

Panasonic[®]

ZT60 series

***e*HELP**

Watching TV

my Home Screen

- Features 12
- How to use 13
- Settings 14

Cable / Satellite / Fiber Optic box

- Initial setting 16

Antenna / Cable service without a box

- Initial setting 17
- Select channels 18
- Favorite channels 19
- Closed caption 20
- SAP 21
- Other 22

Blu-ray, DVD, Game Console, etc.

- Connecting and viewing 23
- HDMI connection notice 26
- HDMI connection caution 27
- Input signal 28

Useful features

- Eco navigation 29
- Voice guidance 30
- Voice guidance features 31
- Voice guidance settings 32
- Voice control 33
- How to use the voice control 34

▪ Voice control settings	35
--------------------------	----

For best picture

▪ Picture mode	36
▪ Auto brightness (ECO)	38
▪ Aspect	39
▪ Aspect info.	41
▪ Lock settings	42
▪ Copy adjustments	43
▪ Pro settings	44

For best audio

▪ Basic settings	48
▪ Advanced settings	50

3D

▪ Notice	52
▪ Parts name and functions	53
▪ Registration	55
▪ Replacing the battery	56
▪ Viewing 3D	58
▪ Change 3D ↔ 2D	59
▪ Adjust 3D images	60
▪ 3D settings	61

Using Internet services

Connect to network

▪ Network connections	63
-----------------------	----

Network settings

▪ Setting menu	65
----------------	----

▪ Network connection/Network status	66
▪ TV remote App settings	67
▪ Network link	68
▪ Software update	69
▪ New software notice	70

How to use

▪ Operate	71
-----------	----

Home network "DLNA"

Get started

▪ Information	72
---------------	----

Connect to network

▪ Network connections	73
-----------------------	----

Network settings

▪ Setting menu	76
▪ Network connection/Network status	77
▪ TV remote App settings	78
▪ Network link	79
▪ Software update	80
▪ New software notice	81

Photos

▪ Viewing Photos	82
▪ Photo view	83
▪ Options menu	84
▪ Using slideshow	85
▪ Slideshow settings	86

Videos

▪ Viewing Videos	87
▪ Video view	88
▪ Options menu	89

Music

▪ Playing Music	90
▪ Music view	91
▪ Options menu	92

Data information

▪ Compatible Data format	93
▪ Notice	95

Media player

Get started

▪ Information	96
▪ Media warning messages	97
▪ SD card handling cautions	98

Photos

▪ Viewing Photos	99
▪ Photo view	100
▪ Sort the photos	101
▪ Options menu	102
▪ Multi shot 3D	103
▪ Thumbnails size	104
▪ Using slideshow	105
▪ Slideshow settings	106
▪ Soundtrack settings	108

Videos

▪ Viewing Videos	109
▪ Video view	110
▪ Options menu	111

Music

▪ Playing Music	112
▪ Music view	113
▪ Options menu	114

Data information

▪ Compatible Data format	115
▪ Notice	117

Convenience features

Using Apps list

▪ Features	118
▪ How to use	119
▪ Settings	120

Timer

▪ Setting menu	121
▪ Timer (On/Off timer)	122
▪ Sleep (Off timer)	123

Parental control

▪ Setting menu	124
▪ Parental control	125
▪ Password setting	127
▪ Parental control ratings	128

Closed caption

▪ Setting menu	130
----------------	-----

▪ Closed caption	131
▪ Closed caption notice	133
VIERA Link™ "HDAVI Control™"	
▪ Basic feature	134
▪ Connecting note	135
▪ VIERA Link connections	137
▪ VIERA Link settings	140
▪ VIERA Link settings feature	141
▪ VIERA Link	143
▪ VIERA Link menu	144
Using Voice guidance	
▪ Voice guidance	146
▪ Voice guidance features	147
▪ Voice guidance settings	148
Using Voice control	
▪ Voice control	149
▪ How to use the voice control	150
▪ Voice control settings	151
Using Electronic Touch Pen	
▪ Information	152
▪ Touch Pen settings	153
▪ Using Touch Pen	154
Using Touch Pad Controller	
▪ Features	155
▪ VIERA Touch Pad settings	156
Using Bluetooth devices	

▪ Settings	157
▪ Bluetooth settings	158
Control by Smartphone, etc.	
▪ Smartphone remote	159
▪ Remote control via IP	160
Using USB Keyboard / Gamepad	
▪ Keyboard	161
▪ Gamepad	162
All settings	
How to use	
▪ Setting menu	163
Picture	
▪ Basic settings	164
▪ Pro settings	167
▪ Advanced picture	171
▪ Screen settings	173
▪ 3D settings	175
▪ Other settings	177
Sound	
▪ Basic settings	178
▪ Voice guidance settings	180
▪ Advanced settings	181
▪ DIGITAL AUDIO OUT terminal	183
Network	
▪ Network settings	184
Timer	

▪ Setting menu	186
▪ Clock settings	187
▪ Sleep (Off timer)	188
▪ Auto turn off settings	189
▪ Timer (On/Off timer)	190

Setup

▪ Setting menu	191
▪ Eco navigation	192
▪ Voice control settings	193
▪ USB device setup	194
▪ Touch Pen setup	195
▪ VIERA Touch Pad settings	196
▪ Bluetooth settings	197
▪ Parental control	198
▪ Password setting	200
▪ Parental control ratings	201
▪ ANTENNA/Cable setup	203
▪ Language settings	205
▪ Display customization	206
▪ Closed caption	207
▪ Closed caption notice	209
▪ VIERA Link settings	210
▪ System settings	211
▪ Other settings	212
▪ Useful settings	213

Support / FAQ

Help menu

- Using Help menu 214

FAQ

- Picture - Viewing 215
- Picture - Snowy / none 216
- Picture - Distortion 217
- Picture - Continue 218
- Sound - None 219
- Sound - Unusual 220
- Networking 221
- Software update 222
- 3D - Viewing 223
- 3D - Format 224
- Voice guidance 225
- Voice control 226
- VIERA Touch Pad Controller 227
- Electronic Touch Pen 228
- Eco-Navigation (Eco-Navi) 229
- Other 230
- Menu - Gray-out or missing items 231
- Factory defaults 232

Care and Cleaning

- Display panel 233
- Cabinet 234
- Pedestal / Power cord 235
- 3D Eyewear 236

Meaning of signs :



Press the Remote control button

INFO Letters in box : Remote control button

MENU Letters in Cyan : Menus on screen display

Watching TV

my Home Screen

Features

my Home Screen is a gateway to the TV, applications, and more. It provides easy access to special features such as the Media Player, videos, games, communication tools, etc.

■ **Home Screen**

(Example)



- 1** Home Screen
- 2** Selected content screen (TV, application, etc.)
- 3** Home Screen Selection
 - Choose your preferred Home Screen layout.

Watching TV

my Home Screen

How to use

The Home Screen provides access to special features such as the Media Player, TV, Internet content, data services, communication tools, etc.

1. Display Home Screen



- The last viewed Home Screen is displayed each time the TV is turned on.
- Press **HOME** again to return to Home Screen Selection.
- You can change the default Home Screen when the TV is turned on. (Watching TV > my Home Screen > Settings)

2. Select a Home Screen icon using ◀/▶/△/▽ and press OK to access the feature.

- To watch full-screen TV
 1. Select the TV window with △/▽/▶/◀



2. Press OK to watch



- Also refer to [Tutorial](#) from the tool guide.

Watching TV

my Home Screen

Settings

Select the setup menu from the tool guide on the top of the screen, or use colored button to display the setup menu.

(Example)



■ **Home Screen Selection**

1. Display Home Screen Selection with **HOME**

(Example)



2. Select the type of Home Screen with ◀ / ▶ and press **OK** to set **Full Screen TV**

Exits the Home Screen and displays the TV picture in full-screen.

Various Home Screens

You can change the layout of the Home Screen according to your lifestyle and personal preferences.

Add New Screen

You can add a new screen to personalize.

- To prevent panel "image retention", the brightness of the screen is adjusted when no operation is performed on Home Screen.
After a certain period of time, full-screen TV is displayed automatically.

■ **Face recognition**

By using the Communication camera, you can select the registered Home Screen with face recognition.

Please refer to **Tutorial** from the tool guide.

- Communication camera is not included. Please purchase as necessary.

■ **Settings**

You can customize Home Screen. For example, you can change the wallpaper, rename the screen, add / delete or set your preferred Home screen, edit applications, etc.

1. Select **Settings** from the tool guide
2. Follow the on-screen instructions

■ **Search function**

You can search the content of various Home screen features.

1. Select **Search** from the tool guide
2. Follow the on-screen instructions

- To use this function fully, you need a broadband network environment. Ensure the network connections and network settings are completed.
- 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 my Home Screen. You can update the software later manually.

Watching TV

Cable / Satellite / Fiber Optic box

Initial setting

1. Connecting

Select the wiring method connecting your box to the TV, **AV IN** or **Antenna/Cable in**.

Note: HDMI will provide the best HD picture

2. Change INPUT



INPUT

Press the INPUT button to select the proper connection. Wait 2 seconds.

3. Power on your Cable , Satellite or Fiber box

Use the box's remote control to change channels.

★ If the box is connected to the TV using a COAX cable (Antenna/Cable in), then set the TV channel to CH3 or CH4. Note that the picture will not be in HD.

★ CC/SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.

★ If you have a High Definition box, ensure that it is outputting 720p or 1080i signal.

Tip: press the TV's **INFO** button to verify.

★ Check your box's "aspect" or "format" settings. It should be set to 16:9, Widescreen or **FULL**.

★ If the audio volume is too low, check the box's audio settings.

★ Contact your Cable or Satellite provider for instructions on any box settings.

Watching TV

Antenna / Cable service without a box

Initial setting

1. Connect coax

Connect a COAX wire from either an antenna or Basic Cable service to the TV's "ANTENNA/CABLE IN" screw terminal.



1 TV (ANTENNA/CABLE IN)

2 Antenna

2. Scan the channel

 **MENU** → **Menu** > **Setup** > **ANTENNA/Cable setup** >
ANTENNA/Cable signal, Auto program

1. Select either **Cable** or **Antenna** programming source in **ANTENNA/Cable signal**.
2. Select **Auto program** and then the appropriate scan mode:
(**All channels** / **Analog only** / **Digital only**).
3. Start scanning.

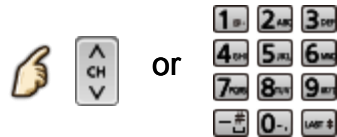
★ If no channels are found by the end of the scan, then check the following:
Antenna's position - or availability of Cable service.
Cable, Satellite or Fiber services with a box are typically connected to the TV's A/V inputs, preferably HDMI, for best HD picture. In such a case, the channel scanning is not needed.

Watching TV

Antenna / Cable service without a box

Select channels

- **Select desired channel**



- CH buttons are also available on the TV.

- **Select desired digital channel**

To directly enter a digital channel number use 

- When tuning to a digital channel, press the button to enter the minor number in a compound channel number.

(e.g. CH15-1 →    )

Watching TV

Antenna / Cable service without a box



Favorite channels

Channel numbers registered in Favorite are displayed on the favorite tune screen. Select the desired broadcast station with the cursor or use the number buttons.

- Favorite channels cannot be set when using Cable or Satellite box

- **Set the Favorite channel**

 **OPTION** → **Options menu** > **Set favorite**


Select the list number using Δ / ∇ and  or  directly to save the displayed channel.

- **Delete a Favorite channel**

 **OPTION** → **Options menu** > **Set favorite**



Select the list number using Δ / ∇ and  to delete.

* To change the page in **Set favorite**


 **FAVORITE** or \triangleleft / \triangleright repeatedly

- **Display a Favorite channel**

 **FAVORITE** → **Favorite channels**

Select the list number using Δ / ∇ and  or  directly to save the displayed channel.

* To change the page in **Favorite channels**

 **FAVORITE** or \triangleleft / \triangleright repeatedly

Watching TV

Antenna / Cable service without a box

Closed caption

Viewing with Closed caption



Switches the Closed caption mode.

(**Off / On / On mute**)

- ★ CC is not available when watching TV with a Cable or Satellite box connected via HDMI.
- ★ Contact your Cable or Satellite operator for instructions on enabling CC with their box.
- ★ The TV's CC button does not operate the Satellite or Cable box's CC function.
- ★ For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3; characters might be cut off).
- ★ If the CC is set to On on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- ★ If a digital program is being output in analog format, the CC data will also be output in analog format.
- ★ If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

Watching TV

Antenna / Cable service without a box

SAP

Listen with SAP (Secondary Audio Programming)

- SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.
- Contact your Cable or Satellite operator for instructions on enabling SAP with their box.
- The TV's **SAP** button does not operate the Satellite or Cable box's **SAP** function.

Select the Audio mode for watching TV.



Digital mode: Select available audio service when receiving a digital channel.

Audio track is automatically selected as **Preferred audio type** and **Preferred SAP language** settings.

Menu > Sound > Preferred audio type

Menu > Setup > Language > Preferred SAP language

- * If you change the audio settings with the **SAP** button, **Preferred SAP language** and **Preferred audio type** settings will not change.

Audio track 1 of 7	→	Track number / Number of tracks
English (Main audio)	→	Current audio track information
English audio	→	Audio service information

(example)

Analog mode: Select the desired Audio mode. (**Stereo / SAP / Mono**)

Watching TV

Antenna / Cable service without a box

Other

1. Information banner

Displays TV status information. Also, when watching programs via the Antenna/Cable input, INFO will include the channel banner.



Channel / Station identifier / Program title / Closed caption / SAP /
Rating level / Signal resolution / Picture mode / Aspect ratio /
Sleep timer remaining time / Clock

2. Options menu

This menu consists of shortcuts to convenient functions.



Voice guidance settings: Guidance settings for visually impaired users.

Channel surf mode: Specify favorites or type of channels to view when pressing the channel up/down button.

Set favorite: Set favorite channel

Edit CH caption: Edit the channel identifier

Signal meter: Check the antenna's signal strength

* Options menu is only available when the TV is using the Antenna/Cable input, not when using Cable or Satellite box.

Watching TV

Blu-ray, DVD, Game Console, etc.

Connecting and viewing

1. Connect device

Verify that the device is connected to the TV properly and connect to desired terminal. Note which terminal the device is connected to (HDMI 1, HDMI 2,... Component or Video)

Component and Composite (Video) in terminals are shared.

Please be careful not to confuse the connection when you use Component or Video.

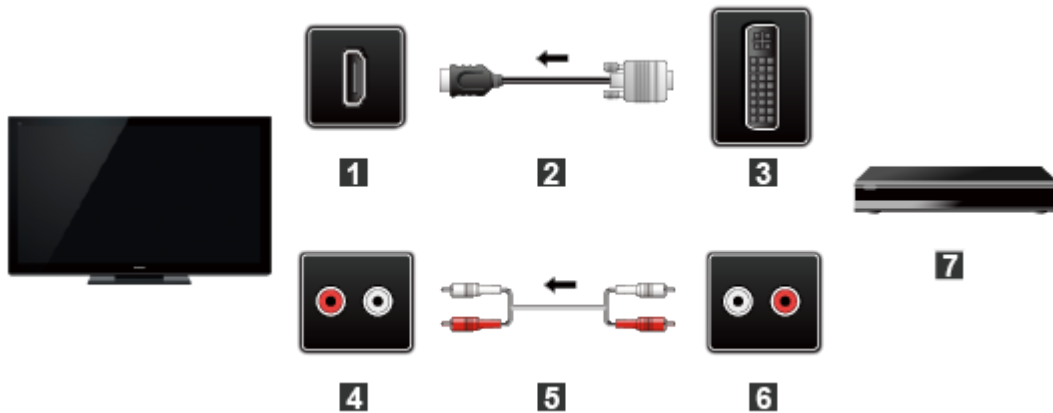
■ Example of AV connections

A. Connecting to the HDMI input (best)



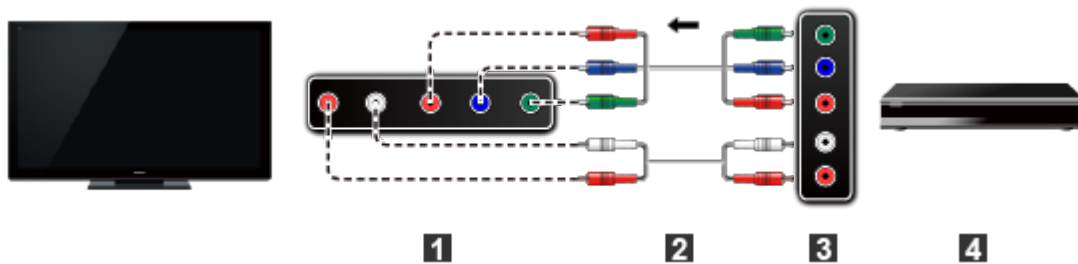
- 1** HDMI IN
- 2** HDMI cable
- 3** HDMI OUT
- 4** AV Equipment (e.g. Blu-ray Disc player)

For devices with DVI output



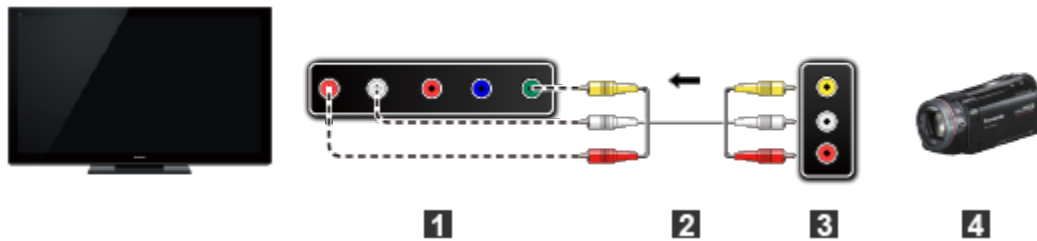
- 1** HDMI IN
- 2** HDMI-DVI Conversion cable
- 3** DVI OUT
- 4** AUDIO IN
- 5** Audio cable
- 6** AUDIO OUT
- 7** AV Equipment (e.g. Blu-ray Disc player)

B. Connecting to the COMPONENT input



- 1** COMPONENT IN
- 2** Component cable
- 3** COMPONENT OUT
- 4** AV Equipment (e.g. Blu-ray Disc player)

C. Connecting to the VIDEO input (Standard definition only)



- 1 COMPOSITE IN
- 2 VIDEO cable
- 3 COMPOSITE OUT
- 4 AV Equipment (e.g. Camcorder)

2. Select Input

1. Display **Input select** menu (With the connected equipment turned ON)



2. Select the input used in step 1

Select correct input source, using \triangle / ∇ and press

You need to select **Video** or **Component**.

- Press **INPUT** and select **AV: Video** <-> **Component**.
- Press \triangle / ∇ to choose Video or Component.

Input select
ANT/Cable In
HDMI1
AV Video Component
Edit labels

- You can edit and customize the **TV's Inputs** for easy identification by pressing the button. If you label an input as "Not used", then it will not appear in the Input select menu.

3. Operate using your device's remote control.

Watching TV

Blu-ray, DVD, Game Console, etc.

HDMI connection notice

HDMI (high-definition multimedia interface) allows you to enjoy high-definition digital images and high-quality sound by connecting the TV unit and HD devices.

HDMI-compatible equipment (*1) with an HDMI or DVI output terminal, such as a Cable or Satellite box or a DVD player, can be connected to the HDMI connector using an HDMI compliant (fully wired) cable.

- HDMI is the world's first complete digital consumer AV interface complying with a non-compression standard.
- If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adapter cable (*2).
- When the DVI to HDMI adapter cable is used, connect the audio cable to the audio input terminal.
- Audio settings can be made on the **HDMI in** menu screen. Applicable audio signal sampling frequencies (L.PCM): 48 kHz, 44.1 kHz, 32 kHz

(*1): The HDMI logo is displayed on an HDMI-compliant device.

(*2): Inquire at your local digital equipment retailer shop.

Watching TV

Blu-ray, DVD, Game Console, etc.

HDMI connection caution

Caution

- If the connected device has an aspect adjustment function, set the aspect ratio to "16:9".
- The HDMI connectors are "type A".
- The HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Devices with no digital output terminal may be connected to the input terminal of either "COMPONENT IN", or "VIDEO IN" to receive analog signals.
- The HDMI input terminal can be used only with the following video signals: 480i, 480p, 720p, 1080i and 1080p. Ensure that the device being connected to the TV can produce one of these video signals.

Watching TV

Blu-ray, DVD, Game Console, etc.

Input signal

- Signals other than those listed below may not be displayed properly.
- The signals are reformatted for optimal viewing on your display.

■ **Component and HDMI** (* HDMI only)

Input signal	Vertical frequency (Hz)
525 (480)/60i	59.94/60.00
525 (480)/60p	59.94/60.00
750 (720)/60p	59.94/60.00
1,125 (1,080)/60i	59.94/60.00
1,125 (1,080)/60p	59.94/60.00
1,125 (1,080)/24p *	23.98/24.00

Watching TV

Useful features

Eco navigation

This setting allows you to set the TV to the most suitable energy-saving mode automatically.

1. Select **Eco navigation**

 **MENU** → **Menu > Setup > Eco navigation**

2. Press **Set to ECO**

Optimizes the TV's various modes to save energy.

Note: The TV's brightness will adjust and adapt as the room lighting changes.

Watching TV


Useful features

Voice guidance

This function provides a useful audio readout of basic features.

1. Set Voice guidance to On

 **MENU** → **Menu** > **Sound** > **Voice guidance settings** > **Voice guidance**

Select the menu using \triangle / ∇ and press 

Then, switch to **On** using \triangle / ∇ and press 

2. Set other items

Select the desired menu using \triangle / ∇ and press 

Then, change or adjust the item using \triangle / ∇ and press 

(Voice guidance/Speed/Volume/Language/User level/Web browser)


Watching TV

Useful features

Voice guidance features

■ **Web page speech**

When you point to the text on the web page using the Touch Pad Controller, a rectangle will appear around the framed area and speech will begin.

- ① Select **Web browser** using \triangle / ∇ and press 
- ② Select **On** to enable this function

■ **Voice guidance in Home Screen**

Useful information displayed on Home Screen.

Watching TV

Useful features

Voice guidance settings

Settings for using voice guidance.

Voice guidance

(Off/On)

On: Enables voice guidance of the basic features (Channel banner and input source).

Speed

(Slow/Normal/Fast)

Adjust the readout speed of the voice guidance.

Volume

(Low/Mid/High)

Selects the volume for voice guidance.

Language

(English/Español/Français)

Selects the language for voice guidance.

User level

(Expert/Beginner)

Selects the level of complexity for voice guidance.

Web browser

(On/Off)

Enables voice guidance on web page.

Watching TV

Useful features

Voice control

This function allows you to operate basic functions using voice control.

- You need a broadband network environment to use this function fully.
- Ensure the Touch Pad Controller has been paired successfully.

■ **Settings**

You can set the voice control settings.

1. Select voice control settings

 **MENU** → **Menu** > **Setup** > **Voice control settings**

2. Select item and set

Select desired item using \triangle / ∇ and adjust the settings with \triangle / ∇
(**Language/Speech detection level/Terms of service**)

- To use voice control function, you need a broadband network environment, because this function accesses the speech recognition server with the Internet connection. Even if you have the Internet environment, this function may not be available depending on the proxy settings.
Please connect the Internet without proxy settings. (Proxy settings are not required for normal household use. For details of Internet environment, consult your Internet Service Provider (ISP) or telecommunications company.)

Watching TV

Useful features

How to use the voice control

■ How to use

1. Press on Touch Pad Controller

- When the confirmation screen is displayed, read carefully and start voice control function.

2. When the operation guide is displayed follow the on-screen instructions



OPTION



Voice command list



RETURN



Exit voice control function

- When you start voice control function, sound level of the TV becomes low.
- Voice control function may not work properly under the following circumstances.
 - Incorrect or unclear pronunciation.
 - Volume level of your voice is too loud or too soft.
 - Noisy surroundings.
- Phrases other than voice command may not be recognized.
- It is recommended that you speak within about 6" (15 cm) of the integrated microphone of Touch Pad Controller when using voice control function.
- Voice control function is subject to change without notice.

Watching TV

Useful features

Voice control settings

Settings for using voice control function.

Language

(English/Español/Français)

Selects the language for voice control.

Speech detection level

(High/Standard)

Sets sensitivity level for voice control.

Terms of service

Shows the terms of service of voice control.

Watching TV


For best picture

Picture mode

1. Change picture mode to suit your settings and taste

1. Select **Picture mode**

 **MENU** → **Menu > Picture > Picture mode**

Select desired menu using \triangle / ∇ from menu bar and press 

2. Adjust using \triangle / ∇

Note: HDMI will provide the best HD picture

2. Picture mode type

Vivid

Provides enhanced picture contrast and sharpness for viewing in a well-lit room.

Standard

Recommended for normal viewing conditions with subdued room lighting.

Home theater

For watching movies in a darkened room. It provides a soft, film-like picture.

THX*

THX modes are used to mirror the picture settings used by professional filmmakers, faithfully reproducing the image quality of THX Certified movies. THX Certified movies have the THX logo on the disc. THX modes are not available for photo contents or Internet services.

* 2D: THX Cinema/THX Bright Room, 3D: THX3D Cinema

EBU default

Reproduces the original image quality precisely according to the EBU* standard.

* EBU: European Broadcasting Union

- Available only for 2D mode.

Cinema

Reproduces the original image quality precisely without any revision.
Allows you to set the professional picture settings in **Pro settings** and **Copy adjustments**.

Custom

Customizes each item according to your taste.
Allows you to set the professional picture settings in **Pro settings** and **Copy adjustments**.

Professional 1/2

These modes are displayed with **Professional mode (isfccc)** of **Setup** is set to **On**.

Allows you to set the professional picture settings in **Pro settings**, **Lock settings** and **Copy adjustments**.

- If the certified professional dealer sets these modes, **Professional 1** and **Professional 2** may be displayed as **isf Day** and **isf Night**.

Watching TV

For best picture

Auto brightness (ECO)

Contrast Automatic Tracking System (C.A.T.S.) adjusts the screen brightness and contrast according to the room's ambient light conditions. This ECO feature automatically dims the brightness of the screen when the room lighting is lowered.

C.A.T.S. features a built-in delay when the lighting conditions change. The adjustment happens gradually.

If you prefer a consistent brightness, disable C.A.T.S. by:

- **Menu > Picture >** scroll down to **C.A.T.S.** and turn it off.

Or

- **Menu > Picture > Picture mode** then select viewing mode such as **Custom**

.

Watching TV

For best picture

Aspect

1. Use **FORMAT** button to change the aspect ratio

Use when the picture has bars (sides or top/bottom) and to zoom.



FORMAT (to cycle through the aspect modes)

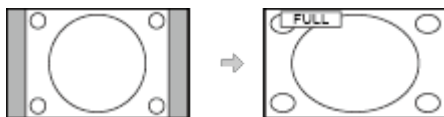
480i, 480p: Full/Just/4:3/Zoom

1080p, 1080i, 720p: Full/H-Fill/Just/Sidecut Just/4:3/Zoom/
Sidecut Zoom

- ★ Use when the picture does not fill the whole screen or portions of the picture are trimmed.
- ★ Some content, such as film-based movies, are available in extra-wide format. Top and bottom bars are unavoidable.
- ★ Connected devices, such as Cable/Satellite box, DVD/Blu-ray players and game consoles have their own aspect (format) settings. Adjust the device's aspect settings.

■ **Screen mode**

FULL



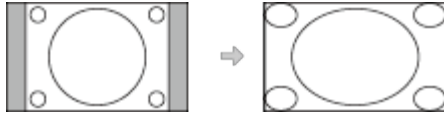
Enlarges the 4:3 image horizontally to the screen's side edges.
(Recommended for anamorphic picture)

JUST



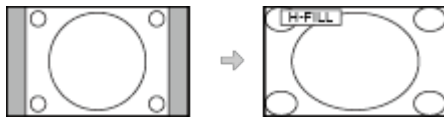
Stretches to justify the 4:3 image to the four corners of the screen.
(Recommended for normal TV broadcast)

Sidecut just



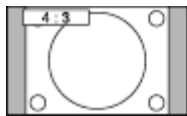
Enlarges the 4:3 image horizontally to the screen's side edges. The side edges of the image are cut off.

H-FILL



Enlarges the 4:3 image horizontally to the screen's side edges. The side edges of the image are cut off.

4:3



Standard

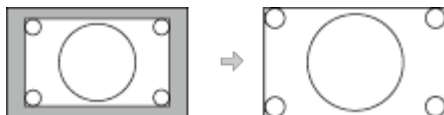
(Note that "Image retention" of the side bar may occur from displaying it for a long time.)

ZOOM



Enlarges the 4:3 image to the entire screen.
(Recommended for Letter Box)

Sidecut zoom



Enlarges the image to the entire screen. The side edges of the image are cut off.

Watching TV

For best picture

Aspect info.

■ **Zoom adjustments**

Vertical image position and size can be adjusted in "ZOOM"

- ① Select **Zoom adjustments** in the **Picture** menu.



MENU

→ **Menu > Picture > Screen settings > Zoom**

adjustments

- ② V-position: Vertical position adjustment
Adjust using \triangle / ∇ to desired position.
- ③ V-size: Vertical size adjustment
Adjust using $\triangleleft / \triangleright$ to desired size.

* Press OK to reset

Watching TV

For best picture

Lock settings

Lock the picture menu for **Professional 1/Professional 2** and each input.

Settings are basic picture settings and Pro settings.

1. Select **Lock settings**

 **MENU** → **Menu** > **Picture** > **Lock settings**

Select desired menu using \triangle / ∇ and press 

2. Enter the 4-digit PIN number


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

3. Select **Adjustment Lock** and set to **On**

Select the menu using \triangle / ∇ and press 

Then, select **On** using \triangle / ∇ and press  to set

■ **To change the PIN number**

- ① Select **Change password** using \triangle / ∇ and press 
- ② Enter a new PIN number twice with numeric buttons

Watching TV

For best picture

Copy adjustments

You can copy the selected **Cinema** or **Custom** settings and apply them to all or another input.

Settings are basic picture settings and Pro settings.

1. Select **Copy adjustments**



MENU



Menu > Picture > Copy adjustments

Select the desired menu using \triangle / ∇ and press

2. Select **Destination input** and set (Default: All)

Select the menu using \triangle / ∇ and press

Then, select the destination using \triangle / ∇ and press to set.

3. Select **Copy start to copy**

Select the menu using \triangle / ∇ and press

4. Select **Yes** to set

Select the item using $\triangleleft / \triangleright$ and press to set

Watching TV

For best picture

Pro settings

Adjust the picture mode in more detail.

Set **Picture mode** to **Custom/Cinema/Professional 1/Professional 2** first.



MENU



Menu > Picture > Pro settings

Panel brightness

(Low/Mid/High)

Selects different levels of overall panel brightness.

AGC

(0-15)

Automatic Gamma Control. Increases automatically the brightness of a dark signal.

Black extension

(0-15)

Adjust the gradations in dark shades of the image.

Color gamut

(Native/Rec. 709/SMPTE-C/EBU)

Each color space is a matrix composed of red, green & blue colors. Select your preference.

W/B detail adjustment

W/B high R, G, B (+/-50)

Adjusts the white balance for light red/green/blue areas.

W/B low R, G, B (+/-50)

Adjusts the white balance for dark red/green/blue areas.

More detail adjustment

Adjusts more detailed White Balance items.

Input signal level

Adjusts the IRE picture level in relation to the gain of the red, green & blue colors.

Red, Green, Blue gain

Adjusts the red/green/blue gain value of each Input signal level.

Reset to defaults

Reset all **More detail adjustment** to factory defaults settings.

Reset to defaults

Reset **W/B detail adjustment** adjustments to factory defaults settings.

Color detail adjustment**Red, Green, Blue hue (+/-50)**

Adjusts the red/green/blue hue between light, pastel and vivid.

Red, Green, Blue saturation (+/-50)

Adjusts the difference of the red/green/blue color against its own brightness.

Red, Green, Blue luminance (+/-50)

Adjusts the luminance of red/green/blue areas.

More detail adjustment

Adjusts more detailed Color management items.

Yellow, Cyan, Magenta hue (+/-50)

Adjusts the yellow/cyan/magenta hue between light, pastel and vivid.

Yellow, Cyan, Magenta saturation (+/-50)

Adjusts the difference of the yellow/cyan/magenta color against its own brightness.

Yellow, Cyan, Magenta luminance (+/-50)

Adjusts the luminance of red/green/blue/yellow/cyan/magenta areas.

Reset to defaults

Reset **More detail adjustment** to factory defaults settings.

Reset to defaults

Reset **Color detail adjustment** adjustments to factory defaults settings.

Gamma detail adjustment**Gamma**

(S-curve/1.8/2.0/2.2/2.4/2.6)

Gamma correction. Adjusts the intermediate brightness of the image.

More detail adjustment

Adjusts more detailed Gamma items.

Input signal level

Adjusts the IRE picture level in relation to the gain of the red, green & blue colors.

Gain

Adjusts the gain value of each Input signal level.

Reset to defaults

Reset all **More detail adjustment** to factory defaults settings.

Reset to defaults

Reset **Gamma detail adjustment** to factory defaults settings.

Reset to defaults

Resets all **Pro settings** adjustments to factory default settings.

Watching TV

For best audio

Basic settings

Adjust audio quality.



Sound mode (Standard/Music/Ambience/User)

Selects your favorite sound mode.

- The selected mode affects all input signals.

Standard: Provides the suitable sound quality for all types of scenes.

Music: Improves sound quality for watching music videos, etc.

Ambience: Improves spatial effects and provides clear sounds.

User: Adjusts the sounds manually by using the equalizer to suit your favorite sound quality.

- For the User mode, **Equalizer** will appear on the Sound Menu instead of **Bass** and **Treble**. Select **Equalizer** and adjust the frequency.
 - Gray-out when using Home Theater.
-

Bass

Increases or decreases the bass response.

- Gray-out if **Sound mode** is set to **User**.
 - Gray-out when using Home Theater.
-

Treble

Increases or decreases the treble response.

- Gray-out if **Sound mode** is set to **User**.
 - Gray-out when using Home Theater.
-

Equalizer

(150Hz/250Hz/500Hz/1kHz/2kHz/4kHz/8kHz/12kHz/Reset to default)

Adjusts the frequency level to suit your favorite sound quality.

- This function is available when **Sound mode** is set to **User**.
 - Select the frequency and change the frequency level by using the cursor button.
 - To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency.
 - To reset the levels of each frequency to the default settings, select **Reset to defaults** by using the cursor button, and then press the **OK** button.
 - Gray-out when using Home Theater.
-

Balance

Emphasizes the left/right speaker volume.

- Gray-out when using Home Theater.

Watching TV

For best audio

Advanced settings

Surround

(Off/Natural/Hall/Stadium)

Enhances audio L/R response when listening to stereo.

Ideal for music and action movies.

- Gray-out when using Home Theater.
-

Bass boost

(Off/On)

Enhances bass sound and provides powerful sound.

- Gray-out when using Home Theater.
-

Digital remaster

(On/Off)

Compensates for the compressed audio signal to reproduce the original sound quality.

- Gray-out when using Home Theater.
-

A.I. sound

(Off/On)

Equalizes overall volume levels across all channels and external inputs.

- Gray-out when using Home Theater.
-

Volume leveler

(+/-6)

Minimizes volume disparity after switching to external inputs.

- Gray-out when using Home Theater.
-

Distance to wall

(Over 1ft(30cm)/Up to 1ft(30cm))

Over 1ft(30cm): TV is on a stand. Keeps current setup.

Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.

- Gray-out when using Home Theater.
-

Preferred audio type**(Main Audio/Hearing Impaired/Visually Impaired)**

Allows setting of the accessible audio format when it's broadcast and the language setting matches.

Digital audio out selection**(Auto/PCM)**

Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI 2 (ARC function) terminals.

Auto: Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bit stream. MPEG is output as PCM.

PCM: Digital output signal is fixed to PCM.

- For video contents of Media Player / Network services.
 - ARC (Audio Return Channel): A function of digital audio output using HDMI cable.
-

HDMI input (HDMIx in)**(Digital/Analog)**

The default setting is **Digital** for the HDMI connection. (Digital input signal)
Select audio input terminal when a DVI cable is connected along with an analog audio input signal.

Reset to defaults

Resets all Audio adjustments to factory default settings.

- Gray-out when using Home Theater.

Watching TV

3D

Notice

The following 3D content can be enjoyed on this TV:

- A 3D Blu-ray disc, played on 3D capable Blu-ray player/recorder that is connected via HDMI cable
- 3D TV broadcast (program)
- 3D Photo and 3D Movie taken by LUMIX/Camcorder.
- 3D game played on 3D capable video game console, connected via HDMI cable.
- 2D → 3D

About 2D → 3D

* This function converts standard 2D images and displays them in 3D. For this reason, the 3D images appear slightly different from the originals.

Please bear this in mind when using this function.

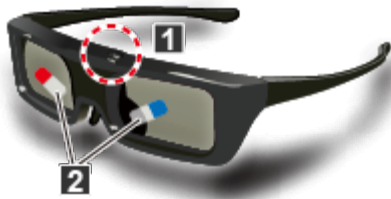
* Using this function for profit-making purposes, or publically showing images converted from 2D to 3D in places such as coffee shops or hotels etc. may infringe on the rights of the copyright holder protected under the Copyright Act.

Watching TV

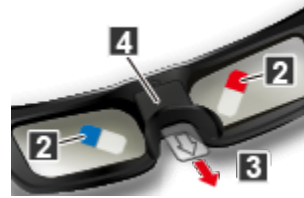
3D

Parts name and functions

[Front side]



[Back side]



1 Power button/Mode change/Indicator lamp

Switches the 3D Eyewear on or off.

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

Mode change

- Press the button for about 1 second to change the mode between 3D and 2D (view a 3D image in 2D).
- (When power is off) Press the button for 5 second to change to registration mode.

Indicator lamp

- Lights or flashes during use to show the status. (see below)

2 Protection film

3 Insulating sheet

- When using for the first time, peel off the protection film and pull the insulating sheet.

4 Battery cover

Indicator lamp status

Indicator lamp	Status
Lights red for 2 seconds when turned on	Sufficient battery level
Flashes red 5 times when turned on	Low battery level
Flashes red	Under registering
Flashes red once every 1 seconds	Under reconnecting to the TV
Flashes red 3 times	Power off (Press the button for 3 seconds or more when in use, or Automatically power off when registering or reconnecting fails, or connection is lost)
Flashes red once every 2 seconds when in use	3D mode is selected
Flashes red twice every 4 seconds when in use	2D mode is selected

Watching TV

3D

Registration

■ **Eyewear initial setup**

To pair the 3D Eyewear with the TV for the first time, follow these steps:

- 1. Turn the TV on**
- 2. Place the 3D Eyewear within 1.6 ft. (50 cm) of the TV.**
- 3. Remove the temporary pull tab to enable the battery.**
- 4. Press and hold the power button on the 3D Eyewear for 1 second.**
 - The LED will light for 2 seconds and then flash.
 - The 3D Eyewear will turn on and pairing will begin.
 - A confirmation message will be shown on the TV.

After the pairing process is complete, the 3D Eyewear will automatically reconnect with the TV anytime it is turned on near the TV. The TV should be in 3D mode.

- The 3D Eyewear will turn off automatically when not paired with the TV or when 2D content is displayed.

Watching TV

3D

Replacing the battery

When the battery is running low, the indicator lamp flashes 5 times on turning the 3D Eyewear on.

In this case, early battery replacement is recommended.

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

Confirm your 3D Eyewear type according to the battery cover.
Then, replace the battery following the steps of each type.

[Type A: Without screw]



[Type B: With screw]



[Type A: Without screw]

1. Open the cover using pen tip or screwdriver (minus -) etc.



2. Replace the battery

- If difficulty, remove it with the tip of the driver.
- Use the specified type of battery (coin-shaped lithium battery CR2025).
- Note the correct polarity (+ or -).



3. Replace and fasten the cover



[Type B: With screw]

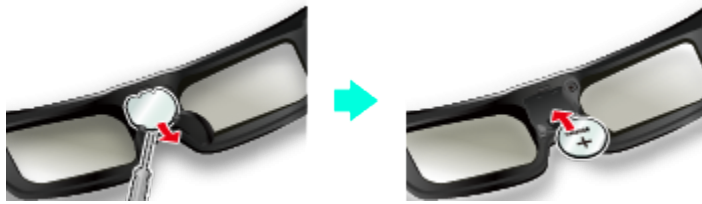
1. Remove the cover

1. Loosen the screw with a precision Phillips (No.0, plus +).
 2. Slide the cover using pen tip or screwdriver (minus -) etc.
 3. Remove the cover with your finger as shown in the illustration below.
- The screw is not removed from the cover.



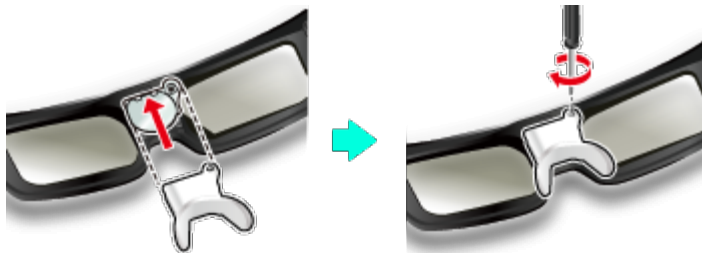
2. Replace the battery

- If difficult, remove it with the tip of the driver.
- Use the specified type of battery (coin-shaped lithium battery CR2025.)
- Note the correct polarity (+ or -).



3. Replace and fasten the cover

- Tighten the screw.



Watching TV

3D

Viewing 3D

1. Turn the 3D Eyewear on and put it on

Make sure that registration is finished completely.
(Displays messages and information on the screen.)

2. View

When the TV receives a 3D signal, it also tries to detect the 3D mode (format). 3D images are automatically displayed according to the signal. If the 3D images are not displayed correctly or the images cause discomfort, the images can be adjusted by [3D format select](#) or [3D settings](#).

3. Turn off the 3D Eyewear

The 3D Eyewear indicator lamp turns off, and the power turns off.

- It may take several seconds to display 3D image properly after you switch to 3D mode.


Watching TV

3D

Change 3D ⇔ 2D

■ Simply switches 3D ⇔ 2D images (Auto mode)

 **3D** → 3D format select


Switch **3D** or **2D** using \triangle / ∇ and press 

■ Change 3D format (Manual mode)

1. Display 3D format select (Manual)

  → 3D format select (Manual)

2. Select 3D format

 **3D** → Cycle through the 3D format

(Original/Side by side (3D)/Side by side (2D)/Top and bottom (3D)/
Top and bottom (2D)/2D → 3D)

- When the TV receives a 480i/576i signal from the Component or HDMI terminal, manual adjustment is not available.

Watching TV

3D

Adjust 3D images

1. Select 3D settings

 **MENU** → **Menu** > **Picture** > **3D settings**

2. Select the item and set

Select desired menu using Δ / ∇ and adjust the settings with Δ / ∇

- ★ The perceived three dimensional effects of the 3D Eyewear differ from person-to-person.
- ★ If a signal received from an external device is different from the 3D setting of the TV, such as 2D signal when the TV is set to 3D mode, the images may not be displayed correctly.

Watching TV

3D

3D settings



MENU

→ **Menu** > **Picture** > **3D settings**

Auto detect 3D

(Off/Auto 1/Auto 2)

Auto 1: Switches to 3D display when 3D indication is available (HDMI (3D), AVCHD file, etc.)

Auto 2: Same as Auto 1. Also detects 3D signal by identifying similar image in side-by-side or top-and-bottom 3D formats.

Note: Choose 3D mode manually when auto detection is not available.

3D signal notification

(Off/On)

On: Displays a message according to the signal received by the **Auto detect 3D**.

3D refresh rate

(96Hz*/100Hz/120Hz) *24Hz only

Reduces juddering and flicker noises of the 3D images when using the 3D Eyewear.

100Hz: If light appears to flicker under fluorescents (or dimmers) of 50 Hz.

120Hz: If light appears to flicker under fluorescents (or dimmers) of 60 Hz.

- Gray-out in 2D mode
-

2D → 3D depth

(High/Mid/Low)

Adjusts the simulated 3D depth perception effect of the 2D incoming signal.

3D adjustment

(Off/On)

Adjust the left eye versus right eye depth effect of the image. Set to **On** to adjust **Effect** (-3 to +3).

- Gray-out in 2D mode
-

**Left/Right swap
(Normal/Swapped)**

Flips the phase of the image to give the correct perception of depth.

- Gray-out in 2D mode
-

**Diagonal line filter
(On/Off)**

Select when diagonal lines appear jagged. Turn off when the picture looks noisy.

- Gray-out in 2D mode
-

Safety precautions

Read safety notice about 3D viewing.

Using Internet services

Connect to network

Network connections

1. Contact your Broadband service provider

Obtain Broadband Internet service:

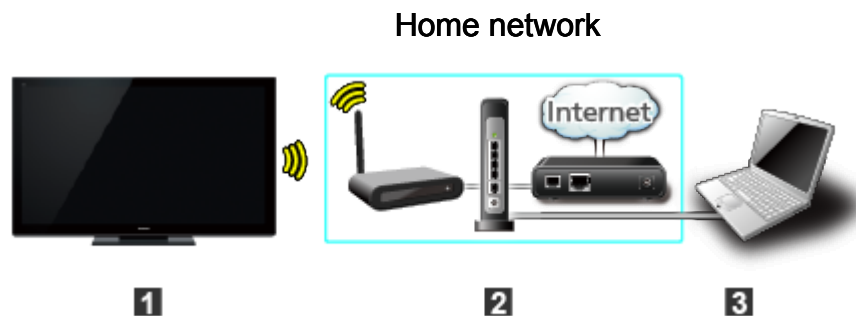
- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.
- Dial-up Internet service cannot be used for Home Screen.

2. Select wired or wireless connection

If a wired network connection is available near the TV, then using this LAN (Ethernet) connection is recommended.

3. Connecting to the Internet

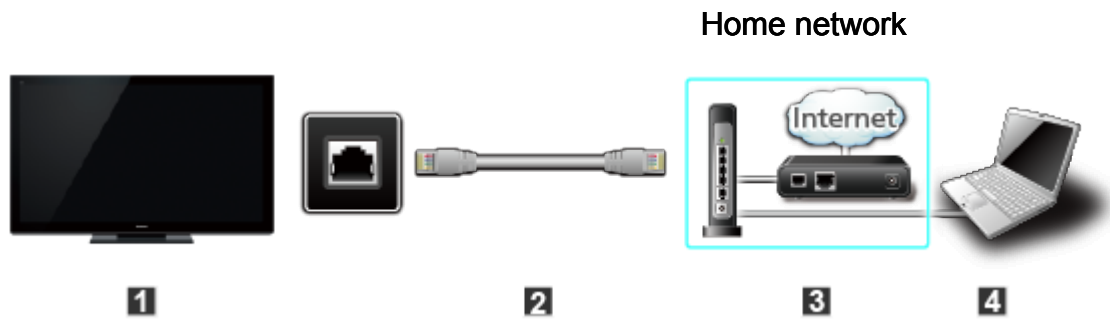
A. Wireless connection



- 1 TV (Built-in wireless LAN)
- 2 Home network (modem/wireless router)
- 3 Computer/DLNA Certified media server

★ To use and operate only DLNA features, a Broadband network environment is not needed.

B. Wired connection (Using Router)



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Home network (modem/router)
- 4** Computer/DLNA Certified media server

C. Wired connection (Directly connected)

If you are not using the network for connecting anything else but the TV, you can just connect the TV directly to the Cable/DSL Ethernet modem with LAN (Ethernet) cable.



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Modem

***** To use and operate only DLNA features, a Broadband network environment is not needed.
You can simply connect the TV directly to the equipment with a LAN cross cable.

Using Internet services

Network settings

Setting menu

This menu is used for connecting to a Broadband environment.

1. Display the **Menu** and select **Network**

 **MENU** → **Menu** > **Network**

Select **Network** using \triangle / ∇ from menu bar and press 

2. Select the options and set


(**Network connection/Network status/TV remote App settings/
Network link/Software update/New software notice**)

Using Internet services

Network settings

Network connection/Network status

■ **Network connection/Network status**

- ① Select **Network connection** using \triangle / ∇ and press 
- ② Select **Quick setup** to launch Network connection setup wizard.
Follow the directions on the screen to complete the network connection.
 - Manual settings are also available.
Select **Custom** and select your connection type.
Displays setting menu according to selected connection type.
Set the desired menu and complete the network connection.
- ③ Displays **Network status**
Select **Try again** and press OK to start connection test.
Success → Completion message is displayed.
Error → Select **Status details/Help** and press OK to display solution of the connection error.
Follow the directions on the screen to complete the network settings.
 - You can also display **Network status** from **Network** menu.
(**Network > Network status**)
- ④ Exit the screen
Select **Done** and press OK to exit from this screen.

Using Internet services

Network settings

TV remote App settings

■ **TV remote App settings**

- ① Select **TV remote App settings** using \triangle / ∇ and press 
- ② Select the item and set

● **TV remote (App)**

Enables to control the TV from the network equipment (smartphone, etc.).

- Sets to **On** to enable below settings.

- ① Select **TV remote** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● **Wake on LAN**

This function allows you to turn on the TV when you use **Remote control via IP**.

- ① Select **Wake on LAN** using \triangle / ∇
- ② Switches **Off** or **On** with \triangle / ∇

● **Device to upload contents**

Selects device to upload contents from the network equipment (smartphone, etc.).

- ① Select **Device to upload contents** using \triangle / ∇ and press 
- ② Select device and press 

Using Internet services

Network settings

Network link

■ Network link

Setting for DLNA server.

● DLNA server

Enables use this TV as DMS for network devices (DLNA Certified VIERA)

- Sets to **On** to enable below settings.

- ① Select **DLNA server** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● Registration type

Selects the limitation of access to this TV for each device on the home network.

- ① Select **Registration type** using \triangle / ∇ and press 
- ② Switches **Auto** or **Manual** with \triangle / ∇

Auto: All the available device on the home network are accessible.(maximum 16 equipment)

Manual: Sets the access limitation for each device in the Remote device List.

● Remote device list

Lists the available device on the home network.

- ① Select **Remote device list** using \triangle / ∇ and press 
- ② Select the desired device with \triangle / ∇ and set access limitation.

Using Internet services

Network settings

Software update

■ Software update

- ① Select **Software update** using \triangle / ∇ and press 
- ② Press OK to start the Software update screen



- ③ Follow directions on the screen
- Make sure to set **Clock** before the update starts.

Using Internet services

Network settings

New software notice

■ **New software notice**

Displays new software update information when TV is turned on.

- ① Select **New software notice** using \triangle / ∇
- ② Switches **Off** or **On** with \triangle / ∇


Using Internet services

How to use

Operate

You can access Internet services on Apps list (application list) via Home Screen.

1. Display Apps list

 **APPS** → Apps list



(example)

2. Select and Enjoy Internet Service

Select desired application using $\triangle / \nabla / \triangleleft / \triangleright$ and press 

- USB keyboard is available. Set **Keyboard type** in **Setup** menu.
(Game pad is also available.)

- ★ You need a Broadband environment to use this service.
- ★ Please confirm Network connections and Network settings before using this function.
- ★ Depending on the usage conditions, it may take a while to download all the data.
- ★ Internet services available in Home Screen are subject to change without notice.
- ★ Not all contents are available depending on the country and area.

Home network "DLNA"

Get started

Information

You can share the contents (Photo, Video, Music etc.) stored in DLNA Certified media server with your home network system.

- Please confirm **Network connection** and Network settings before using this function.

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 the DLNA Certified media server (for example, PC with Windows 7/Windows 8 installed, etc.) connected to your home network, and enjoy the contents on the TV screen.

■ Media server

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

To use a PC as a media server

Prepare the PC with Windows 7/Windows 8 or ensure the server software is installed on the PC. "Windows 7/Windows 8" is the server software that has been tested for compatibility with this TV (as of November, 2012). Any other server software have not been tested with this TV, therefore compatibility and performance cannot be assured.

- Windows 7/Windows 8

The setup for homegroup settings of Windows 7/Windows 8 is required. For details, refer to the help functions of Windows 7/Windows 8.

Home network "DLNA"

Connect to network

Network connections

1. Contact your Broadband service provider

Obtain Broadband Internet service:

- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.
- Dial-up Internet service cannot be used for Home Screen.

2. Select wired or wireless connection

If a wired network connection is available near the TV, then using this LAN (Ethernet) connection is recommended.

3. Connecting to the Internet

A. Wireless connection

Home network



- 1** TV (Built-in wireless LAN)
- 2** Home network (modem/wireless router)
- 3** Computer/DLNA Certified media server

■ Wireless connection (without Internet connection)

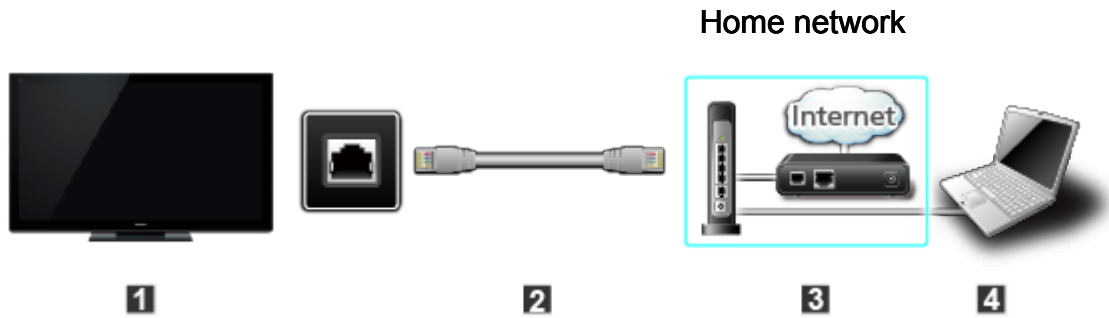
You can connect the TV as an access point to wireless equipment without an Internet connection.



- 1** TV (as Access point)
- 2** Wireless equipments (TV, Smart phone, PC etc.)

***** This connection can not be used for Internet services.

B. Wired connection (Using Router)



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Home network (modem/router)
- 4** Computer/DLNA Certified media server

C. Wired connection (Directly connected)

If you are not using the network for connecting anything else but the TV, you can just connect the TV directly to the Cable/DSL Ethernet modem with LAN (Ethernet) cable.



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Modem

★ To use and operate only DLNA features, a Broadband network environment is not needed. You can simply connect the TV directly to the equipment with a LAN cross cable.

Home network "DLNA"

Network settings

Setting menu

This menu is used for connecting to a Broadband environment.

1. Display the **Menu** and select **Network**



MENU → **Menu** > **Network**

Select **Network** using \triangle / ∇ from menu bar and press 

2. Select the options and set


(**Network connection/Network status/TV remote App settings/
Network link/Software update/New software notice**)

Home network "DLNA"

Network settings

Network connection/Network status

■ **Network connection/Network status**

- ① Select **Network connection** using \triangle / ∇ and press 
- ② Select **Quick setup** to launch Network connection setup wizard.
Follow the directions on the screen to complete the network connection.
 - Manual settings are also available.
Select **Custom** and select your connection type.
Displays setting menu according to selected connection type.
Set the desired menu and complete the network connection.
- ③ Displays **Network status**
Select **Try again** and press OK to start connection test.
Success → Completion message is displayed.
Error → Select **Status details/Help** and press OK to display solution of the connection error.
Follow the directions on the screen to complete the network settings.
 - You can also display **Network status** from **Network** menu.
(**Network > Network status**)
- ④ Exit the screen
Select **Done** and press OK to exit from this screen.

Home network "DLNA"

Network settings

TV remote App settings

■ **TV remote App settings**

- ① Select **TV remote App settings** using \triangle / ∇ and press 
- ② Select the item and set

● **TV remote (App)**

Enables to control the TV from the network equipment (smartphone, etc.).

- Sets to **On** to enable below settings.

- ① Select **TV remote** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● **Wake on LAN**

This function allows you to turn on the TV when you use **Remote control via IP**.

- ① Select **Wake on LAN** using \triangle / ∇
- ② Switches **Off** or **On** with \triangle / ∇

● **Device to upload contents**

Selects device to upload contents from the network equipment (smartphone, etc.).

- ① Select **Device to upload contents** using \triangle / ∇ and press 
- ② Select device and press 

Home network "DLNA"

Network settings

Network link

■ Network link

Setting for DLNA server.

● DLNA server

Enables use this TV as DMS for network devices (DLNA Certified VIERA)

- Sets to **On** to enable below settings.

- ① Select **DLNA server** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● Registration type

Selects the limitation of access to this TV for each device on the home network.

- ① Select **Registration type** using \triangle / ∇ and press 
- ② Switches **Auto** or **Manual** with \triangle / ∇

Auto: All the available device on the home network are accessible.(maximum 16 equipment)

Manual: Sets the access limitation for each device in the Remote device List.

● Remote device list

Lists the available device on the home network.

- ① Select **Remote device list** using \triangle / ∇ and press 
- ② Select the desired device with \triangle / ∇ and set access limitation.

Home network "DLNA"

Network settings

Software update

■ Software update

- ① Select **Software update** using \triangle / ∇ and press 
- ② Press OK to start the Software update screen



- ③ Follow directions on the screen
- Make sure to set **Clock** before the update starts.

Home network "DLNA"

Network settings

New software notice

■ **New software notice**

Displays new software update information when TV is turned on.


- ① Select **New software notice** using \triangle / ∇
- ② Switches **Off** or **On** with \triangle / ∇

Home network "DLNA"

Photos

Viewing Photos

1. Display Apps (application) list

 **APPS** → Apps list



2. Display DLNA server

Select DLNA using $\triangle / \nabla / \triangleleft / \triangleright$
press 

3. Select server (Available DLNA servers are displayed).

Select desired server using \triangle / ∇ from DLNA server list and press 

4. Select photo (Thumbnails and contents are displayed).

Select desired content using \triangle / ∇ from file list and press 

5. View

Follow the navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Photos

Photo view

■ Thumbnail view



→ Display [Slideshow settings](#)



→ Information panel (File name, Date, and Size etc.)

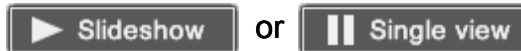
* Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Photo status: Shows current photo status



2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

- * In DMR mode, Slideshow is not available.
- * In DMR mode, OK/Next/Prev. are not available.

Home network "DLNA"

Photos


Options menu

In Photo view, some optional menus are available pressing **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Slideshow settings**)

* Available menus are displayed on **Options menu** depending on data condition and situation.

Home network "DLNA"


Photos

Using slideshow

1. Display **Slideshow settings**

  → **Slideshow settings**

2. Adjust items

Select the item by  /  and adjust the settings using  / 

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

3. Start Slideshow

After adjusting each setting, select **Start slideshow** with  /  and press 

 **RETURN** → Stop in mid-cycle

Home network "DLNA"

Photos

Slideshow settings

Transition effect

(Off/Fade in/Dissolve/Motion/Random)

Select the Transition effect shown between photos.

Auto makeup

(On/Off)

Detects a face in the photo, checks the luminance, and then retouches the enhanced image.

Display interval

(Short/Normal/Long)

Display interval sets the time each image is displayed in the Slideshow mode.

Repeat playback

(Off/On)

Turn the Slideshow Repeat (cycle) function on or off.

Soundtrack settings

(Off/Music 1/Music 2/Music 3/Music 4/Music 5)


Select the music.

Home network "DLNA"

Videos

Viewing Videos

1. Display Apps list

 **APPS** → Apps list

2. Display DLNA server

Select **DLNA** using $\triangle / \nabla / \triangleleft / \triangleright$ press 

3. Select server (Available DLNA servers are displayed).

Select desired server using \triangle / ∇ from DLNA server list and press 

4. Select video (Thumbnails and contents are displayed).

Select desired content using \triangle / ∇ from file list and press 

5. Play

Follow the navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Videos

Video view

■ Thumbnail view



INFO

→ Information panel (File name, Date, and Size etc.)

* Information differs depending on selected data.

■ Playback screen



INFO

→ Display/hide Guide and Banner

Movie banner: Shows current Video status

(Drive type, Date and time or File name and Elapsed time.)

2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

* In DMR mode, Next skip/Prev. skip are not available.

• Forward/Reverse: Five levels of speed 1 to 5 are available.

- In DMR mode, Resume playback is not available
 - Subtitles are not supported in MKV format.

Home network "DLNA"

Videos


Options menu

In Video view, some optional menus are available pressing **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Video options**)

- **Repeat playback**

Set play repeat function (**Off/On**)


* Available menus are displayed on **Options menu** depending on data condition and situation.

Home network "DLNA"

Music

Playing Music

1. Display Apps list

 **APPS** → Apps list

2. Display DLNA server

Select **DLNA** using $\triangle / \nabla / \triangleleft / \triangleright$ press 

3. Select server (Available DLNA servers are displayed).

Select desired server using \triangle / ∇ from DLNA server list and press 

4. Select music (Thumbnails and contents are displayed).

Select desired content using \triangle / ∇ from file list and press 

5. Play

Follow the navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Music

Music view

■ Thumbnail view



INFO

→ Information panel (File name, Date, and Size etc.)
* Information differs depending on selected data.

■ Playback screen



INFO

→ Display/hide Guide and Banner

Music Guide: Shows current Music status
(Artist name/Album name/Song name, Elapsed time)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 are available.
- * In DMR mode, Next skip/Prev. skip/User BGM settings are not available.

Home network "DLNA"

Music


Options menu

In Music view, some optional menus are available pressing **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(Music options)

- **Repeat playback**

Set play repeat function (**Off/Repeat folder/One song**)

* Available menus are displayed on **Options menu** depending on data condition and situation.

Home network "DLNA"

Data information

Compatible Data format

■ **Compatible Data format for Media player (SD card/USB flash memory)/DLNA**

Media	Compatible format
Photo	<ul style="list-style-type: none">• JPEG files (DCF and EXIF standards) Sub-sampling - 4:4:4, 4:2:2 and 4:2:0 Image resolution - 8 x 8 to 30,719 x 17,279 pixels
Videos	<ul style="list-style-type: none">• SD-Video files (SD-Video Standard Ver.1.31) Modified data with a PC may not be displayed correctly.• AVCHD files AVCHD Standard Ver.2.0 (AVCHD 3D, AVCHD Progressive) Modified data with a PC may not be displayed correctly.• MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3• MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/ E-AC3/DTS core• FLV files Video codec H.264 Audio codec MP3/AAC• 3GPP files Video codec H.264 Audio codec AAC/HE-AAC• PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM• TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/ E-AC3/DTS core*

Music	<ul style="list-style-type: none">• MP3 files (MP3)• M4A files (AAC)<ul style="list-style-type: none">- Copy-protected files cannot be played back.• FLAC files (FLAC)• WAV files (LPCM)
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* for Media player only

■ **Supported Subtitles formats**

- MicroDVD, SubRip, TMLayer (.srt, .sub, .txt)
- The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: "srt" "sub" "txt"

Home network "DLNA"

Data information

Notice

- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- Depending on how you make SD Card, USB Flash Memory or the media server, files and folders may not be displayed in the order you numbered.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- All ".JPG" extension data in the SD card and USB flash memory will be read in Photo Viewer Mode.
- The folder and file names may be different depending on the digital camera used.
- Do not use two-byte characters or other special codes.
- Connected devices may become unusable with this TV if file or folder names are changed.
- For the suitable SD Memory Cards, please confirm the latest information on the following website.
<http://panasonic.net/viera/support> (This site is in English only)

Media player

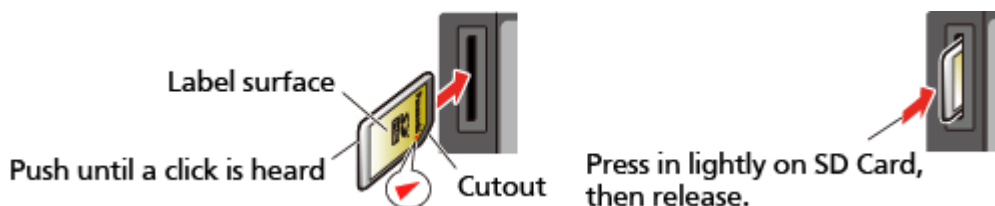
Get started

Information

You can view still and motion images and play music saved on a USB flash memory and SD card.

■ **SD card**

- When you use an SD card, gently insert with label surface facing front.
- When you remove the SD card, press in lightly then release.



- Compliant card type (maximum capacity):
SDXC Card (64 GB), SDHC Card (32 GB), microSDHC Card (32 GB), SD Card (2 GB), miniSD Card (2 GB), microSD Card (2 GB)
(requiring microSDHC Card/miniSD Card/microSD Card/adaptor)
- If a microSDHC Card, miniSD Card or microSD Card is used, insert / remove it together with the adapter.

■ **USB flash memory**

- When you use a USB device, insert straight in and pull straight out.
- Media player only supports USB Mass storage class devices.
- Remove USB device safely with **USB device setup**.
(**Setup** > **USB device setup**)

Media player

Get started

Media warning messages

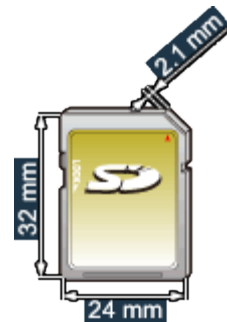
Message	Meaning
No media. Please insert an SD memory card or USB storage device.	<ul style="list-style-type: none">• The device is not inserted.
No media. Device removed.	<ul style="list-style-type: none">• The device is removed.
No photos/No movies/ No music files to play/ No playable media	<ul style="list-style-type: none">• The device has no data or this type of data is not supported.
Cannot read file	<ul style="list-style-type: none">• The file is broken or unreadable.• The TV does not support the format.

Media player

Get started

SD card handling cautions

- Use an SD Card meets SD standards. Otherwise, it may cause the TV to malfunction.
- Do not remove the card while the unit is accessing data (this can damage card or unit).
- Do not touch the terminals 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 or unit 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 unit. (Panasonic is not liable for any deterioration or damage of recorded data.)



Media player

Photos

Viewing Photos

1. Insert Media

2. Display Media player

 **SD/USB** → Media player

You can also access from Apps list.

3. Select the SD/USB in **Drive select** (Displays connected drive)

Select the drive using ◀ / ▶ and press 

4. Select the Photos in **Media select**

Select the drive using ◀ / ▶ and press 

5. Select the photo in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

* How data is displayed differs depending on data storage conditions.

6. View

Follow the Navigation and guide to operate.

* Displayed navigation and guide may differ depending on data type.

■ **Other settings**

Some basic menus are available after pressing the **MENU** button.

 **MENU** → **Menu** > **Picture/Sound/Network/Timer/Setup/Help**

Media player

Photos

Photo view

■ Thumbnail view



→ Display **Slideshow settings**



→ Display **Sort**



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

* Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Photo status: Shows current photo status



2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

Media player




Photos

Sort the photos

1. Display Sort select menu

  → Sort select menu (**Folders** / **Sort by date** / **Sort by month**)

2. Select the sort type

Select the type using  /  and press 

3. Displayed each screen

Folders: ascending order of numeric/alphabetical

Sort by month: ascending order of the month

Sort by date: ascending order of the day

Media player

Photos


Options menu

In Photo view, some optional menus are available after pressing the **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Slideshow settings/Multi shot 3D/Thumbnails size**)

* Available menus are displayed on **Options menu** depending on data condition and situation.








Media player

Photos

Multi shot 3D

■ **Multi shot 3D**

3D images can be created by selecting 2 photos in thumbnail view.

- ① Select first photo using ◀ / ▶ / ▲ / ▼ and press 
- ② Select second photo using ◀ / ▶ / ▲ / ▼ and press 
 - To select the second image, the size and date must be the same as the first image.
 and  are displayed at the top left-hand corner of selected photos.
- ③ Start Conversion processing by pressing 
Conversion processing message will be displayed.
 - Error message will be displayed if first and second picture have no relation, or for other reasons. (e.g. size / date is different)
- ④ 3D photo is created
- ⑤ Save the 3D image generated by the above steps to the original drive.
  → Confirmation message will be displayed and select **Yes** to save the data. (SD card only)

Media player

Photos

Thumbnails size

■ Thumbnails size

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

(7 x 4 ⇔ 10 x 6)

Media player

Photos

Using slideshow

1. Display **Slideshow settings**


  → **Slideshow settings**

2. Adjust items

Select the item by \triangle / ∇ and adjust the settings using \triangle / ∇

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

3. Start Slideshow

After adjusting each of the settings, select **Start slideshow** with \triangle / ∇ and press 

 **RETURN** → Stop in mid-cycle

Media player

Photos

Slideshow settings

Frame

(Off/Array/Collage/Drift (with calendar)/Drift/Gallery (with calendar)/Gallery/Cinema)

Select the Frame.

Photo effect

(Off/Sepia/Gray scale)

Select the display effect.

Transition effect

(Off/Fade in/Dissolve/Motion/Random)

Select the Transition effect shown between photos.

Auto makeup

(On/Off)

Detects a face in the photo, checks the luminance, and then retouches the enhanced image.

Photo size

(Normal/Zoom)

Removes the black borders that are added according to the size of the photo being displayed.

Burst playback

(Off/On)

Continuously plays photos that were shot.

Display interval

(Short/Normal/Long)

Display interval sets the time each image is displayed in the Slideshow mode.

Repeat playback

(Off/On)

Turn the Slideshow Repeat (cycle) function on or off.

Soundtrack settings

(Off/Music 1/Music 2/Music 3/Music 4/Music 5/User selected/Auto)

Select the music.

User selected: Plays the soundtrack registered in the **Soundtrack settings** menu.

Auto: Plays the songs on the SD card or USB flash memory.

Media player

Photos

Soundtrack settings

You can register the favorite songs as soundtracks

- ① Select **Soundtrack settings** in **Slideshow settings** using \triangle / ∇
- ② Select **User selected** using \triangle / ∇
- ③ Displays **Soundtrack** popup menu, then select the desired song with \triangle / ∇ and press **OK** to register

This song: Register current music

All songs in folder: Register the music in a folder

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

Media player

Videos

Viewing Videos

1. Insert Media

2. Display Media player

 **SD/USB** → **Media player**

You can also access from Apps list.

3. Select the SD/USB in **Drive select** (Displays connected drive)

Select the drive using ◀ / ▶ and press 

4. Select the Videos in **Media select**

Select the drive using ◀ / ▶ and press 

5. Select the video in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

* How data is displayed differs depending on data storage conditions.

6. Play

Follow the Navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

■ **Other settings**

Some basic menus are available after pressing the **MENU** button.

 **MENU** → **Menu > Picture/Sound/Network/Timer/Setup/Help**

Media player

Videos

Video view

■ Thumbnail view



→ Play the video



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

*Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Movie banner: Shows current Video status
(Drive type, Date and time or File name and Elapsed time.)

2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 are available.

* Subtitles are not supported in MKV format.

Media player

Videos


Options menu

In Video view, some optional menus are available by pressing the **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Video options**)

- **Repeat playback**

Set play repeat function (**On/Off**)

★ Available menus are displayed on **Options menu** depending on data condition and situation.

Media player

Music

Playing Music

1. Insert Media

2. Display Media player

 **SD/USB** → **Media player**

You can also access from Apps list.

3. Select the SD/USB in **Drive select** (Displays connected drive)

Select the drive using ◀ / ▶ and press 

4. Select the Music in **Media select**

Select the drive using ◀ / ▶ and press 

5. Select the music in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

* How data is displayed differs depending on data storage conditions.

6. Play

Follow the Navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

■ **Other settings**

Some basic menus are available by pressing the **MENU** button.

 **MENU** → **Menu > Picture/Sound/Network/Timer/Setup/Help**

Media player

Music

Music view

■ Thumbnail view



→ Play folder



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

* Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide

Music Guide: Shows current Music status

(Artist name/Album name/Song name, Elapsed time)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 are available.

Media player

Music

Options menu

■ **Music options**

In Music view, some optional menus are available by pressing the **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 

(**Music options**)

● **Repeat playback**

Set play repeat function (**Off/Repeat folder/One song**)

★ Available menus are displayed on **Options menu** depending on data condition and situation.

Media player

Data information

Compatible Data format

■ **Compatible Data format for Media player (SD card/USB flash memory)/DLNA**

Media	Compatible format
Photo	<ul style="list-style-type: none">• JPEG files (DCF and EXIF standards) Sub-sampling - 4:4:4, 4:2:2 and 4:2:0 Image resolution - 8 x 8 to 30,719 x 17,279 pixels
Videos	<ul style="list-style-type: none">• SD-Video files (SD-Video Standard Ver.1.31) Modified data with a PC may not be displayed correctly.• AVCHD files AVCHD Standard Ver.2.0 (AVCHD 3D, AVCHD Progressive) Modified data with a PC may not be displayed correctly.• MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3• MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/ E-AC3/DTS core• FLV files Video codec H.264 Audio codec MP3/AAC• 3GPP files Video codec H.264 Audio codec AAC/HE-AAC• PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM• TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/ E-AC3/DTS core*

Music	<ul style="list-style-type: none">• MP3 files (MP3)• M4A files (AAC)<ul style="list-style-type: none">- Copy-protected files cannot be played back.• FLAC files (FLAC)• WAV files (LPCM)
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* for Media player only

■ **Supported Subtitles formats**

- MicroDVD, SubRip, TMLayer (.srt, .sub, .txt)
- The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: "srt" "sub" "txt"

Media player

Data information

Notice

- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- Depending on how you make SD Card, USB Flash Memory or the media server, files and folders may not be displayed in the order you numbered.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- All ".JPG" extension data in the SD card and USB flash memory will be read in Photo Viewer Mode.
- The folder and file names may be different depending on the digital camera used.
- Do not use two-byte characters or other special codes.
- Connected devices may become unusable with this TV if file or folder names are changed.
- For the suitable SD Memory Cards, please confirm the latest information on the following website.
<http://panasonic.net/viera/support> (This site is in English only)

Convenience features

Using Apps list

Features

Special features (Internet contents, network contents, Media Player, etc.) can be accessed easily from Apps (applications) list.

■ Apps list



- Apps list is subject to change without notice.

Convenience features

Using Apps list

How to use

You can access special features such as Internet contents, network contents, Media Player, etc. from Apps list (applications list).

1. Display Apps list



(Example)



- To exit Apps list



2. Select an icon of the features with \triangle / ∇ / \triangleleft / \triangleright and press to access

Convenience features

Using Apps list

Settings

You can set up Apps list manually. (For example, screen settings, account Information, restriction, etc.)

1. Display Apps list



2. Select the setup menu on Apps list with $\triangle / \nabla / \triangleleft / \triangleright$ and press to access



3. Follow the on-screen instructions

- Setup items may be change without notice

Convenience features

Timer

Setting menu

The TV can automatically turn On/Off at a designated date and time.

1. Display the menu

 **MENU** → **Menu**

2. Select **Timer** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select the item and adjust

Select desired item using \triangle / ∇ and adjust with \triangle / ∇

Convenience features

Timer

Timer (On/Off timer)

Timer set (Off/On)

Enables or disables the Timer.

Inputs

Sets which input will be selected when the TV turns on.

Channel

Sets the channel to select when the TV turns on.

Day

Sets the day when the TV turns on.

[SUN/MON/TUE/WED/THU/FRI/SAT (displays the nearest future date) MON-FRI/SAT-SUN/DAILY/Every SUN/Every MON/Every TUE/Every WED/Every THU/Every FRI/Every SAT]

On time

Sets the time that the TV will turn on at. The TV will turn off after 90 minutes or as specified.

Off time

Sets the time that the TV will turn off at within 24 hours.

Convenience features

Timer

Sleep (Off timer)

Sleep (minutes)

(Off/15 minutes/30 minutes/60 minutes/90 minutes)

Selects how long the TV stays on before it automatically turns off.

Convenience features

Parental control

Setting menu

Locks specified channels or shows to prevent children from watching objectionable content.

You will be asked to enter your password each time you display the Lock menu. Set **Custom** in **Mode** to specify **Channel**, **Game** and **Program** settings.

1. Display the menu

 **MENU** → **Menu**

2. Select **Setup** from menu bar

Select desired menu using Δ / ∇ from menu bar and press 

3. Select **Parental control**

Select the menu using Δ / ∇ and press 

4. Select the item and adjust

Select desired item using Δ / ∇ and adjust with Δ / ∇

- This television is designed to support the "Downloadable U.S. Region Rating System" when available. (Currently available only in U.S.A.)
- The Off rating is independent of other ratings.
- When placing a lock on a specific-age-based-rating level, the Off rating and any other more restrictive ratings will also be blocked.
- The channels will be blocked regardless of the program rating.

Convenience features

Parental control

Parental control



MENU

→ **Menu > Setup > Parental control**

Change password

Create a new password. Input the new 4-digit password twice.

(**All settings > Setup > Password setting**)

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels, programs or inputs. For **Custom**, Locks specified inputs of **Channel**, **Game** and **Program**.

Set **Custom** in **Mode** to specify **Channel**, **Game** and **Program**.

Channel

These channels will be blocked regardless of the program ratings.

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels. For **Custom**, Locks specified channels. Set **Channel 1 - Channel 7**.

Channel 1-7

Designates channel number to be blocked at any time, regardless of its broadcast content.

Game

(**On/Off**)

Restricts access to channel 3, channel 4 and all the TV's inputs.

Program

Prohibits viewing of TV content based on the rating provided by the broadcasters.

Mode**(On/Off)**

Sets program lock status. "V-chip" technology enables restricted shows to lock according to TV ratings. On: Set each rating level (MPAA, U.S.TV, C.E.L.R., C.F.L.R.)

MPAA

Selects U.S. movie ratings to lock.

U.S.TV

U.S. TV program ratings.

C.E.L.R.

Canadian English ratings.

C.F.L.R.

Canadian French ratings.

Convenience features

Parental control

Password setting

You need to enter the password when you access locked channels or inputs.



- ★ If it is your first time entering the password, enter the password twice in order to register it.
- ★ Make a note of your password. Do not forget it. (If you have forgotten your password, consult your local dealer.)
- ★ When you select a locked channel, a message will be displayed that allows you to view the channel after you input your password.

Convenience features

Parental control

Parental control ratings

"V-chip" technology enables you to lock channels or shows according to standard ratings set by the entertainment industry.

■ U.S. MOVIE RATINGS (MPAA)

■ U.S. TV PROGRAMS RATINGS (U. S. TV) - Age-Based Ratings

NR	Not Rated.
G	All children and General Audience.
PG	Parental Guidance suggested.
PG-13	Parental Guidance for children under 13.
R	Restricted Viewing, parental guidance is suggested for children under 17.
NC-17/X	No one 17 or under allowed.

TV-NR	Not Rated.
TV-Y	All children.
TV-Y7	Directed to children age 7 and older.
TV-G	General Audience.
TV-PG	Parental Guidance suggested.
TV-14	Parents strongly cautioned, parental guidance is suggested for children under 14.
TV-MA	Mature Audience only.

■ CANADIAN ENGLISH RATINGS (C. E. L. R.)

■ CANADIAN FRENCH RATINGS (C. F. L. R.)

E	Exempt programming.
C	All children.
C8+	Children 8 years and older.
G	General programming.
PG	Parental Guidance.
14+	Viewers 14 and older.
18+	Adult programming.

E	Exempt programming.
G	General programming.
8 ans+	Not recommended for young children.
13 ans+	Not recommended for ages under 13.
16 ans+	Not recommended for ages under 16.
18 ans+	Programming restricted to adults.

Contents-Based Ratings

FV	Fantasy Violence.	S	Sexual situations.
D	Suggestive Dialogue.	V	Violence.
L	Strong Language.		

Caution

The V-Chip system used in this set is capable of blocking "NR" programs (non rated, not applicable and none) as per FCC Rules Section 15.120(e)(2). If the option of blocking "NR" programs is chosen "unexpected and possibly confusing results may occur, and you may not receive emergency bulletins or any of the following types of programming:"

- Emergency Bulletins (Such as EAS messages, weather warnings and others)
- Locally originated programming • News • Political • Public Service Announcements • Religious • Sports • Weather

Convenience features

Closed caption

Setting menu

The television includes a built-in decoder that is capable of providing a text display of the audio. The program being viewed must be transmitting the Closed caption (CC) information.

- The settings are "Analog" or "Digital" depending on the broadcaster.

1. Display the menu

 **MENU** → **Menu**

2. Select **Setup** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select **Closed Caption** in **Display customization**

Select the menu using \triangle / ∇ and press 

4. Select the item and adjust

Select desired item using \triangle / ∇ and adjust with \triangle / ∇

- ★ Some functions will be disabled depending on the type of input signal.
Reset to defaults will be grayed out if no changes are made.

Convenience features

Closed caption

Closed caption



MENU

→ **Menu > Setup > Display customization > Closed Caption**

Mode

(Off/On/CC on mute)

On: To display Closed captions.

CC on mute: To display Closed captions when the audio is muted. (When not using, select **Off**).

Analog

(CC1-4/T1-4)

Choose the Closed caption service of Analog broadcasting.

CC1-4: Information related to pictures (Appears at the bottom of the screen)

T1-4: Textual information (Appears over the entire screen)

Digital

(Primary/Second./Service 3/4/5/6)

The Digital Closed caption menu lets you configure the way you choose to view the digital captioning.

Digital setting

Set display settings in digital programs.

Size

Select the text size

Font

Select the text font

Style

Select the text style (Raised, Depressed, etc.)

Foreground

Select the color of text

Foreground opacity

Select the opacity of text

Background

Select the color of text box

Background opacity

Select the opacity of text box

Outline

Select the outline color of text (Identify the setting options on the screen).

Reset to defaults

Resets all Closed caption settings to factory default settings.

Convenience features

Closed caption

Closed caption notice

- For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3, characters might be cut off).
- The CC can be displayed on the TV only when the receiver (such as a Cable box or satellite receiver) has the CC set to ON within the device itself. Check with your Cable or Satellite provider for instructions. The TV's CC button does not operate the Satellite or Cable box's CC function.
- If the CC is set to ON on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- If a digital program is being output in analog format, the CC data will also be output in analog format.
- If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

Convenience features

VIERA Link™ "HDAVI Control™"

Basic feature

Simultaneously control all Panasonic "HDAVI Control" equipped components using one button on the TV remote. Enjoy additional HDMI Inter-Operability with compatible Panasonic products. This TV supports "HDAVI Control 5" function. Connections to equipment (Blu-ray Disc player, DVD recorder, HD Camcorder, Home Theater System, Amplifier, etc.) with HDMI cables enables VIERA Link controls.

■ Available HDAVI Control functions

Version	Operations
HDAVI Control or later	<ul style="list-style-type: none">• Automatic Input Switching• Power on link• Power off link• Speaker control
HDAVI Control 2 or later	<ul style="list-style-type: none">• VIERA Link control only with the TV's remote control• Unselected device auto off (for available equipment only)
HDAVI Control 3 or later	<ul style="list-style-type: none">• Automatic lip-sync function
HDAVI Control 4 or later	<ul style="list-style-type: none">• Energy saving mode (with Quick Start mode)
HDAVI Control 5	<ul style="list-style-type: none">• Audio Return Channel <p>Audio Return Channel (ARC) is a function that enables digital sound signals to be sent via an HDMI cable back from the TV to a connected audio device.</p>

Convenience features

VIERA Link™ "HDAVI Control™"

Connecting note

■ When adding new equipment...

When adding new equipment, reconnecting equipment or changing the setup after the connection, turn the equipment on and then switch the TV on. Set the input mode to correct HDMI terminal, and make sure that the image is displayed correctly.

VIERA Link "HDAVI Control", is based on the control functions provided by HDMI and industry standard known as HDMI CEC (Consumer Electronics Control), with 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 the individual manuals for other manufacturers' equipment supporting the VIERA Link function.

■ HDMI cable

This function needs an HDMI compliant (fully wired) cable. Non-HDMI-compliant cables cannot be utilized.

- For more details on the external equipment's connections, please refer to the operating manual for the equipment.

HDMI connections to some Panasonic equipment allow you to interface automatically.

- This function may not work normally depending on the equipment condition.
- The equipment can be operated by other remote controls with this function on, even if the TV is in Standby mode.
- Image or sound may not be available for the first few seconds when playback starts.
- Image or sound may not be available for the first few seconds when input mode is switched.
- Volume function will be displayed when adjusting the volume of the equipment.
- If you connect equipment that has "HDAVI Control 2" or later function to the TV with an HDMI cable, the sound from the DIGITAL AUDIO OUT terminal can be output as multi-channel surround.
- "HDAVI Control 5" is the newest standard for the HDAVI Control compatible equipment.
This standard is compatible with the conventional HDAVI equipment.

If connection (or setting) of equipment compatible with HDAVI control is changed, switch the power of this unit Off and On again while the power of all equipment is On (so that the unit can correctly recognize the connected equipment) and check that the connected equipment playback operates.

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link connections

■ Connecting Blu-ray Disc player/DVD Recorder

Connect the HDMI terminal of this TV to the DVD recorder with VIERA Link function using a fully wired HDMI cable.

- You can use any HDMI terminal on this TV.



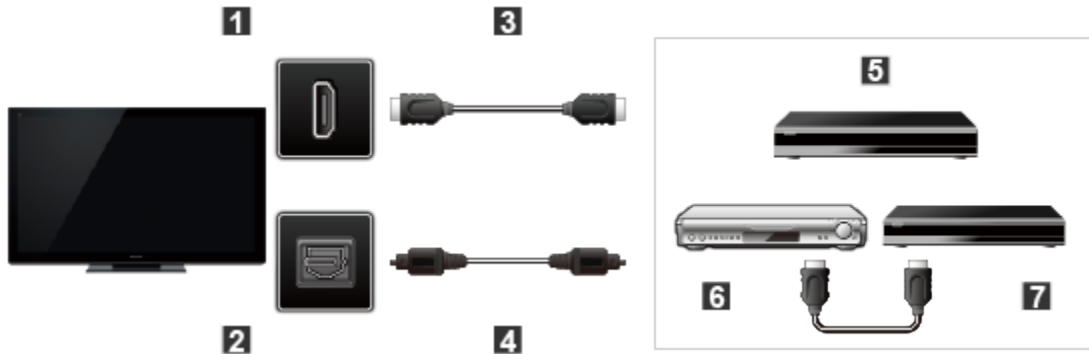
- 1** TV (HDMI)
- 2** HDMI cable
- 3** DVD recorder with VIERA Link function

■ Connecting Home theater system/AV amp

HDMI and Audio connection.

Connect the HDMI terminal and DIGITAL AUDIO OUT to Home Theater System/AV amp with VIERA Link function using each fully wired HDMI cable and Optical audio cable.

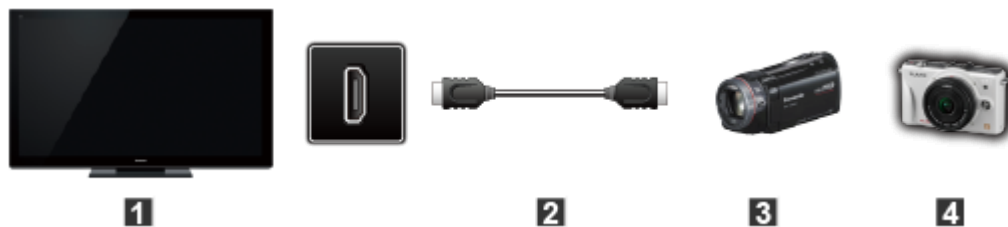
- HDMI 2 is recommended.
- No optical cable is necessary when connecting a Home Theater supporting "HDAVI control 5" with an HDMI cable.
Audio will be supported via ARC (Audio Return Channel)
- One AV amp and one Blu-ray Disc player/DVD recorder can be operated with this unit by connecting with an HDMI cable.



- 1 TV (HDMI)
- 2 TV (DIGITAL AUDIO OUT)
- 3 HDMI cable
- 4 Optical cable
- 5 Home theater system with VIERA Link function
- 6 AV amp with VIERA Link function
- 7 DVD recorder with VIERA Link function

■ **Connecting an HD Camcorder/Digital camera**

Press INPUT and select an available HDMI terminal, then connect the HD camcorder/Digital camera with VIERA Link function to this input with fully wired HDMI/mini HDMI cable.



- 1 TV (HDMI)
- 2 HDMI / mini HDMI cable
- 3 HD Camcorder with VIERA Link function
- 4 LUMIX with VIERA Link function

- ★ Individual HDMI equipment may require additional menu settings specific to each model. Please refer to their respective manuals.
- ★ When audio from other equipment connected to this unit via HDMI is output using "DIGITAL AUDIO OUT" of this unit, the system switches to 2CH audio.
(When connecting to an AV amp via HDMI, you can enjoy higher sound quality.)
- ★ Some devices use Mini-HDMI terminal. HDMI (type A) to Mini-HDMI (type C) cable or adapter should be used.

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link settings

To use all VIERA Link functions: After everything is connected, set **VIERA Link** to **On** in VIERA Link settings menu.

Some features are disabled depending on the "HDAVI Control" version of the equipment.

1. Display the menu

 **MENU** → **Menu** > **Setup**

2. Select **VIERA Link settings**

Setup > **VIERA Link settings**

Select **Setup** using \triangle / ∇ from menu bar and press  then select **VIERA Link settings** with \triangle / ∇ and press  again.

3. Select **VIERA Link** and set to **On**

Select **VIERA Link** and press  then select **On** with \triangle / ∇

4. Select and set other **VIERA Link settings**

**(Power on link/Power off link/Energy saving mode/
Unselected device auto off)**

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link settings feature

■ **Automatic Input Switching**

When using a Blu-ray Disc player, DVD player/recorder or Home theater system, the TV will automatically change to the appropriate input, when playback begins on one of those devices.

- For a Home Theater System the speakers automatically switch to the theater system.

■ **Power on link**

Yes: The TV is turned on automatically and switches to the appropriate HDMI input whenever VIERA Link compatible equipment is initially turned on and the Play mode is selected.

■ **Power off link**

When **Yes** is selected and the TV is turned off, all connected VIERA Link compatible equipment is also automatically turned off.

- A Panasonic DVD Recorder will not turn off if it is still in Rec mode.
- The TV remains on even if the VIERA Link compatible equipment is turned off.

■ **Energy saving mode**

Quick start: When TV is turned off, all connected VIERA Link compatible equipment is moved to ECO Standby mode* automatically under these conditions.

- Power off link: (**Yes**), The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)"
- * Minimum power consumption of Standby condition for the equipment.

■ **Unselected device auto off**

On: The connected VIERA Link compatible equipment will be turned off automatically when not in use under these conditions.

- The connected equipment has "HDAVI Control 2 or later" (for available equipment only)
[Example of timing for operation]
- When the input is switched from HDMI.

■ **Automatic lip-sync function**

Minimizes time delay between the picture and audio when you connect to a Panasonic theater system or Amplifier.


Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link

Some features are disabled depending on the "HDAVI Control" version of the equipment.

1. Display the **VIERA Link** menu

 **APPS** → Apps list

2. Select the item and set (**VIERA Link control/Speaker output/Back to TV**)

Select the desired menu using \triangle / ∇ and set with \triangle / ∇

★ Items in the VIERA Link menu may be grayed out if no compatible equipment is connected (must be HDAVI Control 2 or later) or if the equipment has not initiated a connection with the TV. In that case, switch the equipment's power Off and On while the TV is On.

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link menu

■ Speaker control

You can select the Home theater or TV speakers for audio output. Control the theater speakers with the TV remote control. This function is available only when a Panasonic Amplifier or Player theater is connected.

- ① Select **Speaker output** using \triangle / ∇
- ② Select **Home theater** or **TV** with \triangle / ∇

Home theater: Adjustment for the equipment

VOL(+/-) and **MUTE** buttons are available

- The sound of the TV is muted.
- When the equipment is turned off, the TV speakers take over.
- Selecting **Home theater** turns the equipment on automatically if it is in Standby mode.

TV: The TV speakers are on.

■ VIERA Link control only with the TV's remote control

- ① Select **VIERA Link control** using \triangle / ∇
- ② Select the desired equipment with \triangle / ∇ (You can select available items only.)

(Recorder/Home theater/Player/Camcorder/LUMIX/Other)

- If there is more than one equipment item, a number after the name indicates the number of items. (e.g. Recorder1/Recorder 2/Recorder 3...)
 - The number of equipment items that can be connected is three for recorders, and a total of three for Home Theater/Player/Camcorder/LUMIX/Others.
- ③ Operate the equipment with the TV remote control, pointing it at the TV

- * There is a limit to the number of HDMI connectors.
- * To operate the equipment, read the manual for the equipment.
- * For available TV remote control buttons, whether or not an operation is available differs depending on the connected equipment.

■ Back to TV

Returns the input selection of the device selected with the VIERA Link Control to the TV input.

Select **Back to TV** using \triangle / ∇ and press 

Convenience features

Using Voice guidance

Voice guidance

This function provides a useful audio readout of basic features.

1. Set Voice guidance to On

 **MENU** → **Menu** > **Sound** > **Voice guidance settings** > **Voice guidance**

Select the menu using \triangle / ∇ and press 

Then, switch to **On** using \triangle / ∇ and press 

2. Set other items

Select the desired menu using \triangle / ∇ and press 

Then, change or adjust the item using \triangle / ∇ and press 

(Voice guidance/Speed/Volume/Language/User level/Web browser)


Convenience features

Using Voice guidance

Voice guidance features

■ **Web page speech**

When you point to the text on the web page using the Touch Pad Controller, a rectangle will appear around the framed area and speech will begin.

- ① Select **Web browser** using \triangle / ∇ and press 
- ② Select **On** to enable this function

■ **Voice guidance in Home Screen**

Useful information displayed on Home Screen.

Convenience features

Using Voice guidance

Voice guidance settings

Settings for using voice guidance.

Voice guidance **(Off/On)**

On: Enables voice guidance of the basic features (Channel banner and input source).

Speed **(Slow/Normal/Fast)**

Adjust the readout speed of the voice guidance.

Volume **(Low/Mid/High)**

Selects the volume for voice guidance.

Language **(English/Español/Français)**

Selects the language for voice guidance.

User level **(Expert/Beginner)**

Selects the level of complexity for voice guidance.

Web browser **(On/Off)**

Enables voice guidance on web page.

Convenience features

Using Voice control

Voice control

This function allows you to operate basic functions using voice control.

- You need a broadband network environment to use this function fully.
- Ensure the Touch Pad Controller has been paired successfully.

■ **Settings**

You can set the voice control settings.

1. Select voice control settings

 **MENU** → **Menu** > **Setup** > **Voice control settings**

2. Select item and set

Select desired item using \triangle / ∇ and adjust the settings with \triangle / ∇
(**Language/Speech detection level/Terms of service**)

- To use voice control function, you need a broadband network environment, because this function accesses the speech recognition server with the Internet connection. Even if you have the Internet environment, this function may not be available depending on the proxy settings.
Please connect the Internet without proxy settings. (Proxy settings are not required for normal household use. For details of Internet environment, consult your Internet Service Provider (ISP) or telecommunications company.)

Convenience features

Using Voice control

How to use the voice control

■ How to use

1. Press on Touch Pad Controller

- When the confirmation screen is displayed, read carefully and start voice control function.

2. When the operation guide is displayed follow the on-screen instructions

 **OPTION** → Voice command list

 **RETURN** → Exit voice control function

- When you start voice control function, sound level of the TV becomes low.
- Voice control function may not work properly under the following circumstances.
 - Incorrect or unclear pronunciation.
 - Volume level of your voice is too loud or too soft.
 - Noisy surroundings.
- Phrases other than voice command may not be recognized.
- It is recommended that you speak within about 6" (15 cm) of the integrated microphone of Touch Pad Controller when using voice control function.
- Voice control function is subject to change without notice.

Convenience features

Using Voice control

Voice control settings

Settings for using voice control function.

Language

(English/Español/Français)

Selects the language for voice control.

Speech detection level

(High/Standard)

Sets sensitivity level for voice control.

Terms of service

Shows the terms of service of voice control.

Convenience features

Using Electronic Touch Pen

Information

This function allows you to paint or play games on the TV screen using the Optional Electronic Touch Pen (Touch Pen).

- Touch Pen is not included, but can be purchased separately.
- Bluetooth adapter* connection is not needed.
(*Included with optional Touch Pen)
- The Touch Pen is only available for specific applications.

Convenience features

Using Electronic Touch Pen

Touch Pen settings

■ **Pairing**

To use the Electronic Touch Pen, you need to pair the Touch Pen to the TV.

Displays Touch Pen pairing screen

 **MENU** → **Menu** > **Setup** > **Touch Pen setup** > **Pairing**

Follow the instructions on screen to complete the pairing.

- Place the Touch Pen within 1.6ft (50 cm) of the TV while registration is in progress.
- This TV can be paired with up to 2 Touch Pens simultaneously. Pairing condition (How many Bluetooth devices are connected currently, etc.) may differ depending on the registration status for each Bluetooth device.

■ **Unpair**

Unpairs all registered Touch Pens.

Displays Touch Pen unpair screen

 **MENU** → **Menu** > **Setup** > **Touch Pen setup** > **unpair**

Follow the instructions on screen to unpair the Touch Pen.

Convenience features


Using Electronic Touch Pen

Using Touch Pen

■ How to paint on the photo / video

1. Press Power button to turn on the Touch Pen
2. Display the following images full screen
 - Digital TV from ANTENNA/Cable Input
 - HDMI input
 - Photo / video contents of Media Player / Network services
3. Touch the pen tip to the TV screen for a few seconds
4. Once the confirmation screen is displayed, follow the instructions on screen.
 - You can save the image into the SD card or USB flash memory after painting in the following contents.
 - Photo content in Media player / Network services
 - Not encrypted content in HDMI input

■ Using applications (painting, playing games, etc.)

1. Press Power button to turn on the Touch Pen
2. Display APPS list
3. Select the specific application with $\triangle / \nabla / \triangleleft / \triangleright$ and press 
4. Follow the on-screen instructions

■ Basic operation for the Touch Pen

Tap: Touch the pen tip to the panel and release it quickly.

Hold/Release: Hold the pen tip against the panel. / Release the pen tip from the panel.

Drag and drop: Move with the pen tip touching the panel.

- Operations differ depending on application.

- You can also use the Touch Pen for specific applications (painting, playing games, etc.) from APPS list.
- For details, read the manual of the Touch Pen.

Convenience features

Using Touch Pad Controller

Features

The Touch Pad Controller is designed to facilitate TV operation, such as when accessing Home Screen or the Browser with the Touch Pad and free pointing system. It also covers other TV operations as a Remote controller.

- Touch Pad Controller must be paired with the TV prior to operation.
(Pairing to this TV with Bluetooth wireless technology.)
- The Touch Pad Controller must be pointed toward the TV to turn on the power.
(Only the Power-on switch works at first.)
- The TV can be paired with one Touch Pad Controller only.
- Pair the Touch Pad Controller:
To pair the Touch Pad Controller, hold the touch pad within 1.6 feet (50 cm) of the TV and simultaneously press and hold the OPTION and HOME button on the Touch Pad Controller following the instructions on screen.
- About voice control:
It is recommended to speak within about 6 inches (15 cm) from microphone of VIERA Touch Pad Controller when using Voice control function.
- Transmission Range:
Use the Touch Pad Controller within the range of 10.5 feet (3.2 m) from front surface of the TV.
The range may be shortened if there are any obstacles or can be affected by the surrounding environment or building structure.

■ To set the VIERA Touch Pad settings



MENU



Menu > Setup > VIERA Touch Pad settings

Convenience features

Using Touch Pad Controller

VIERA Touch Pad settings

VIERA Touch Pad settings

Repeats the initial step-by-step touchpad remote setup. Changes cursor settings, such as tap setting and cursor sensitivity.

Pairing

Follow the instructions on screen to complete the pairing.

Cursor settings

(Tap to OK/Sensitivity)

Set cursor settings.

Operational Guide

Displays operation of Touch Pad Controller.

Convenience features

Using Bluetooth devices

Settings

This setting enables you to use Bluetooth keyboard*1 and Bluetooth audio devices*2 (headphones, etc.)

- Up to 5 devices can be used simultaneously (except the Touch Pad Controller and the 3D Eyewear).
- Only one audio device can be connected simultaneously.

*1: HID (Human Interface Device Profile) compliant keyboards are available.

*2: A2DP (Advanced Audio Distribution Profile) compliant audio devices are available.

1. Display the **Menu** and select **Bluetooth settings**



MENU → **Menu** > **Setup** > **Bluetooth settings**

Select **Bluetooth settings** using \triangle / ∇ from menu bar and press

2. Select the options and set

(**Bluetooth devices**/**Bluetooth audio settings**)

■ **Bluetooth devices**

Search and register Bluetooth keyboard and Bluetooth audio devices.

① Select **Bluetooth devices** using \triangle / ∇ and press

Follow the directions on screen to complete the register.

■ **Bluetooth audio settings**

Adjusts lip sync delay, audio output setting, and volume for the Bluetooth audio devices.

① Select **Bluetooth audio settings** using \triangle / ∇ and press

Follow the directions on screen to complete the setting.

★ This function is available only for Bluetooth audio devices.

Convenience features

Using Bluetooth devices

Bluetooth settings

Bluetooth settings

Search and register Bluetooth headphone and Keyboard. Adjusts lip sync delay, audio output setting, and volume for the Bluetooth audio devices.

Bluetooth devices

Search and pair Bluetooth devices in range. Display the status of previously registered devices.

Bluetooth audio settings

Adjusts the settings for the Bluetooth audio device.

Lip sync (On/Off)

Enables lip sync adjustment to compensate for audio delay when a Bluetooth device is connected.

Lip sync adjustment (1 - 18)

Adjusts lip sync delay for the Bluetooth audio device.

Audio out (All/Bluetooth only)

Select audio out when the device is connected.

To get sound from Speakers and Bluetooth device select **All**.

Volume (0 - 100)

Adjusts the volume of the Bluetooth audio device.

Convenience features

Control by Smartphone, etc.

Smartphone remote

You can use your smartphone as your TV's remote control.

1. Select Network

 **MENU** → Menu > Network

2. Select TV remote in TV remote App settings

Select desired menu using  / 

3. Set the item

Switches to **On** using  / 

* This function is subject to change without notice.
For more details please visit below site:
<http://panasonic.net/viera/support>

Convenience features

Control by Smartphone, etc.

Remote control via IP

This function enables you to control the TV with control command by the PC etc.

- When you need to turn on the TV using this system, set **Wake on LAN** to **On**.

 **MENU** → **Menu** > **Network** > **TV remote App settings** > **Wake on LAN**

Convenience features

Using USB Keyboard / Gamepad

Keyboard

The USB Keyboard requiring its driver is not supported.

■ **To select the language type for the keyboard**



MENU

→ **Menu > Setup > System > Keyboard type**

■ **Key map**

Some of the keys of USB keyboards may correspond to the operation of the remote control.

Keyboard	Remote Control	Keyboard	Remote Control
↑ / ↓ / ← / →	Cursor buttons	F5	Channel down
Enter	OK	F6	Channel up
Back Space	Back/Return	F7	Volume down
ESC	EXIT	F8	Volume up
0 - 9	Numeric buttons	F9	Red
F1	HOME	F10	Green
F2	APPS	F11	Yellow
F3	MENU	F12	Blue
F4	Input		

Convenience features

Using USB Keyboard / Gamepad

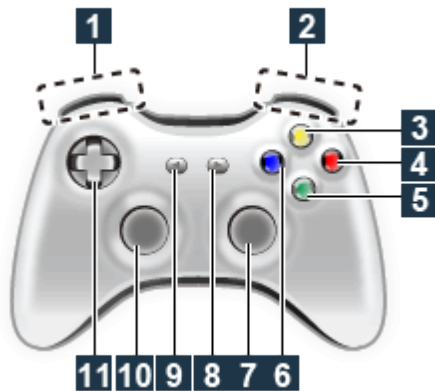
Gamepad

The Gamepad requiring its driver is not supported.

■ **Key map**

Some of the buttons of gamepad may correspond to the operation of the remote control.

Example:



Gamepad	Remote Control
1	Volume up/down
2	Channel up/down
3	MENU
4	OK
5	Back/Return
6	HOME
7	APPS
8	EXIT
9	INPUT
10	OPTION
11	Cursor buttons

All settings

How to use

Setting menu

Various menus allow you to set the picture, sound, and other functions.

- Some menus are grayed out depending on the input signal or condition. (e.g. **V-position/V-size** will be grayed out if the aspect is not set to **ZOOM**.)

1. Display the menu

 **MENU** → **Menu**

2. Select the menu from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select the item and adjust

Select desired item using \triangle / ∇

You can also access to desired menu using $\triangleleft / \triangleright$

Adjust the item: Using $\triangleleft / \triangleright$

Set/change the item: Using \triangle / ∇

- * Shows the functions that can be adjusted.
- * Some functions will be disabled depending on the type of input signal.

All settings

Picture

Basic settings

Adjust the image or picture quality.

 **MENU** → **Menu > Picture**

Picture mode

(Vivid/Standard/Home theater/THX*/EBU default/Cinema/Custom/Professional 1/Professional 2)**

Selects from preset picture modes for optimal viewing. Mode is saved separately for each input.

- * THX
2D: THX Cinema/THX Bright Room
3D: THX3D Cinema
 - ** EBU default
Available only for 2D mode
-

Contrast, Brightness, Color, Tint, Sharpness

Adjusts the color, brightness, etc. for each picture mode to suit your taste.

- Display range
Contrast/Color/Sharpness : 0 - 100 Brightness/Tint :-50 - +50
 - Gray-out if Professional mode (isfccc) Lock is on.
-

Color temp.

(Cool2/Cool1/Normal/Warm1/Warm2)

Selects color temperature preference, from "cool" (bluish) to "warm" (reddish) or normal.

- Gray-out if Professional mode (isfccc) Lock is on.
-

Vivid color

(Off/On)

Enhances green and blue color reproduction, especially outdoor scenes.

- Gray-out if Professional mode (isfccc) Lock is on.
-

Color remaster (Off/On/Auto)

Displays the vivid images with the expanded color gamut.

- For HDMI input or video contents of Media Player (when **Picture mode** is set to **Vivid, Standard** or **Home theater**)
 - Set to **Auto** to use this function effectively.
-

Photo enhancement (Off/On/Auto)

Enhances brightness and color depth of photos, by expanding the color pallet and gamut.

- For HDMI input or photo of Media Player (when **Picture mode** is set to **Vivid, Standard** or **Home theater**)
 - Set to **Auto** to use this function effectively.
-

C.A.T.S. (Off/On)

Contrast Automatic Tracking System (C.A.T.S.) adjusts the screen brightness and contrast according to the room's ambient light conditions.

This ECO feature automatically dims the brightness of the screen when the room lighting is lowered. C.A.T.S. features a built-in delay when the lighting conditions change. The adjustment happens gradually.

If you prefer a consistent brightness, disable C.A.T.S. by:

Menu > **Picture** > scroll down to C.A.T.S. and turn it off. Or

Menu > **Picture** > Picture mode then select viewing mode such as **Custom**.

Video NR (Auto/High/Mid/Low/Off)

Reduces noise, commonly called snow. Leave it off when receiving a strong signal.

MPEG remaster (Auto/Strong/Medium/Weak/Off)

Reduces signal noise generated by input devices playing MPEG compressed videos, and provide clear contours.

Resolution remaster (Auto/Strong/Medium/Weak/Off)

Enhances the picture resolution to make the image more clear.

- Gray-out if Professional mode (isfcc) Lock is on.
-

Caption smoother**(Auto/Strong/Medium/Weak/Off)**

Makes caption contours smooth. Specially effective for low resolution contents.

- Gray-out if Professional mode (isfcc) Lock is on, or while 3D mode.
-

Brilliance enhancer**(Strong/Medium/Weak/Off)**

Enhances picture contrast locally to increase picture brilliance.

- Gray-out if Professional mode (isfcc) Lock is on, or while 3D mode.
-

Motion smoother**(Off/Weak/Mid/Strong)**

Improves motion picture quality by reducing motion blur.

- Gray-out in Game mode and Skype (full screen).

All settings

Picture

Pro settings

Adjust the picture mode in more detail.

Set **Picture mode** to **Custom/Cinema/Professional 1/Professional 2** first.

 **MENU** → **Menu > Picture > Pro settings**

Panel brightness

(Low/Mid/High)

Selects different levels of overall panel brightness.

AGC

(0-15)

Automatic Gamma Control. Increases automatically the brightness of a dark signal.

Black extension

(0-15)

Adjust the gradations in dark shades of the image.

Color gamut

(Native/Rec. 709/SMPTE-C/EBU)

Each color space is a matrix composed of red, green & blue colors. Select your preference.

W/B detail adjustment

W/B high R, G, B (+/-50)

Adjusts the white balance for light red/green/blue areas.

W/B low R, G, B (+/-50)

Adjusts the white balance for dark red/green/blue areas.

More detail adjustment

Adjusts more detailed White Balance items.

Input signal level

Adjusts the IRE picture level in relation to the gain of the red, green & blue colors.

Red, Green, Blue gain

Adjusts the red/green/blue gain value of each Input signal level.

Reset to defaults

Reset all **More detail adjustment** to factory defaults settings.

Reset to defaults

Reset **W/B detail adjustment** adjustments to factory defaults settings.

Color detail adjustment**Red, Green, Blue hue (+/-50)**

Adjusts the red/green/blue hue between light, pastel and vivid.

Red, Green, Blue saturation (+/-50)

Adjusts the difference of the red/green/blue color against its own brightness.

Red, Green, Blue luminance (+/-50)

Adjusts the luminance of red/green/blue areas.

More detail adjustment

Adjusts more detailed Color management items.

Yellow, Cyan, Magenta hue (+/-50)

Adjusts the yellow/cyan/magenta hue between light, pastel and vivid.

Yellow, Cyan, Magenta saturation (+/-50)

Adjusts the difference of the yellow/cyan/magenta color against its own brightness.

Yellow, Cyan, Magenta luminance (+/-50)

Adjusts the luminance of red/green/blue/yellow/cyan/magenta areas.

Reset to defaults

Reset **More detail adjustment** to factory defaults settings.

Reset to defaults

Reset **Color detail adjustment** adjustments to factory defaults settings.

Gamma detail adjustment**Gamma**

(S-curve/1.8/2.0/2.2/2.4/2.6)

Gamma correction. Adjusts the intermediate brightness of the image.

More detail adjustment

Adjusts more detailed Gamma items.

Input signal level

Adjusts the IRE picture level in relation to the gain of the red, green & blue colors.

Gain

Adjusts the gain value of each Input signal level.

Reset to defaults

Reset all **More detail adjustment** to factory defaults settings.

Reset to defaults

Reset **Gamma detail adjustment** to factory defaults settings.

Reset to defaults

Resets all **Pro settings** adjustments to factory default settings.

All settings

Picture

Advanced picture



MENU

→ **Menu** > **Picture** > **Advanced picture**

Game mode

(Off/On)

Optimizes the TV image for fast response signal when playing video games.

24p Direct in

(96Hz*/60Hz/48Hz) *2D mode only

96Hz/48Hz: Achieves more cinematic playback by reproducing the movie contents at 2 or 4 times the speed of 24 frames per second. If flicker is seen using 48Hz, please use 60Hz or 96Hz.

- Available for 1080p/24Hz content via HDMI.
 - Gray-out if **Game mode** is set to **On**.
-

3:2 pulldown

(Off/On/Auto)

Reduces judder in film-based content by transforming 24 fps to 30 fps (non-HDMI).

- Available for interlaced content (480i or 1080i) via analog source.
 - Gray-out if **Game mode** is set to **On**.
-

1080p pure direct

(Off/On)

Enables the support of a 4:4:4 digital video format signal. Use only with a 4:4:4 capable source.

Note:

- This function is available only for HDMI 1080p input.
 - Not in use when no signal is received, input signal is YCbCr 4:2:2, or while 3D mode.
-

HDMI content type

(Off/Auto/Photos/Graphics)

Based on a HDMI content type, picture is adjusted for optimum playback automatically. **Photos/Graphics** be able to select manually. **Cinema/Game** be able to select manually in the **Picture mode/Game mode** menu.

Auto: Switches content type automatically depending on the HDMI signal information.

Photos: Best setting for JPEG viewing.

Graphics: Best setting for On-Screen display of connected equipment.

Auto detail settings

Selectable the effect on each content type in **Auto** mode.

HDMI/DVI RGB range

(Auto/Standard (16-235)/Nonstandard)

Prevents the blown out highlights and blocked up shadows when a wide-range signal is received. Selects between standard RGB range (16-235 bits) or non compliance (0-255 bits).

Auto: Switches the RGB range (Standard (16-235)/Nonstandard) depending on the HDMI signal information.

Black level

(Light/Dark)

Select Dark when details are washed out in dark areas of picture from external source.

- Available when input is set to external source.
-

3D Y/C filter

(Off/On)

Minimizes rough edges (dot crawl) in the picture from a composite source.

All settings

Picture

Screen settings



MENU

→ **Menu** > **Picture** > **Screen settings**

Screen format

(Full/H-FILL/JUST/SIDECUT JUST/4:3/ZOOM/SIDECUT ZOOM)

SD signal : Full → JUST → 4:3 → ZOOM

HD signal : Full → H-FILL → JUST → SIDECUT JUST → 4:3 →
ZOOM → SIDECUT ZOOM

Changes the format (aspect ratio). Lets you choose the aspect depending on the format of received signal.

- Gray-out in 3D mode.
-

Overscan

(Off/On)

Selects the screen area displaying the image for FULL aspect.

On: Enlarges the image to hide the edge of the image.

Off: Displays the image in the original size.

Set to On if noise is generated on the edge of the screen.

H size

(Size 1/Size 2)

Adjusts the horizontal display range to reduce noise of both side edges of an image.

Size 2: Adjusts the image size according to the aspect mode to reduce noise.

Aspect mode: 4:3

The width will be decreased on both sides to reduce noise.

Aspect mode: FULL/JUST/Sidecut Just/(H-FILL/ZOOM/Sidecut Zoom)

The width will be increased on both sides to reduce noise.

- Gray-out in 3D mode.
-

Zoom adjustments

Adjusts vertical position and size when FORMAT setting is set to **JUST** or **ZOOM**.

- JUST: V-size max is 3

- ZOOM: V-size max is 15

- Gray-out in 3D mode.
-

Screen display

(Off/On)

Turns the screen off when you select.

- The sound is active even if the screen turns off.
 - Press any buttons to turn the screen on.
 - This function is effective in reducing power consumption when listening to the sound without watching the TV screen.
-

4:3 side bars

(Off/Low/Mid/High)

Changes the brightness of the side bar The recommended setting is **Brightness** to prevent the panel "Image retention". Do not display a picture in 4:3 mode for an extended period, as this can cause "Image retention" to remain on either or both sides of the display field. To reduce the risk of such "Image retention", change the brightness of the side bars. The side bar may flash (alternate black/white) depending on the picture.

- * 4:3 mode only
-

Pixel orbiter

(On/Auto)

Slightly shifts the image to reduce the possibility of image retention.

- Gray-out when picture mode is THX or EBU default.
-

Screen wipe

Press "OK" to start the horizontal "Scrolling" on the screen. Press any key except the POWER key to return to previous screen.

All settings

Picture

3D settings



MENU

→ **Menu > Picture > 3D settings**

Auto detect 3D

(Off/Auto 1/Auto 2)

Auto 1: Switches to 3D display when 3D indication is available (HDMI (3D), AVCHD file, etc.)

Auto 2: Same as Auto 1. Also detects 3D signal by identifying similar image in side-by-side or top-and-bottom 3D formats.

Note: Choose 3D mode manually when auto detection is not available.

3D signal notification

(Off/On)

On: Displays a message according to the signal received by the **Auto detect 3D**.

3D refresh rate

(96Hz*/100Hz/120Hz) *24Hz only

Reduces juddering and flicker noises of the 3D images when using the 3D Eyewear.

100Hz: If light appears to flicker under fluorescents (or dimmers) of 50 Hz.

120Hz: If light appears to flicker under fluorescents (or dimmers) of 60 Hz.

- Gray-out in 2D mode
-

2D → 3D depth

(High/Mid/Low)

Adjusts the simulated 3D depth perception effect of the 2D incoming signal.

3D adjustment

(Off/On)

Adjust the left eye versus right eye depth effect of the image. Set to **On** to adjust **Effect** (-3 to +3).

- Gray-out in 2D mode
-

**Left/Right swap
(Normal/Swapped)**

Flips the phase of the image to give the correct perception of depth.

- Gray-out in 2D mode
-

**Diagonal line filter
(On/Off)**

Select when diagonal lines appear jagged. Turn off when the picture looks noisy.

- Gray-out in 2D mode
-

Safety precautions

Read safety notice about 3D viewing.

All settings

Picture

Other settings

Lock setting

Lock the picture menu for **Professional 1/Professional 2** and each input.
Settings are basic picture settings and Pro settings.

Copy adjustments

You can copy the selected **Cinema** or **Custom** settings and apply them to all or other input.
Settings are basic picture settings and Pro settings.

Reset to defaults

Resets all picture adjustments to factory default settings except for advanced settings.

All settings

Sound

Basic settings

Adjust audio quality.

 **MENU** → **Menu > Sound**

Sound mode

(Standard/Music/Ambience/User)

Selects your favorite sound mode.

- The selected mode affects all input signals.

Standard: Provides the suitable sound quality for all types of scenes.

Music: Improves sound quality for watching music videos, etc.

Ambience: Improves spatial effects and provides clear sounds.

User: Adjusts the sounds manually by using the equalizer to suit your favorite sound quality.

- For the User mode, **Equalizer** will appear on the Sound Menu instead of **Bass** and **Treble**. Select **Equalizer** and adjust the frequency.
 - Gray-out when using Home Theater.
-

Bass

Increases or decreases the bass response.

- Gray-out if **Sound mode** is set to **User**.
 - Gray-out when using Home Theater.
-

Treble

Increases or decreases the treble response.

- Gray-out if **Sound mode** is set to **User**.
 - Gray-out when using Home Theater.
-

Equalizer

(150Hz/250Hz/500Hz/1kHz/2kHz/4kHz/8kHz/12kHz/Reset to default)

Adjusts the frequency level to suit your favorite sound quality.

- This function is available when **Sound mode** is set to **User**.
 - Select the frequency and change the frequency level by using the cursor button.
 - To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency.
 - To reset the levels of each frequency to the default settings, select **Reset to defaults** by using the cursor button, and then press the **OK** button.
 - Gray-out when using Home Theater.
-

Balance

Emphasizes the left/right speaker volume.

- Gray-out when using Home Theater.

All settings

Sound

Voice guidance settings

Settings for using voice guidance.

Voice guidance

(Off/On)

On: Enables voice guidance of the basic features (Channel banner and input source).

Speed

(Slow/Normal/Fast)

Adjust the readout speed of the voice guidance.

Volume

(Low/Mid/High)

Selects the volume for voice guidance.

Language

(English/Español/Français)

Selects the language for voice guidance.

User level

(Expert/Beginner)

Selects the level of complexity for voice guidance.

Web browser

(On/Off)

Enables voice guidance on web page.

All settings

Sound

Advanced settings

Surround

(Off/Natural/Hall/Stadium)

Enhances audio L/R response when listening to stereo.

Ideal for music and action movies.

- Gray-out when using Home Theater.
-

Bass boost

(Off/On)

Enhances bass sound and provides powerful sound.

- Gray-out when using Home Theater.
-

Digital remaster

(On/Off)

Compensates for the compressed audio signal to reproduce the original sound quality.

- Gray-out when using Home Theater.
-

A.I. sound

(Off/On)

Equalizes overall volume levels across all channels and external inputs.

- Gray-out when using Home Theater.
-

Volume leveler

(+/-6)

Minimizes volume disparity after switching to external inputs.

- Gray-out when using Home Theater.
-

Distance to wall

(Over 1ft(30cm)/Up to 1ft(30cm))

Over 1ft(30cm): TV is on a stand. Keeps current setup.

Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.

- Gray-out when using Home Theater.
-

Preferred audio type**(Main Audio/Hearing Impaired/Visually Impaired)**

Allows setting of the accessible audio format when it's broadcast and the language setting matches.

Digital audio out selection**(Auto/PCM)**

Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI 2 (ARC function) terminals.

Auto: Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bit stream. MPEG is output as PCM.

PCM: Digital output signal is fixed to PCM.

- For video contents of Media Player / Network services.
 - ARC (Audio Return Channel): A function of digital audio output using HDMI cable.
-

HDMI input (HDMIx in)**(Digital/Analog)**

The default setting is **Digital** for the HDMI connection. (Digital input signal)
Select audio input terminal when a DVI cable is connected along with an analog audio input signal.

Reset to defaults

Resets all Audio adjustments to factory default settings.

- Gray-out when using Home Theater.

All settings

Sound

DIGITAL AUDIO OUT terminal

You can enjoy your Home Theater by connecting a Dolby Digital (5.1 channel) decoder and "Multi Channel" amplifier to the DIGITAL AUDIO OUT terminals.

- Depending on your DVD player and DVD-Audio software the copyright protection function may operate and disable optical output.
- When an ATSC channel is selected, the output from the DIGITAL AUDIO OUT jack will be Dolby Digital. When channel is selected, the output will be PCM.
- When playing a movie on Movie player, when the sound has been recorded in Dolby Digital, the output from the DIGITAL AUDIO OUT terminal will be Dolby Digital. When the sound is recorded in other formats, the output will be PCM.

All settings

Network

Network settings

 **MENU** → **Menu > Network**

Network connection

Connects the TV to the home network. Searches for wireless network or establishes wired connection.

Follow the directions on the screen to complete the network settings.

Network status

Tests the connection between the TV to the local router and the Internet. Displays Current settings and status screen. (Network type/Wireless settings/MAC address/IP Address etc.)

* Displayed items differ depending on the type of network connection.

TV remote App settings

Sets a network-based remote control.

TV remote

(On/Off)

Enables to control the TV from the network equipment (smartphone, etc.).

- Sets to **On** to enable below settings.

Wake on LAN

(Off/On)

Turns on the TV via Ethernet using a wake-up message sent from a device within the home network.

Device to upload contents

Selects device to upload contents from the network equipment (smartphone, etc.).

Network link

Settings for DLNA Server.

DLNA server**(On/Off)**

Enables use this TV as DMS for network devices (DLNA Certified VIERA)

- Sets to **On** to enable below settings.

Registration Type**(Auto/Manual)**

Selects the limitation of access to this TV for each device on the home network.

Auto: All the available device on the home network are accessible.(maximum 16 equipment)

Manual: Sets the access limitation for each device in the Remote device List.

Remote device list

Lists the available device on the home network.

Software update

Check if software (firmware) update for the TV is available.

Press OK to start the Software update screen. And follow directions on the screen.

- * Set **Clock** first.
-

New software notice**(Off/On)**

Selects whether or not to display a notification message when a software (firmware) update is available for download. Follow the directions on the screen to download.

All settings

Timer

Setting menu

Adjusts the TV's date and time. (Needed for timer function)

 **MENU** → **Menu > Timer**

All settings

Timer

Clock settings

Mode

(Auto/Manual)

Sets the date and time manually or automatically via Internet connection.

Date, Time

(Year/Month/Day/Hour/Minute)

Current date

Time zone

(EST/CST/MST/PST/AKST/HST/NST/AST)

Selects your time zone, to enable correct automatic date and time settings.

DST

(On/Off)

Selects if Daylight Saving Time is currently observed.

All settings

Timer

Sleep (Off timer)

Sleep (minutes)

(Off/15 minutes/30 minutes/60 minutes/90 minutes)

Selects how long the TV stays on before it automatically turns off.

All settings

Timer

Auto turn off settings

No activity for 4 hours (Power TV off/Stay on)

To conserve energy, the TV automatically turns off when no operation of remote and side panel key continues for more than 4 hours.

Not in use when "On/Off Timer" is set. "No activity for 4 hours was activated" will be displayed for about 10 seconds when the TV is turned on for the first time after the power was turned off by "No activity for 4 hours" feature. The on-screen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

No signal for 10 minutes (Power TV off/Stay on)

To conserve energy, the TV automatically turns off when NO SIGNAL and NO OPERATION continue for more than 10 minutes. Not in use when "On/Off Timer" is set. "No signal for 10 minutes was activated" will be displayed for about 10 seconds when the TV is turned on for the first time after the power was turned off by "No signal for 10 minutes" feature. The on-screen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

All settings

Timer

Timer (On/Off timer)

Timer set (Off/On)

Enables or disables the Timer.

Inputs

Sets which input will be selected when the TV turns on.

Channel

Sets the channel to select when the TV turns on.

Day

Sets the day when the TV turns on.

[SUN/MON/TUE/WED/THU/FRI/SAT (displays the nearest future date) MON-FRI/SAT-SUN/DAILY/Every SUN/Every MON/Every TUE/Every WED/Every THU/Every FRI/Every SAT]

On time

Sets the time that the TV will turn on at. The TV will turn off after 90 minutes or as specified.

Off time

Sets the time that the TV will turn off at within 24 hours.

All settings

Setup

Setting menu

 **MENU** → [Menu](#) > [Setup](#)

All settings

Setup

Eco navigation

Eco navigation

Set to Eco: Sets the TV to the most suitable energy-saving mode automatically.

Optimizes the TV's various modes to save energy.

Note: The TV's brightness will adjust and adapt as the room lighting changes.

All settings

Setup

Voice control settings

Settings for using voice control function.

Language

(English/Español/Français)

Selects the language for voice control.

Speech detection level

(High/Standard)

Sets sensitivity level for voice control.

Terms of service

Shows the terms of service of voice control.

All settings

Setup

USB device setup

USB device setup

Remove USB device safely.

All settings

Setup

Touch Pen setup

Touch Pen setup

Settings for your Touch Pen

Pairing

Pairing your Touch Pen with your TV.

Follow the instructions on screen to complete the pairing.

Unpair

Remove pairing between your Touch Pen and TV.

Safety precautions

Displays the safety precautions when using your Touch Pen.

All settings

Setup

VIERA Touch Pad settings

VIERA Touch Pad settings

Repeats the initial step-by-step touchpad remote setup. Changes cursor settings, such as tap setting and cursor sensitivity.

Pairing

Follow the instructions on screen to complete the pairing.

Cursor settings

(Tap to OK/Sensitivity)

Set cursor settings.

Operational Guide

Displays operation of Touch Pad Controller.

All settings

Setup

Bluetooth settings

Bluetooth settings

Search and register Bluetooth headphone and Keyboard. Adjusts lip sync delay, audio output setting, and volume for the Bluetooth audio devices.

Bluetooth devices

Search and pair Bluetooth devices in range. Display the status of previously registered devices.

Bluetooth audio settings

Adjusts the settings for the Bluetooth audio device.

Lip sync (On/Off)

Enables lip sync adjustment to compensate for audio delay when a Bluetooth device is connected.

Lip sync adjustment (1 - 18)

Adjusts lip sync delay for the Bluetooth audio device.

Audio out (All/Bluetooth only)

Select audio out when the device is connected.

To get sound from Speakers and Bluetooth device select **All**.

Volume (0 - 100)

Adjusts the volume of the Bluetooth audio device.

All settings

Setup

Parental control



MENU

→ **Menu > Setup > Parental control**

Change password

Create a new password. Input the new 4-digit password twice.

(**All settings > Setup > Password setting**)

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels, programs or inputs. For **Custom**, Locks specified inputs of **Channel**, **Game** and **Program**.

Set **Custom** in **Mode** to specify **Channel**, **Game** and **Program**.

Channel

These channels will be blocked regardless of the program ratings.

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels. For **Custom**, Locks specified channels. Set **Channel 1 - Channel 7**.

Channel 1-7

Designates channel number to be blocked at any time, regardless of its broadcast content.

Game

(**On/Off**)

Restricts access to channel 3, channel 4 and all the TV's inputs.

Program

Prohibits viewing of TV content based on the rating provided by the broadcasters.

Mode**(On/Off)**

Sets program lock status. "V-chip" technology enables restricted shows to lock according to TV ratings. On: Set each rating level (MPAA, U.S.TV, C.E.L.R., C.F.L.R.)

MPAA

Selects U.S. movie ratings to lock.

U.S.TV

U.S. TV program ratings.

C.E.L.R.

Canadian English ratings.

C.F.L.R.

Canadian French ratings.

All settings

Setup

Password setting

You need to enter the password when you access locked channels or inputs.



- ★ If it is your first time entering the password, enter the password twice in order to register it.
- ★ Make a note of your password. Do not forget it. (If you have forgotten your password, consult your local dealer.)
- ★ When you select a locked channel, a message will be displayed that allows you to view the channel after you input your password.

All settings

Setup

Parental control ratings

"V-chip" technology enables you to lock channels or shows according to standard ratings set by the entertainment industry.

■ U.S. MOVIE RATINGS (MPAA)

■ U.S. TV PROGRAMS RATINGS (U. S. TV) - Age-Based Ratings

NR	Not Rated.
G	All children and General Audience.
PG	Parental Guidance suggested.
PG-13	Parental Guidance for children under 13.
R	Restricted Viewing, parental guidance is suggested for children under 17.
NC-17/X	No one 17 or under allowed.

TV-NR	Not Rated.
TV-Y	All children.
TV-Y7	Directed to children age 7 and older.
TV-G	General Audience.
TV-PG	Parental Guidance suggested.
TV-14	Parents strongly cautioned, parental guidance is suggested for children under 14.
TV-MA	Mature Audience only.

■ CANADIAN ENGLISH RATINGS (C. E. L. R.)

■ CANADIAN FRENCH RATINGS (C. F. L. R.)

E	Exempt programming.
C	All children.
C8+	Children 8 years and older.
G	General programming.
PG	Parental Guidance.
14+	Viewers 14 and older.
18+	Adult programming.

E	Exempt programming.
G	General programming.
8 ans+	Not recommended for young children.
13 ans+	Not recommended for ages under 13.
16 ans+	Not recommended for ages under 16.
18 ans+	Programming restricted to adults.

Contents-Based Ratings

FV	Fantasy Violence.	S	Sexual situations.
D	Suggestive Dialogue.	V	Violence.
L	Strong Language.		

Caution

The V-Chip system used in this set is capable of blocking "NR" programs (non rated, not applicable and none) as per FCC Rules Section 15.120(e)(2). If the option of blocking "NR" programs is chosen "unexpected and possibly confusing results may occur, and you may not receive emergency bulletins or any of the following types of programming:"

- Emergency Bulletins (Such as EAS messages, weather warnings and others)
- Locally originated programming • News • Political • Public Service Announcements • Religious • Sports • Weather

All settings

Setup

ANTENNA/Cable setup



MENU

→ **Menu > Setup > ANTENNA/Cable setup**

ANTENNA/Cable signal

(Cable/Antenna)

Selects signal source connected directly to the ANTENNA/Cable In terminal.

Note: When using a Cable or Satellite box, it is recommended to connect the box to an AV IN terminal and skip this setting.

Channel surf mode

(All/Favorite/Digital only/Analog only)

Sets the mode to select the channel with the Channel up/down button.

Favorite: Only channels registered as FAVORITE.

Auto program

(All channels/Analog only/Digital only)

- Select scan type and press OK to start scanning automatically.
After the scanning is completed. Select Apply.
 - All previously saved channels are erased.
-

Manual program

Change the channel setting or channel display.

Edit: Edit these items.

Caption: Changes the station identifier. (maximum 7 characters available)

Favorite: Registers channels to the Favorite List from **Set favorite**.

Add: Adds (Yes) or skips (No) channels

Apply: After the editing is completed, press OK to save the settings.

Cancel: Cancel the changes.

Signal meter

Check the signal strength if interference is found or freezing occurs on a digital image.

If the signal is weak, check the antenna.

If you cannot figure out the problem, consult your local dealer.

Not available if "Cable" is selected in "ANTENNA/Cable signal".

Available only for digital antenna channels.

All settings

Setup

Language settings



MENU

→ **Menu > Setup > Language**

Menus language

(English/Español/Français)

Selects the screen menu language.

Preferred SAP language

(English/Spanish/French)

Selects the preferred language for hearing or visually impaired, if offered during digital broadcast

Note: preferred language takes precedence over preferred audio type.

(Available only in the U.S.)

All settings

Setup

Display customization



MENU

→ [Menu](#) > [Setup](#) > [Display customization](#)

Input labels

Selects the terminal and label of the external equipment. Devices connected to external input terminals can be labeled for easier identification during the input selection.

Label: Input name/Not used/Blu-ray/CABLE/SATELLITE/DVD/
DVD REC/DVR/GAME/HOME THTR/RECEIVER/MEDIA CTR/
MEDIA EXT/VCR/CAMERA/MONITOR/AUX/OTHER/Customize

- When the INPUT is labeled as "Not used", then it will not appear in the Input select menu.
- Select "Customize" to enter your own labels for the input (ex. "Computer")

Smart VIERA Banner

(On/Off)

Sets the banner display status.

All settings

Setup

Closed caption



MENU

→ [Menu](#) > [Setup](#) > [Display customization](#) > [Closed Caption](#)

Mode

(Off/On/CC on mute)

On: To display Closed captions.

CC on mute: To display Closed captions when the audio is muted. (When not using, select **Off**).

Analog

(CC1-4/T1-4)

Choose the Closed caption service of Analog broadcasting.

CC1-4: Information related to pictures (Appears at the bottom of the screen)

T1-4: Textual information (Appears over the entire screen)

Digital

(Primary/Second./Service 3/4/5/6)

The Digital Closed caption menu lets you configure the way you choose to view the digital captioning.

Digital setting

Set display settings in digital programs.

Size

Select the text size

Font

Select the text font

Style

Select the text style (Raised, Depressed, etc.)

Foreground

Select the color of text

Foreground opacity

Select the opacity of text

Background

Select the color of text box

Background opacity

Select the opacity of text box

Outline

Select the outline color of text (Identify the setting options on the screen).

Reset to defaults

Resets all Closed caption settings to factory default settings.

All settings

Setup

Closed caption notice

- For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3, characters might be cut off).
- The CC can be displayed on the TV only when the receiver (such as a Cable box or satellite receiver) has the CC set to ON within the device itself. Check with your Cable or Satellite provider for instructions. The TV's CC button does not operate the Satellite or Cable box's CC function.
- If the CC is set to ON on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- If a digital program is being output in analog format, the CC data will also be output in analog format.
- If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

All settings

Setup

VIERA Link settings



MENU

→ **Menu > Setup > VIERA Link settings**

VIERA Link

(Off/On)

To use all VIERA Link functions, set to **On** after everything is connected.

Power on link

(Yes/No)

Yes: The TV is turned on automatically and switches to the appropriate HDMI input whenever VIERA Link compatible equipment is initially turned on and the Play mode is selected.

Power off link

(Yes/No)

When **Yes** is selected and the TV is turned off, all connected VIERA Link compatible equipment is also automatically turned off. The TV remains on even if the VIERA Link compatible equipment is turned off.

Energy saving mode

(Quick start/Save)

Quick start: When TV is turned off, all connected VIERA Link compatible equipment is moved to ECO Standby mode* automatically under these conditions.

Power off link: (**Yes**). The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)"

* Minimum power consumption of Standby condition for the equipment.

Unselected device auto off

(On/Off)

On: The connected VIERA Link compatible equipment will be turned off automatically when not in use under these conditions. The connected equipment has "HDAVI Control 2 or later" (for available equipment only)

All settings

Setup

System settings



MENU



Menu > Setup > System

Keyboard type

(U.S./Canadian French/Canadian Multilingual std./Spanish (Latin America)/Spanish (Spain))

Selects the country/region of the keyboard connected to this TV.

Factory defaults

Clears all TV settings and memory to factory defaults.

License

Displays the software license information.

All settings

Setup

Other settings



MENU



[Menu](#) > [Setup](#) > [Other settings](#)

Power save

(Saving/Standard)

Reduces screen brightness to lower power consumption. Eye-friendly for viewing in a dark room.

All settings

Setup

Useful settings

Professional mode (isfcc)

(Off/On)

Enables the advanced picture settings.

- Set to **On** to enable the advanced items in the **Picture** menu, **Pro settings**, **Lock settings** and **Copy adjustments**.
- "isfcc" is the picture setting for the certified professional dealer. For details, consult your local dealer.

Support / FAQ

Help menu

Using Help menu

The TV's built-in self-help resources.

1. Display the menu



2. Select **Help** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select the Help menu

Select desired menu using \triangle / ∇ and press 

(**eHELP/TV Self-test/Version/Device information**)

eHELP: This screen

TV Self-test: Verifies proper function of the TV for picture and sound.

- Follow the instructions on the screen to complete the self test.

Version: Displays TV's software (firmware) version.

Device information: Displays the device information of this TV.

Support / FAQ

FAQ

Picture - Viewing

Frequently Asked Questions

For updated information, please visit Panasonic web site.

How do I view the picture from devices such as : Cable/Satellite box, game console, Blu-ray or DVD player?

- Press the **INPUT** button on the remote to select the correct input source.
- Check that the device is turned on and functioning correctly.

Why doesn't the picture look like it is in High Definition?

- Press the **INFO** button on the remote to confirm the type of signal being received. HD signal should be 720p, 1080i or 1080p.
- Select a High Definition channel from your HD source (Cable, Satellite or fiber optic service). HD channels sometimes broadcast non-HD content.
- Ensure that your HD source (HD box, Blu-ray player, etc.) is connected to the TV with an HDMI or Component cable and set to output an HD video signal.

Support / FAQ

FAQ

Picture - Snowy / none

Why is there no picture or just a blue, black or snowy screen being displayed?

- Press **MENU** and select "Help". Then select "TV Self-test". If the test picture shows correctly, then the problem is with the external device (ex. Cable box, DVD player, etc.) or its connection to the TV.
- Check if the power cord is plugged in and the TV is turned on (front red LED light should be on; not blinking)
- Press the **INPUT** button on the remote to select the correct input source.
- Ensure all connections are correct and secure. Especially check for Component and VIDEO connection since these terminals are shared.
- When using an external video source, such as a Cable/Satellite box or DVD player, check that the device is on and functioning correctly.
- Press **MENU** on the TV's remote control. If the menu is displayed, then the TV is working; recheck above steps.

Why is the picture snowy when ANTENNA/Cable setup is selected?


- When using a cable service (without a box), check that all connections are secure.
- When using a cable or satellite box, change the connection (wiring) to Composite, Component or HDMI.
- If you're using an antenna, then check that connections are secure. Change the position or direction of the antenna and check the **Signal meter**.

Support / FAQ

FAQ

Picture - Distortion

The picture is distorted after selecting the "AV" input. What should I do?

- Ensure that the device is connected correctly to the TV's Video/Component green connector.
- If using VIDEO or COMPONENT:
Press **INPUT** , scroll to AV, press  to select Video or Component.



Why do black bars appear on the top and bottom and/or sides of the screen?

- Change the format (aspect ratio) of the picture by pressing the **FORMAT** button on the remote control.
- Check the aspect settings on your external video source, such as Cable/Satellite box, DVD/Blu-ray Disc player, etc.
Note: Some content, such as film-based movies, are available in extra-wide format. Top and bottom bars are unavoidable.

Why is the picture chaotic and/or torn and/or with a buzz in the speakers?

- Check if electrical products such as kitchen appliances, fluorescent lights or light dimmers are nearby. They may interfere with the TV's picture.
- Try viewing a picture from another device, such as a DVD player or a game console, to narrow down the source of the problem.

Support / FAQ

FAQ

Picture - Continue

Why is there a black box on the screen?

- Change settings of Closed caption (CC).

Why do some small spots on the screen remain bright or dark?

- The panel is made up of a few million pixels and is produced with advanced technology through an intricate process. Sometimes a few pixels may be bright or dark.
- These pixels do not indicate a defective panel and will have no impact on the performance of the TV.

Why is the picture brightness changing?

- Turn the C.A.T.S. feature off.

Press **MENU** → **Menu** > **Picture** > **C.A.T.S.**

Support / FAQ

FAQ

Sound - None

Why is there no sound coming from the TV?

- Make sure the volume is up and **MUTE** is off.
- Check that the correct **SAP** (Secondary Audio Program) is selected by pressing the **SAP** button on the remote control.
- If the TV is connected to a Panasonic Home Theater via HDMI cable, then check VIERA Link controls.
- If the TV is connected to a Home Theater via optical cable, then: Check the connection, the audio system is on, the correct input is selected.
- Check **HDMI in** analog/digital audio settings.

Support / FAQ

FAQ

Sound - Unusual

Why is the sound unusual, distorted, low volume or in another language?

- Check that the correct **SAP** (Secondary Audio Program) is selected by pressing the **SAP** button on the remote control.
- Check that all connections of external equipment connected to the TV are secure.
- When using Cable or Satellite box, check the device's audio settings. (Example: try changing the box's Audio Range to "narrow")

Why is there a clicking, ticking or buzzing sound coming from the TV unit?

- When TV power is turned on or shut off there are electrical components that make a click sound. This is normal operation.
- Changes in the temperature and humidity of the room may cause thermal expansion and contraction that can produce sounds. This is not a sign of faulty operation or a malfunction.

Support / FAQ

FAQ

Networking

How do I get Internet services of Home Screen to work on my TV?

1. You need a broadband (high speed) Internet service with a speed of no less than 1.5 Mbps.
2. Connect the TV to the Internet through your router by an Ethernet cable or a Panasonic Wireless LAN (built-in).
3. Start **Network connection** wizard, then follow the directions on the screen to connect. If the connections still fails, then check with your Internet service provider or router/modem manufacturer if there are firewall, content filter or proxy settings that may block the TV from accessing the Internet.

Can I download new apps (content/services) onto my TV?

- Yes. Display Apps (application) list on the Home Screen by pressing the APPS button, then select **Market** icon. **Market (for Smart VIERA)** allows you to find and install the applications to Apps list.

Support / FAQ

FAQ

Software update

How do I check for the latest software (firmware) version for my TV?

- In the main menu, select **Network**. Select **Software update**. The current version and latest version software will be shown. If software update is grayed out, the TV is not connected to the Internet. If a newer version is available, update your TV. Follow the on screen instructions, do not power off the TV until the update is complete. Be patient; firmware update may take a while.

How do I get the software update information and download periodically?

- In the main menu, select **Network**. Highlight **New software notice**. Make sure that setting is **On**.
When the TV is turned On, update message is displayed if available.
Follow the directions on the screen to download.

Support / FAQ

FAQ

3D - Viewing

Why doesn't my 3D video source look 3D?

1. Begin playing the 3D video source.
2. Ensure that the Panasonic 3D Eyewear (glasses) are on.
3. Press **3D** button directly and select **3D**.
4. In the **3D format select** menu, select **3D**.

Notes:

1. 3D Blu-ray discs must be played with a 3D capable Blu-ray player.
2. Check with your Cable or Satellite provider to make sure their supplied box is 3D capable.
3. 3D signal must be connected to the TV via an HDMI cable.
4. Use Panasonic 3D Eyewear supporting Bluetooth wireless technology.

Can I use 3D glasses similar to the kind given at a 3D movie theater to watch 3D content on my 3D TV?

- No. Movie theater's 3D glasses are passive. They use a simple filter 'lens'. Panasonic active shutter 3D Eyewear are actively synchronizing the left/right eye viewing with the display, providing a superior 3D viewing experience.

Support / FAQ


FAQ

3D - Format

When selecting some 3D Video content, why are there two pictures next to each other?

- There are a few different 3D formats and the current setting may not match the incoming 3D signal.
The format should change automatically, but depending on the source/connection it may not signal the TV properly. To manually select other 3D formats:
 1. Press **3D** button directly on the TV's remote control and select **3D**
 2. In the **3D format select** menu, choose another 3D format such as **Side by side** or **Top and bottom**.
 3. Remember to switch the 3D format setting back to **2D** when you go back to viewing a standard 2D signal.

Why does the left and right Sides of the image seem reversed?

- The 3D format has two different "phases". Try the other phase:
 1. In the main menu, select **Picture**. Highlight **3D settings** and press .
 2. In the **3D settings** menu, select **Left/Right swap**.

Support / FAQ

FAQ

Voice guidance

How does the voice guidance feature work?

- This function provides you with useful voice guidance for basic features.
- For more information about settings or operation of voice guidance, please refer to below page.

(Convenience features > Using Voice guidance)

Support / FAQ

FAQ

Voice control

Will the TV learn my accent?

- Set or adjust the **Voice control settings** first.
- This function is not available for all dialects or regions. And performance will differ depending on your pronunciation, volume and your surrounding area.

Voice Control function may not work properly depending on the pronunciation, noise and network environment.

- For more information about Voice Control, please refer to below page.
(**Convenience features > Using Voice control**)

Support / FAQ

FAQ

VIERA Touch Pad Controller

Are there sensitivity adjustments for the Touch Pad Controller?

- Yes, there are. Press **MENU** , select **Setup** and then select **VIERA Touch Pad settings**. Select **Sensitivity** in **Cursor settings** and adjust.

Support / FAQ

FAQ

Electronic Touch Pen

Can I use any pen I have or do I need a particular pen to use the Electronic Touch Pen feature?

- You can only use Electronic Touch Pen for Plasma TV: TY-TP10U.
- For more information about Electronic Touch Pen, please refer to below page.

(Convenience features > Using Electronic Touch Pen)

Support / FAQ

FAQ

Eco-Navigation (Eco-Navi)

Why does my picture look dim and/or sometimes changes brightness levels?

- This TV is equipped with a money saving feature called Eco-Navigation or Eco-Navi. The TV automatically dims the brightness to save energy. It also puts the picture in "Standard" mode and enables the C.A.T.S. feature so it will adjust the picture brightness automatically depending on the rooms ambient lighting conditions. This mode will also turn the TV power off if no signal is detected for 10 minutes.
- For more information about Eco navigation, please refer to below page.
(Watching TV > Useful features > Eco navigation)

Support / FAQ

FAQ

Other

What is the easiest and best way to connect a High-Definition Cable or Satellite box to the TV?

- Use an HDMI cable. It carries both digital video and audio signal in HD. HDMI cable is the only cable needed to connect an HD device to the TV.

Why does the CC button not display Closed caption?

- When viewing TV via an HDMI connected device, such as a Cable or Satellite box, CC must be enabled on the device.
- Closed caption is available only at supported TV programming.

Why does the screen and back cover of the TV get warm?


- The main unit radiates heat and some of the parts may become hot. This is normal operation and does not affect the performance of the set.
- Ensure good ventilation.
- Do not block the ventilation holes of the TV and do not place the TV on top of other equipment.

Support / FAQ

FAQ

Menu - Gray-out or missing items

Why the **ANTENNA/Cable option or available inputs or are not listed in the **Input select** menu?**

- When you label an input as "Not used", then it will be hidden from the **Input select** menu. To make the input visible again:
 - Press INPUT
 - Press  **Edit labels**
 - Select the input you want to unhide and re-label it.

Some menu items are grayed-out and unable to be selected. Why?


- Depending on certain modes or the selected input, some options are not available.

Support / FAQ

FAQ

Factory defaults

How do I reset my TV to all factory defaults and settings?

- In the main menu, select **Setup**. Highlight **Factory defaults** and press . Enter your password (if locked). Confirmation message will be displayed. Follow the directions on screen to reset the TV to its original factory defaults.

Support / FAQ

Care and Cleaning

Display panel

First, unplug the Power cord plug from the wall outlet.

■ **Display panel**

The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.

- If the surface is particularly dirty, after cleaning up the dust, soak a soft, lint-free cloth in diluted mild liquid dish soap (1 part mild liquid dish soap diluted by 100 times the amount of water) and then wring the cloth to remove excess liquid. Use this cloth to wipe the surface of the display panel, then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects. Furthermore, avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the surface may be adversely affected.

Support / FAQ

Care and Cleaning

Cabinet

First, unplug the Power cord plug from the wall outlet.

■ **Cabinet**

If the cabinet becomes dirty, wipe it with a soft, dry cloth.

- If the cabinet is particularly dirty, soak the cloth in a weak mild liquid dish soap and then wring the cloth dry. Use this cloth to wipe the cabinet and then wipe it dry with a dry cloth.
- Do not allow any mild liquid dish soap to come into direct contact with the surface of the TV. If water droplets get inside the unit, operating problems may result.
- Avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the cabinet surface may be adversely affected or the coating may peel off.
- Do not let articles made from rubber or PVC be in contact with the TV for long periods of time.

Support / FAQ

Care and Cleaning

Pedestal / Power cord

First, unplug the Power cord plug from the wall outlet.

■ **Pedestal**

- **Cleaning**

Wipe the surfaces with a soft, dry cloth. If the unit is particularly dirty, clean it using a cloth soaked with water to which a small amount of mild liquid dish soap has been added and then wipe with a dry cloth. Do not use products such as solvents, thinner, or household wax for cleaning, as they can damage the surface coating. (If using a chemically-treated cloth, follow the instructions supplied with the cloth.)

- Do not attach sticky tape or labels, as they can make the surface of the pedestal dirty. Do not allow long-term contact with rubber, vinyl products, or the like. (Doing so will cause deterioration.)

■ **Power cord**

- Wipe the plug with a dry cloth at regular intervals. (Moisture and dust can lead to fire or electrical shock.)

Support / FAQ

Care and Cleaning

3D Eyewear

■ 3D Eyewear

- Clean using a soft, dry cloth.
- Wiping the 3D Eyewear with a soft cloth that is covered in dust or dirt may scratch the eyewear. Shake off any dust from the cloth before use.
- Do not use benzene, thinner, or wax on the 3D Eyewear, as doing so may cause the paint to peel off.
- Do not dunk the 3D Eyewear in liquid such as water when cleaning.
- Avoid storing the 3D Eyewear in hot or highly humid locations.
- As the liquid crystal shutters (lens) are fragile and easily broken, be very careful when cleaning them.

Support / FAQ

Care and Cleaning

Back panel (Cooling fan)

First, unplug the Power cord plug from the wall outlet.

■ **Back panel (Cooling fan)**

- The main unit is equipped with a cooling fan on the upper part of the back side. To remove dust or other foreign materials adhering to the fan, vacuum it attaching lightly the opening of the suction nozzle of a vacuum cleaner to the vent holes.
 - * Be extremely careful not to damage the display panel or other parts.