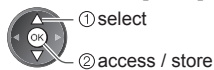
Sets [IP Address], [Subnet Mask], [Gateway] and [DNS Address].

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]

IP/DNS Settings	
Acquire IP Address	Auto
IP Address	192.168.11.5
Subnet Mask	255.255.255.0
Gateway	192.168.11.1
Acquire DNS Address	Auto
DNS Address	192.168.11.1
Proxy Settings	



- The available settings are displayed automatically.

■ [Proxy Settings]

Select [Proxy Settings] and set the items

IP/DNS Settings	
Acquire IP Address	Auto
IP Address	192.168.11.5
Subnet Mask	255.255.255.0
Gateway	192.168.11.1
Acquire DNS Address	Auto
DNS Address	192.168.11.1
Proxy Settings	Access



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.

1. Select [Proxy]

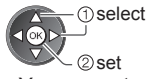
Proxy Settings	
Proxy	
Proxy Port	0



2. Enter the address

Set characters one by one

Proxy																																																																																	
Host																																																																																	
<table border="1"> <tr><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td><td>J</td><td>K</td><td>L</td><td>M</td><td>N</td><td>O</td><td>P</td><td>Q</td><td>R</td><td>S</td><td>T</td></tr> <tr><td>U</td><td>V</td><td>W</td><td>X</td><td>Y</td><td>Z</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>.</td><td>-</td><td>_</td><td>:</td></tr> <tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td><td>g</td><td>h</td><td>i</td><td>j</td><td>k</td><td>l</td><td>m</td><td>n</td><td>o</td><td>p</td><td>q</td><td>r</td><td>s</td><td>t</td></tr> <tr><td>u</td><td>v</td><td>w</td><td>x</td><td>y</td><td>z</td><td>(</td><td>)</td><td>+</td><td>=</td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>		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	()	+	=	*									
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	.	-	_	:																																																														
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- You can set characters by using numeric buttons.

3. Store



[Proxy Port]

Sets Proxy port number.

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

1. Select [Proxy Port]

Proxy Settings	
Proxy	
Proxy Port	0



2. Move the cursor and enter the number



Select [Connection Test] and access to test

Network Setup	
Connection Test	Access
Network Type	Wired
Access Point Settings	
IP/DNS Settings	
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc
Connection Test	
<input checked="" type="checkbox"/>	Check network cable connection.
<input checked="" type="checkbox"/>	Check acquired IP address.
<input checked="" type="checkbox"/>	Check for devices using same IP address.
<input checked="" type="checkbox"/>	Check gateway connection.
<input checked="" type="checkbox"/>	Check server connection.



- 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.


Network settings for the Wireless LAN connection

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

- Confirm the encryption key, settings and positions of your access point before starting setup.
For details, read the manual of the access point.

1 Select [Network Type] and set to [Wireless]


Network Setup	
Connection Test	
Network Type	Wireless
Access Point Settings	
IP/DNS Settings	
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc



① select
② set

2 Select [Access Point Settings]


Network Setup	
Connection Test	
Network Type	Wireless
Access Point Settings	Access
IP/DNS Settings	
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc



① select
② access

3 Select the connection type and set

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



① select
② access

[WPS(Push button)] ➔ (p. 15)

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


[Search for access point] ➔ (p. 15)

[Manual]: Sets manually by entering the SSID of access point

- Follow the on screen instructions

4 Select [Connection Test] and access to test

Network Setup	
Connection Test	Access
Network Type	Wireless
Access Point Settings	
IP/DNS Settings	
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc
Connection Test	
<input checked="" type="checkbox"/> Check access point connection.	
<input checked="" type="checkbox"/> Check acquired IP address.	
<input checked="" type="checkbox"/> Check for devices using same IP address.	
<input checked="" type="checkbox"/> Check gateway connection.	
<input checked="" type="checkbox"/> Check server connection.	



① select
② access

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.

Update TV's software

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

Network Setup	
Connection Test	
Network Type	Wired
Access Point Settings	
IP/DNS Settings	
Network Link Settings	
Software Update	Access
MAC Address	12-34-56-78-9a-bc



① select [Software Update]
② access

- Follow the on screen instructions

Note

Network Setup	
Connection Test	
Network Type	Wired
Access Point Settings	
IP/DNS Settings	
Network Link Settings	
Software Update	
MAC Address	12-34-56-78-9a-bc

[MAC Address]

- MAC address is a unique address that identifies hardware in the network.

(for information only)

Using DLNA® features

- Ensure the preparation of the media server, network connections and network settings are completed.
 - ➔ “Media server” (p. 51), “Network connections” (p. 52), “Network Setup” (p. 53 - 56)



■ To return to TV
EXIT

■ To return to the
previous screen



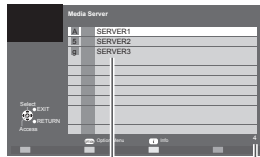
1 Display icons of the feature

2 Select [Media Server]



3 Select one of the media servers you want to access

Media server list



Available media servers

Total listed number

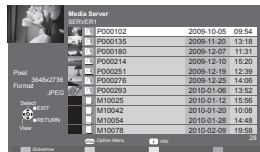


- To display the information of the highlighted media server



4 Select the file to be viewed

File list



- Depending on the conditions of the media server, you may need to select the folder before selecting the file.
- Slideshow ➔ (p. 58)
- To display the information of the highlighted file



Note

- You may select and play back 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.

For photo file

[Single view] - Displayed one at a time



Operation guide

- To display / hide the operation guide
- To operate Single view
 - ◀ To the previous photo
 - ▶ To the next photo
 - ⏮ Slideshow
 - ⏹ Stop (return to list)
- To rotate 90°
- To return to the list

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



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

For video file

Playback - Playback will start.

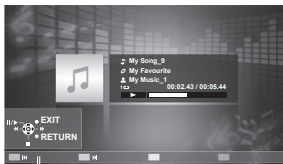


Operation guide

- To display / hide the operation guide and information banner
- To operate the playback
 - ◀◀ Rewind
 - [Manual skip] (Skip to a fixed period forward manually for MPEG-2 (PS format and TS format) only)
 - ⏸ Pause / Playback
 - ▶▶ Fast forward
 - Stop
- To the previous content
- To the next content
- To change aspect
- To return to the list

For music file

Playback - Playback will start.



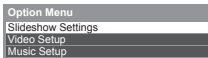
Operation guide

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

Photo Setup (for photo contents)

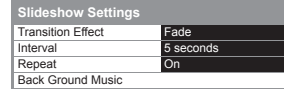
Setup the settings for Photo.

1 Display the option menu



2 Select [Slideshow Settings]

3 Select the items and set



Item	Adjustments / Configurations (alternatives)
Transition Effect	Selects the transition effect for switching the photo during the slideshow [Off] / [Fade] / [Slide] / [Dissolve] / [Motion] / [Random] [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.
Interval	Selects slideshow interval [5] / [10] / [15] / [30] / [60] / [90] / [120] (seconds)
Repeat	Slideshow repeat [Off] / [On]
Back Ground Music	Selects the background music while photo [Off] / [Type1] / [Type2] / [Type3] • [Type1], [Type2] and [Type3] are the fixed music each installed in this TV.

Video Setup (for video contents)

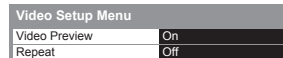
Setup the settings for Video mode.

1 Display the option menu



2 Select [Video Setup]

3 Select the items and set



• For details
 ➔ (p. 48)

Confirm or change the current status (for video contents)

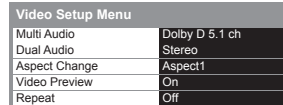
Setup the settings for Video mode.

1 Display the option menu during playback



2 Select [Video Setup]

3 Select the items and set



• For details
 ➔ (p. 48)

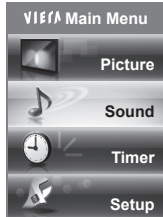
Item	Adjustments / Configurations (alternatives)
Dual Audio	Selects multiplex sound (if available)

Audio output settings (for video contents)

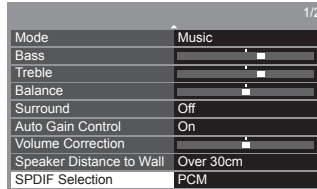
You can enjoy the multi-channel sound via an amplifier connected to the DIGITAL AUDIO OUT terminal.

1 Display the menu
MENU


2 Select [Sound]



3 Select [SPDIF Selection] and set

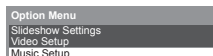


Music Setup

Setup the setting for Music mode.

1 Display the option menu
OPTION


2 Select [Music Setup]



3 Set



[Folder]: Playback repeats within the selected folder

[One]: Playback repeats of the selected one file

VIERA Connect

You can access a selection of internet services from VIERA Connect home screen.

- VIERA Connect requires a broadband internet connection. Dial-up internet connections cannot be used.
- Ensure the network connections and network settings are completed.
➔ “Network connections” (p. 52), “Network Setup” (p. 53 - 56)
- For details about VIERA Connect operation ➔ “Using “VIERA Connect”” (p. 16)
- Setup menu (Items in the [Setup] may change without notice.)

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

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 Connect.
You can update the software later manually [Software Update] in the Network Setup Menu (p. 56)
- VIERA Connect home screen is subject to change without notice.
- The services through VIERA Connect 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.
- Some content may be inappropriate for some viewers.
- Some content may only be available for specific countries and may be presented in specific languages.
- Depending on the connection environment, the internet connection may be slow or may not be successful.
- Turn the TV off, and then on again when changing or reconnecting the network connection.

VIERA Link Functions

VIERA Link "HDAVI Control™"

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

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

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

- Some functions are not available depending on the equipment's version of HDAVI Control. Please confirm the connected equipment's version of HDAVI Control.
- VIERA Link "HDAVI Control", based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed.
- Please refer to individual manuals for the external equipment. About applicable Panasonic equipment, consult your local Panasonic dealer.

Summary of features

Features	Connected equipment with VIERA Link function	DVD Player / Blu-ray Disc Player*1	HD Video Camera / LUMIX Camera*1	Player theatre*2	Blu-ray Disc theatre*2	Amplifier*2
Easy playback		○	○	○*5	○*5	—
Power on link		○	○	○	○	—
Power off link		○	○	○	○	○
Reduce unnecessary power consumption in standby		○*4	—	—	○*4	—
Auto standby for unnecessary equipment		○*3	—	○*3*6	○*3*6	○*3
Control the menu of the connected equipment by VIERA remote control		○*3	○*3	○*3	○*3	—
Speaker control		—	—	○	○	○

*1: HDMI Connection only

*2: HDMI and Audio out connections

*3: available with equipment which has "HDAVI Control 2 or later" function

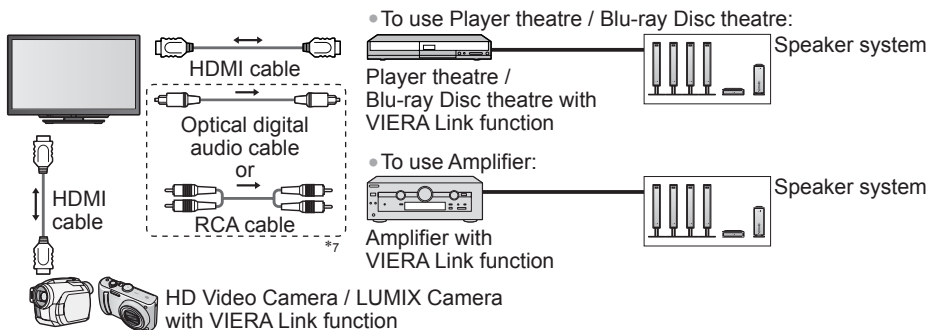
*4: available with equipment which has "HDAVI Control 4 or later" function

*5: while playing a disc

*6: except for watching a disc

Connection

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



*7: If the connected equipment has "HDAVI Control 5" function, you do not have to use this audio cable (Optical digital audio cable or RCA cable). In this case, connect the equipment to the TV's HDMI1 terminal via an HDMI cable.

Note

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

Preparations

- Connect the equipment supporting VIERA Link.
 - Set up the connected equipment. Read the manual of the equipment.
 - For optimal recording, the settings of the recorder may need to be changed. For details, read the manual of the recorder.
 - Set [VIERA Link] [On] in the Setup Menu ➔ **[VIERA Link] (p. 32)**
 - 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. 22), 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

Easy playback

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

[Power on Link]

Set Power on Link [On] in the Setup Menu to use this function ➔ [Power on Link] (p. 32)

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. 32)

When the TV is set to Standby mode, the connected equipment is also automatically set to Standby.

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

[Standby Power Save] - Reduce unnecessary power consumption in standby

Set Standby Power Save [On] in the Setup Menu to use this function ➔ [Standby Power Save] (p. 32)

The power consumption in Standby mode of the connected equipment is controlled higher or lower in synchronisation 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 minimised.

When the TV is turned on, the connected equipment is still in Standby mode, but the power consumption is increased to make startup time early.

- This function is effective if the connected equipment can change the power consumption in Standby mode and is set to higher consumption.
- This function will work when [Power off Link] is set to [On].

[Intelligent Auto Standby] - Auto standby for unnecessary equipment

Set Intelligent Auto Standby [On (With reminder)] or [On (No reminder)] in the Setup Menu to use this function ➔ [Intelligent Auto Standby] (p. 32)

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)

[VIERA Link Control] - Operate the connected equipment with VIERA remote control

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

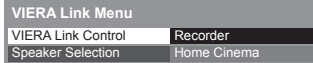
- If you cannot operate, check the settings and the equipment
 - ➔ **“Summary of features”, “Connection”, “Preparations” (p. 61 - 62)**
- For details of the operations for the connected equipment, read the manual of the equipment.

Access and operate the menu of the equipment



1 Display [VIERA Link Menu]

2 Select [VIERA Link Control]



3 Select the equipment you want to access

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



[Recorder] / [Player] / [Home Cinema] / [Video Camera] / [LUMIX] / [Digital Camera] / [Other]

- You can also access directly by using VIERA TOOLS ➔ (p. 24)
- The displayed item may vary depending on the connected equipment.
- [Home Cinema] means Player theatre, Blu-ray Disc theatre or Recorder theatre.
- [Other] means Tuner set top box.

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

4 Operate the connected equipment

- To display the operation guide



- Store / set / access



- Move the cursor / select the menu



- Return to the previous menu



- Move the cursor / access / adjust



- Exit the menu



When the key words are displayed on colour bar R G Y B

Note

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

■ If multiple recorders or players are connected



[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



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.

[Speaker Selection] - Speaker control

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

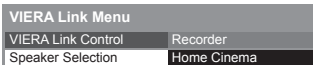
- If you cannot operate, check the settings and the equipment
➔ "Summary of features", "Connection", "Preparations" (p. 61 - 62)

Access and control the speaker volume

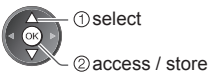


1 Display [VIERA Link Menu]

2 Select [Speaker Selection]



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.

Multi-channel sound

- If you wish to enjoy the multi-channel sound (e.g. Dolby Digital 5.1ch) via an Amplifier, connect with HDMI cable and Optical digital audio cable (p. 61), and then select [Home Cinema]. If your Amplifier has "HDAVI Control 5" function, you can connect only with HDMI cable. In this case, connect your Amplifier to the TV's HDMI1 terminal.

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 the 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, 2010) 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

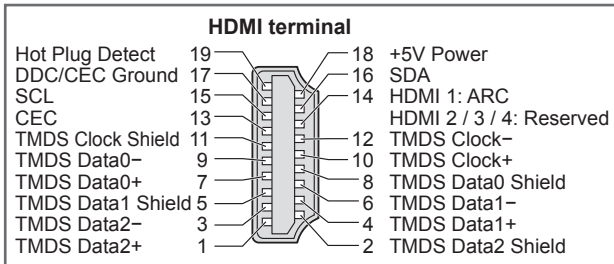
These diagrams show our recommendations for connection of your TV to various pieces of equipment. For other connections, consult the instructions for each piece of equipment, the table below, and the specifications (p. 77).

Types of connectable equipment to each terminal

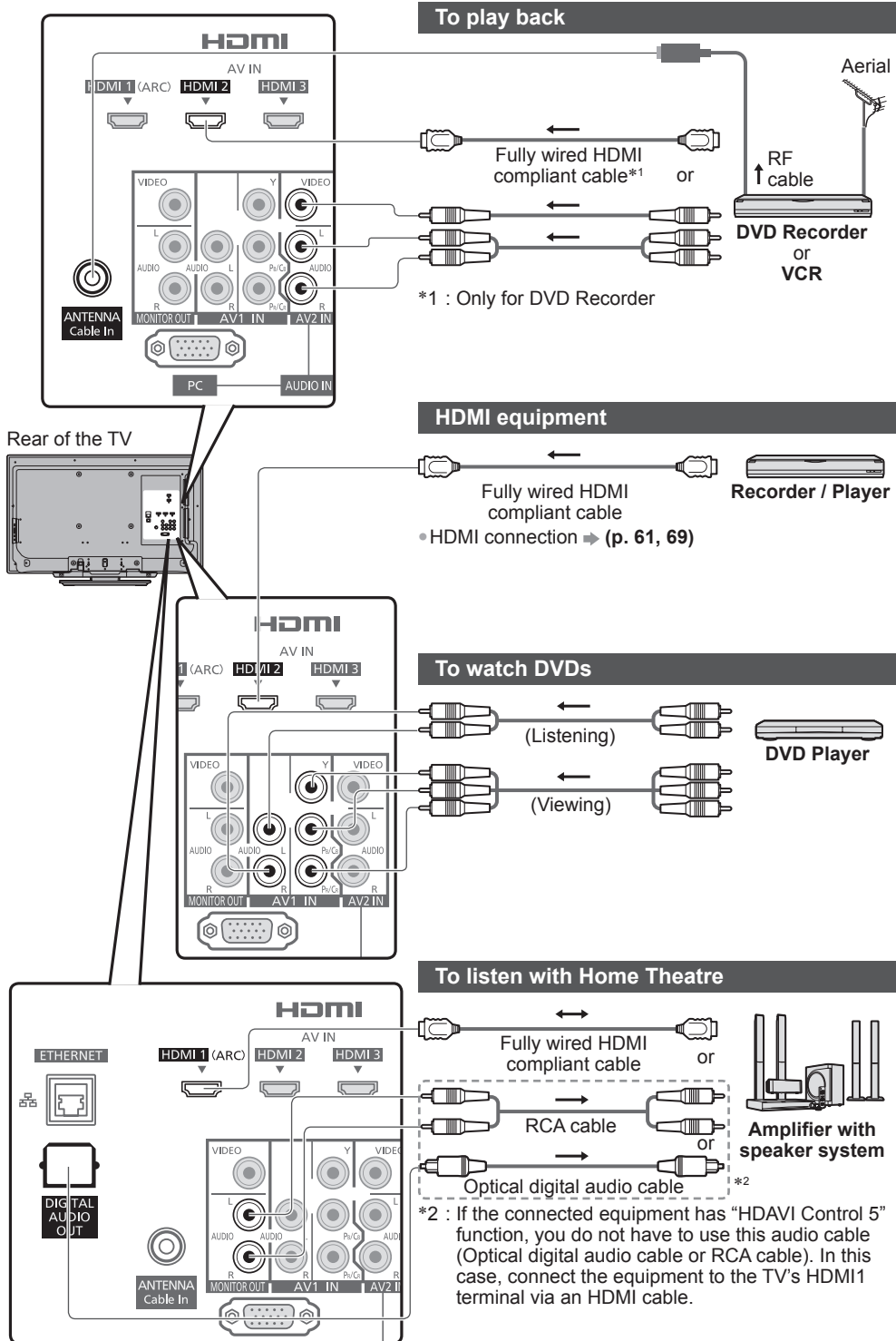
Equipment	Terminal				
	AV1 IN	AV2 IN	MONITOR OUT	DIGITAL AUDIO OUT	HDMI 1 - 4
To play back videocassettes / DVDs (VCR / DVD Recorder)	<input type="radio"/>	<input type="radio"/>			<input type="radio"/> *1
To watch DVDs (DVD Player)	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>
To watch satellite broadcasts (Set top box)	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>
To watch camcorder images (Video camera)	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>
To play games (Game equipment)	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>
To use amplifier with speaker system			<input type="radio"/>	<input type="radio"/>	<input type="radio"/> *2
VIERA Link					<input type="radio"/>

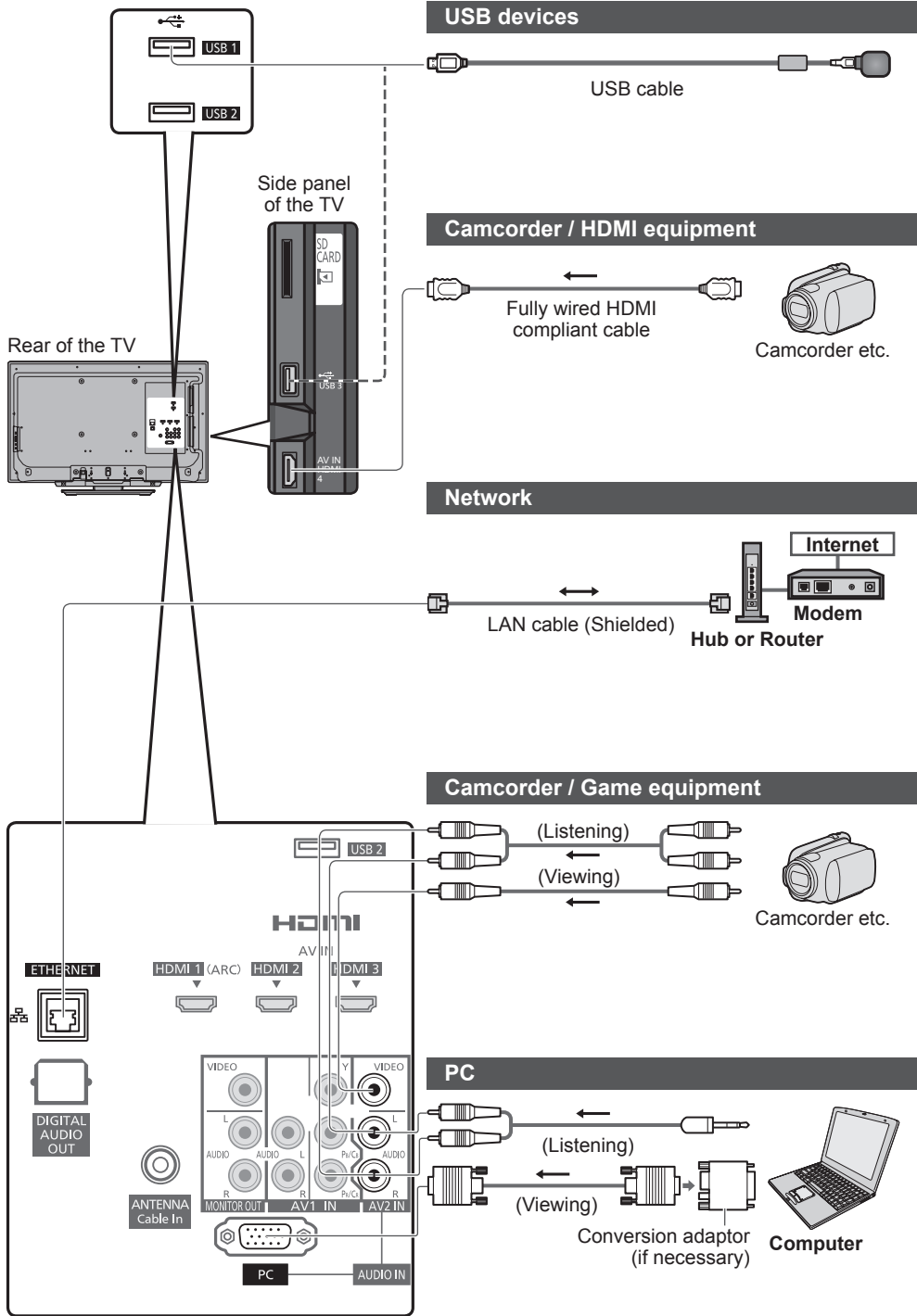
Equipment	Terminal	
	ETHERNET	USB 1 - 3
To use Network services	<input type="radio"/>	<input type="radio"/>

- : Recommended Connection
 *1: Only for DVD Recorder
 *2: Use HDMI1 for connecting an amplifier. This connection is applicable when using an amplifier that has ARC (Audio Return Channel) function.



Panasonic does not guarantee operation and performance of peripheral devices made by other manufacturers; and we disclaim any liability or damage arising from operation and/or performance from usage of such other maker's peripheral devices.





Technical Information

Channel Allocation (Analogue TV mode)

ANT in	Antenna	Cable	ANT in	Antenna	Cable
CH DISPLAY	RECEIVE CHANNEL		CH DISPLAY	RECEIVE CHANNEL	
0	—	—	70	—	}
1	—	1	}	—	—
2	2	2	73	—	—
3	}	}	74	—	—
4	}	}	75	—	—
5	}	}	76	—	—
6	}	}	77	—	—
7	}	}	78	—	—
}	}	}	79	—	—
11	}	}	80	—	—
12	}	}	81	—	—
13	13	}	}	—	—
14	14	}	89	—	—
15	}	}	90	—	—
16	}	}	91	—	—
}	}	}	92	—	—
19	}	}	93	—	—
20	}	}	94	—	—
21	}	}	95	—	—
22	}	}	96	—	—
23	}	}	97	—	—
24	}	}	98	—	—
}	}	}	99	—	99
28	}	}	100	—	100
}	}	}	}	—	—
57	}	}	107	—	—
58	}	}	}	—	—
59	}	}	117	—	—
}	}	}	}	—	—
62	62	62	118	—	—
63	63	63	}	—	—
}	}	}	120	—	—
69	69	}	}	—	—
			125	—	125

HDMI connection

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

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

HDMI-compatible equipment*1 with an HDMI or DVI output terminal, such as a DVD player, a set top box or game equipment, can be connected to the HDMI terminal using an HDMI compliant (fully wired) cable. About connections, see "External Equipment" (p. 65 - 67).

Applicable HDMI features

- Input audio signal: 2ch Linear PCM (sampling frequencies - 48 kHz, 44.1 kHz, 32 kHz)
- Input video signal: 480i, 480p, 720p, 1080i and 1080p
 - ➔ **"Input signal that can be displayed" (p. 70)**
Match the output setting of the digital equipment.
- Input PC signal : ➔ **"Input signal that can be displayed" (p. 70)**
Match the output setting of the PC.
- VIERA Link (HDAVI Control 5): ➔ **[VIERA Link] (p. 61)**
- Audio Return Channel*2 (HDMI1 terminal only)

DVI connection

If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adaptor cable*3. When the DVI to HDMI adaptor cable is used, connect the audio cable to the audio input terminal (HDMI1 / 2: use AV1 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.
- Equipment having no digital output terminal may be connected to the input terminal of "COMPONENT (Y, Pb/Cb, Pr/Cr)" or "VIDEO" to receive analogue signals.
- This TV incorporates HDMI™ technology.

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

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

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

PC connection

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

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

Note

- Some PC models cannot be connected to this TV.
- When using PC, set the colour display quality of PC to the highest position.
- For details of the applicable PC signals, see p. 70.
- Max. display resolution

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

- D-sub 15-pin connector signal



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

Input signal that can be displayed

COMPONENT (Y, P_B/C_B, P_R/C_R), HDMI

○ Mark: Applicable input signal

Signal name	COMPONENT	HDMI
525 (480) / 60i	○	○
525 (480) / 60p	○	○
750 (720) / 60p	○	○
1,125 (1,080) / 60i	○	○
1,125 (1,080) / 60p		○
1,125 (1,080) / 24p		○

PC (from D-sub 15P)

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

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

PC (from HDMI terminal)

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

Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 × 480 @60 Hz	31.47	60.00
1,280 × 720 @60 Hz	45.00	60.00
1,920 × 1,080 @60 Hz	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.

Media Player / DLNA

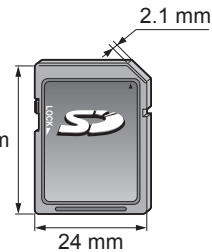
SD Card

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 adaptor)

- If miniSD Card is used, insert / remove it together with the adaptor.
- Check the latest information on the card type at the following website.
(English only)
<http://panasonic.jp/support/global/cs/tv/>
- 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 the card or TV).
- Do not touch the pins on the back of the card.
- Do not subject the card to 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.)



USB Flash Memory

Format: FAT16, FAT32 or exFAT

On screen messages

Message	Meaning / Action
Cannot read file	<ul style="list-style-type: none"> • The file is broken or unreadable. Check applicable data format. ➔ (p. 72 - 73) • The TV does not support the format.
No Device Inserted	<ul style="list-style-type: none"> • Confirm SD Card or USB device is inserted correctly.
No valid file to play	<ul style="list-style-type: none"> • The card has no data.
This operation is not possible	<ul style="list-style-type: none"> • Your operation is not available.
An internal error occurred	<ul style="list-style-type: none"> • Check the settings. ➔ (p. 53 - 56)
Communication with the server failed	<ul style="list-style-type: none"> • This might be a problem of the media server. Read the manual of the server software.
Server not found	<ul style="list-style-type: none"> • There is no available media server on your home network. Check the connections and settings. ➔ (p. 52 - 56)

Supported file format in Media Player / DLNA

■ Photo

Format	File extension	Image resolution (pixel)	Details / Restrictions
JPEG	.jpg	8 × 8 to 30,719 × 17,279	DCF*1 and EXIF*2 standards Sub-sampling: 4:4:4, 4:2:2, 4:2:0 • Progressive JPEG is not supported.

*1 : Design rule for Camera File system - unified standard established by Japan Electronics and Information Technology Industries Association (JEITA)

*2 : Exchangeable Image File - image file format used by digital cameras

■ Video

Container	File extension	Video codec	Audio codec	Details / Restrictions
SD-Video	.mod	MPEG1 MPEG2	MPEG Dolby Digital	SD-Video Standard Ver. 1.3 (Entertainment Video Profile) • The data may not be available if a folder structure on the current device is modified.
AVCHD	.mts	H.264	Dolby Digital	AVCHD Standard • The data may not be available if a folder structure on the current device is modified.
MKV	.mkv	H.264 BP/MP/HP	MP3 Dolby Digital MPEG AAC	–
ASF	.asf .wmv	Windows Media Video v9 VC-1	WMA	• Copy-protected files cannot be played back. • WMA Pro and WMA Lossless are not supported.
MP4	.mp4	H.264 BP/MP/HP	MP3 Dolby Digital AAC	–
MOV	.mov	Motion JPEG H.264 BP/MP/HP	RAW TWOS SOWT MP3 Dolby Digital LPCM AAC	• This TV supports Motion JPEG recorded by Panasonic LUMIX Camera. • Some files may not be played back depending on these recording condition. • Motion JPEG can be played back only in Media Player.
PS	.mpg .mpeg	MPEG1 MPEG2	MPEG MP3 Linear PCM	–
TS	.ts .tp	MPEG2 H.264	Dolby Digital Dolby Digital Plus HE-AAC AAC MP3	• This container can be played back only in DLNA feature.

■ Music

Codec	File extension	Restrictions
MP3	.mp3	–
AAC	.m4a	• Copy-protected files cannot be played back.
WMA	.wma	• Copy-protected files cannot be played back. • WMA Pro and WMA Lossless are not supported.

Note

- The above table is generalised in nature. Due to file encoding variances, some media files that play on other devices, may not play on the TV even though they fulfill the generalised conditions.
- Do not use two-byte characters or other special codes for data.
- The card may become unusable with this TV if the file or folder names are changed.

VIERA Connect

On screen messages

Message	Meaning / Action
Connection to the server failed	• Check the connections and settings. ➔ (p. 52 - 56)
The software update is not completed	• Network download failed. Check the connections and settings. ➔ (p. 52 - 56)

USB connection

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

Note

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

USB Keyboard

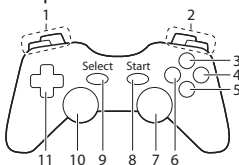
- A USB Keyboard which requires a driver is not supported.
- Characters may not be displayed correctly on the TV screen depending on the connected keyboard or the keyboard layout setting.
- Some of the keys of USB keyboards correspond to the operation of the remote control.

USB Keyboard	Remote Control	USB Keyboard	Remote Control
↑/↓/←/→	Cursor buttons	F2	VIERA TOOLS
Enter	OK	F3	MENU
Backspace	RETURN	F4	INPUT (AV)
Esc	EXIT	F5 / F6	Channel Down / Up
0 - 9 / Character	Numeric buttons	F7 / F8	Volume Down / Up
F1	GUIDE	F9 / F10 / F11 / F12	Coloured buttons

Gamepad

- Check the gamepads that have been tested for the performance with this TV at the following website. (English only)
<http://panasonic.jp/support/global/cs/tv/>
- Some of the keys of gamepads correspond to the operation of the remote control.

Example:



	Remote Control		Remote Control
1	Volume Up / Down	7	VIERA TOOLS
2	Channel Up / Down	8	EXIT
3	GUIDE	9	INPUT (AV)
4	OK	10	MENU
5	RETURN	11	Cursor buttons
6	VIERA Connect		

Maintenance

First, remove the mains plug from the socket outlet.

Display panel, Cabinet, Pedestal

For regular care:

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

For stubborn dirt:

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

Caution

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

Mains plug

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

FAQs

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

White spots or shadow images (noise)



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

Neither image nor sound is produced

- Is the TV in "AV mode"?
- Is the mains lead plugged into the socket outlet?
- Is the TV turned On?
- Check the Picture Menu (p. 26 - 28) and volume.
- Check all required cables and connections are firmly in place.

An error message appears

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



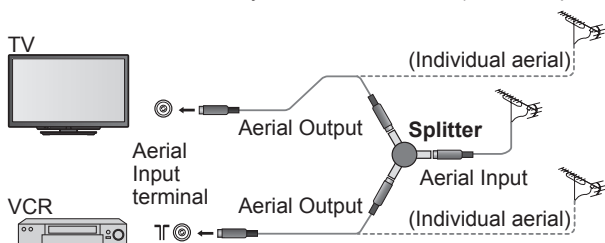
The LCD panel moves slightly when it is pushed with a finger Clattered sound might be heard

- There are some looseness around the panel to prevent the damage to the panel. The panel might move slightly when it is pushed with a finger, and clattered sound might be heard. This is not a malfunction.

There may be red spots, blue spots, green spots and black spots on the screen

- This is a characteristic of liquid crystal panels and is not a problem. The liquid crystal panel is built with very high precision technology giving you fine picture details. Occasionally, a few non-active pixels may appear on the screen as a fixed point of red, green, blue or black. Please note this does not affect the performance of your LCD, and it is not a quality problem.

Problem		Actions
Screen	Chaotic image, noisy	<ul style="list-style-type: none"> • Change the setting of [P-NR] in the Picture Menu (to remove noise). ➔ (p. 27) • Check nearby electrical products (car, motorcycle, fluorescent lamp).
	No image can be displayed	<ul style="list-style-type: none"> • Is [Colour] or [Contrast] in the Picture Menu set to the minimum? ➔ (p. 26)
	Blurry or distorted image (no sound or low volume)	<ul style="list-style-type: none"> • Reset channels ➔ (p. 36, 37)
	Unusual image is displayed	<ul style="list-style-type: none"> • Turn the TV Off with Mains power On / Off switch, then turn it On again.
Sound	No sound is produced	<ul style="list-style-type: none"> • Is "Sound Mute" active? ➔ (p. 11) • Is the volume set to the minimum?
	Sound level is low or sound is distorted	<ul style="list-style-type: none"> • Sound signal reception may be deteriorated.

	Problem	Actions
HDMI	Sound is unusual	<ul style="list-style-type: none"> • Set the sound setting of the connected equipment to "2ch L.PCM". • Check the [HDMI1 / 2 / 3 / 4 Input] setting in the Sound Menu. ➔ (p. 30) • If digital sound connection has a problem, select analogue sound connection. ➔ (p. 69)
	Pictures from external equipment are unusual when the equipment is connected via HDMI	<ul style="list-style-type: none"> • Check the HDMI cable is connected properly. ➔ (p. 61, 66 - 67) • Turn the TV and equipment Off, then turn them On again. • Check an input signal from the equipment. ➔ (p. 69) • Use equipment compliant with EIA/CEA-861/861D.
Network	Cannot connect to the network	<ul style="list-style-type: none"> • Check the LAN cable or Wireless LAN Adaptor is connected properly. ➔ (p. 52) • Check the connections and settings. ➔ (p. 52 - 56) • Check the network equipment and network environment. • If the problem persists, consult your Internet Service Provider or telecommunications company.
	Cannot select the file during DLNA operations	<ul style="list-style-type: none"> • Is the media server prepared? ➔ (p. 51) • Check applicable data format. ➔ (p. 72 - 73)
	Cannot operate VIERA Connect	<ul style="list-style-type: none"> • Check the connections and settings. ➔ (p. 52 - 56) • The server or connected line might be busy now.
Digital TV		<ul style="list-style-type: none"> • Due to the digital reception technologies involved, quality of the Digital TV signals may be relatively low in some cases, despite good reception of Analogue TV channels.
	Unable to receive signals with a high-performance aerial	<ul style="list-style-type: none"> • Install an aerial individually for the TV and VCR (or use a splitter). 
	Interference or frozen / disappearing image in Digital TV	<ul style="list-style-type: none"> • Check [Signal Condition] (p. 36). If [Signal Quality] is displayed in red, check aerial. If problem persists, consult your local Panasonic dealer. • Turn the TV off with the Mains power On / Off switch, then turn it On again.
Other	The TV goes into Standby mode	<ul style="list-style-type: none"> • Auto power standby function is activated. • The TV enters Standby mode about 30 minutes after analogue broadcasting ends.
	The remote control does not work or is intermittent	<ul style="list-style-type: none"> • Are the batteries installed correctly? ➔ (p. 6) • Has the TV been switched On? • 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). • Situate the TV away from sunshine or other sources of bright light not to shine on the TV's remote control signal receiver.

Specifications

Power Source		AC 220 V, 50 / 60 Hz		
Power	Power Rating	108 W		
	Standby condition	0.3 W		
Display panel	Aspect Ratio	16:9		
	Visible screen size	106 cm (diagonal) 930 mm (W) × 523 mm (H)		
	Number of pixels	2,073,600 (1,920 (W) × 1,080 (H))		
Sound	Speaker	(140 mm × 35 mm) × 2, 8 Ω		
	Audio Output	20 W (10 W + 10 W)		
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		Digital TV: 6 MHz VHF / UHF free-to-air TV broadcast reception for Chile / Peru NTSC Reception of broadcast transmissions and Playback from VCR or DVD		
Receiving Channels (Analogue TV)		VHF BAND 2-13 (NTSC M USA)	UHF BAND 14-69 (NTSC M USA)	
Aerial - Rear		VHF / UHF		
Operating Conditions		Temperature : 0 °C - 40 °C Humidity : 20 % - 80 % RH (non-condensing)		
Connection Terminals	AV1 Input	AUDIO L - R	RCA PIN Type × 2 0.5 V[rms]	
		COMPONENT	Y Pb/Cb, Pr/Cr 1.0 V[p-p] (including synchronisation) ±0.35 V[p-p]	
	AV2 Input	AUDIO L - R	RCA PIN Type × 2 0.5 V[rms]	
		VIDEO	RCA PIN Type × 1 1.0 V[p-p] (75 Ω)	
	Monitor Output	AUDIO L - R	RCA PIN Type × 2 0.5 V[rms] (high impedance)	
		VIDEO	RCA PIN Type × 1 1.0 V[p-p] (75 Ω)	
	Others	HDMI1 - 4 Input	TYPE A Connectors	• This TV supports "HDAVI control 5" function.
		PC Input	HIGH-DENSITY D-SUB 15PIN	R / G / B: 0.7 V[p-p] (75 Ω) HD / VD: TTL Level 2.0 - 5.0 V[p-p] (high impedance)
		DIGITAL AUDIO OUT	PCM / Dolby Digital, Fiber optic	
		Card slot	SD Card slot × 1	
		USB 1/2/3	USB 2.0 TYPE A Connectors	DC 5 V, Max. 500 mA
		ETHERNET	10BASE-T / 100BASE-TX	
Dimensions (W × H × D)		986 mm × 633 mm × 288 mm (With Pedestal) 986 mm × 599 mm × 72 mm (TV only)		
Mass		19.0 kg Net (With Pedestal) 16.0 kg Net (TV only)		

Note

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

MEMO

MEMO

Useful Information

Customer Service

Customer Service Directory

Obtain products information and operative assistant; localize the closer distributor or Service Center; buy spare parts and accessories by our web site to Latin American:

<http://www.lar.panasonic.com>

Also you may contact us directly by our Contact Center:

Panama	800-PANA (800-7262)
Colombia	01-8000-94PANA (01-8000-947262)
Ecuador	1800-PANASONIC (1800-726276)
Costa Rica	800-PANA737 (800-7262737)
El Salvador	800-PANA (800-7262)
Guatemala	1-801-811-PANA (1-801-811-7262)
Chile	800-390-602
	From a cell phone: 797-5000
Venezuela	800-PANA-800 (800-7262-800)
Uruguay	0-800-PANA (0-800-7262)
Peru	0800-00726
Argentina	0800-333-PANA (0800-333-7262)
	0810-321-PANA (0810-321-7262)

Customer's Record

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

Model Number

Serial Number

Panasonic Corporation

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

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