

Panasonic[®]

TC-60AS650U

TC-55AS650U

*e***HELP**

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Press the Remote control button



Letters in box : Remote control button



Letters in Cyan : Menus on screen display



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Using my Home Screen

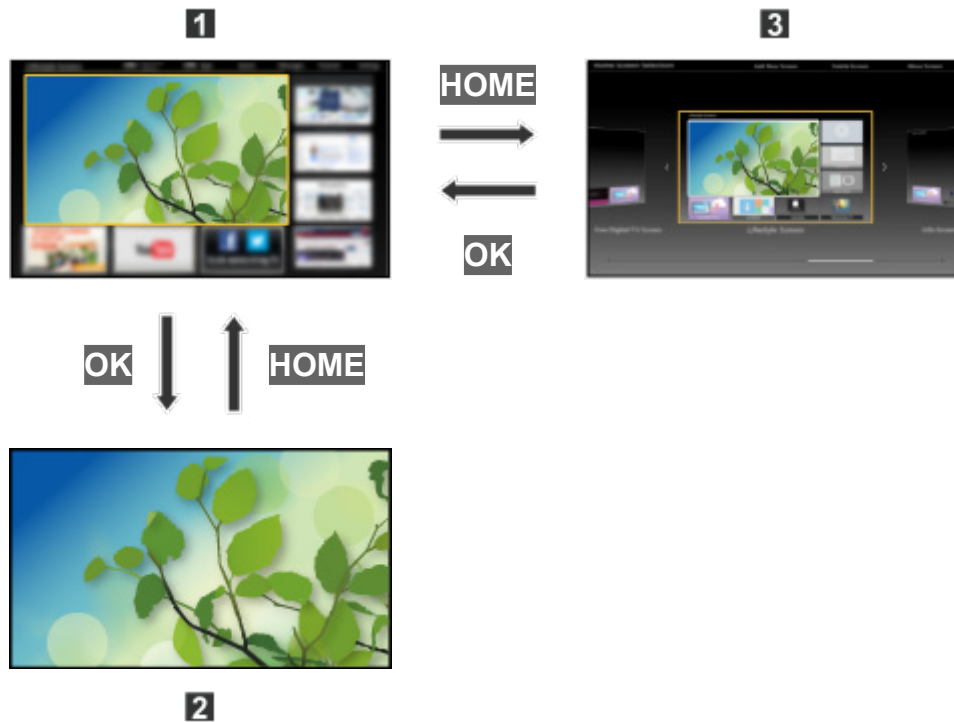
my Home Screen

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 (Full Screen TV, Various Home Screen, etc.)

2 Selected content screen (TV, application, etc.)

3 Home Screen Selection

- Choose your preferred Home Screen layout.

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.

 → **Using my Home Screen > my Home Screen > Settings**

2. Select a Home Screen icon using $\Delta / \nabla / \triangleleft / \triangleright$ and press **OK** to access the feature.

- To watch full-screen TV
 - 1) Select the TV window with $\Delta / \nabla / \triangleleft / \triangleright$



- 2) Press **OK** to watch



- Also refer to **Tutorial** from the tool guide.

Settings

Select the setup menu from the tool guide on the top of the screen.

(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.

- To Keep Full Screen TV

While watching the TV on this full-screen, select **Settings** from tool guide. Then, set the **Power ON Option**.

• Various Home Screens

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

■ Face recognition/Voice Print Recognition

By using the communication camera and voice control function, this TV recognizes your face/voice and displays the registered Home Screen.

- Say “my Home Screen” into the microphone of the Touch Pad Controller to use this function.
- To use this function, you need to set up a user profile and register face/voice data, preferred Home Screen, etc.

 → **All settings > Setup > User settings**

- For details of voice control function

 → **Convenience features > Using Voice control**

- 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.

- To change the color type of on-screen displays.

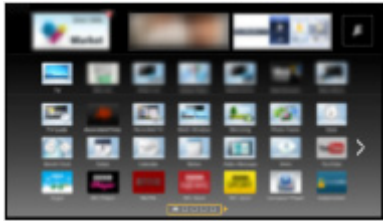
 → **All settings > Setup > Display customization**

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.

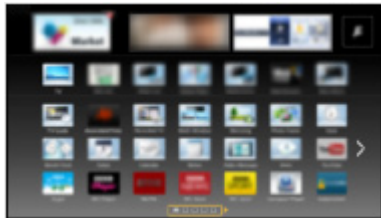
How to use

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 OK to access

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 / ∇ / \triangleleft / \triangleright and press to access



3. Follow the on-screen instructions

- Setup items may be changed without notice

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



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

- The menu choices vary depending on which input is selected.

3. Power on your Cable, Satellite or Fiber Optic 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.

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

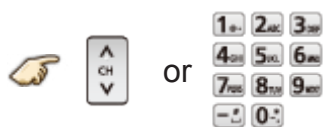
 **MENU** → **Menu** > **Setup** > **ANTENNA/Cable setup** > **ANTENNA/Cable signal, Auto program**

- 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.

- The tuner setup menu (auto scan, etc.) is only available when INPUT is set to TV.
- 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 Optic 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.

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  button to enter the dash.

(e.g. CH15-1 →    )



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 **0** - **9** /  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 **0** - **9** /  directly to save the displayed channel.

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

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

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.

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.

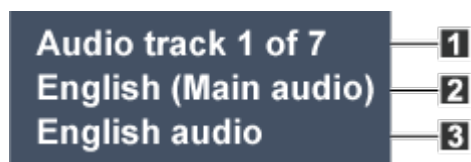
Audio track is automatically selected as **Preferred audio type** and **Preferred SAP language** settings.

(**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.

(Example)



1 Track number / Number of tracks

2 Current audio track information

3 Audio service information

Analog mode:

Select the desired Audio mode.

(**Stereo** / **SAP** / **Mono**)

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.

(Options menu is also available in [Menu](#).)



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.

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.

- For Example of AV connections

See next section, **Example of AV connections.**

2. Select Input

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

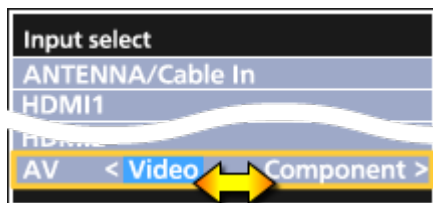


- 2) Select the input used in step 1

Select correct input source, using Δ / ∇ and press **OK**

When you connect to Component or Video input, you need to select **Video** or **Component**.

- Press **INPUT** and select **AV: Video** ↔ **Component**.
- Press \triangleleft / \triangleright to choose Video or Component.



- You can edit and customize the TV's Input label for easy identification by pressing the **Red** 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

- The menu choices vary depending on which input is selected.

Example of AV connections

A. Connecting to the HDMI input (Best for HD viewing)

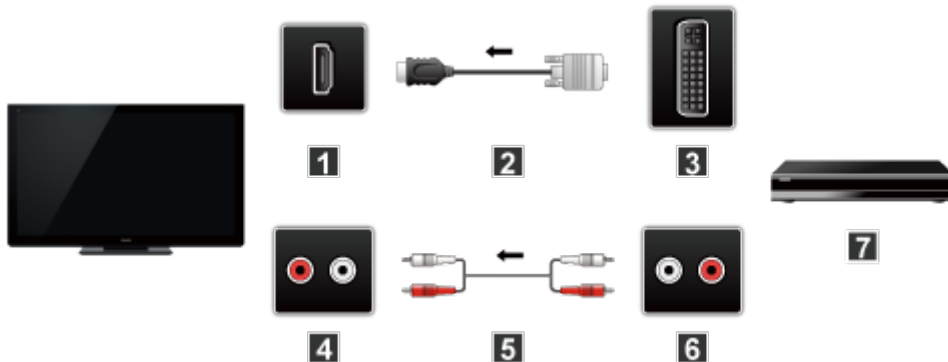
Recommended to use this connection, if the connected equipment has HDMI terminal.



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

For devices with DVI output

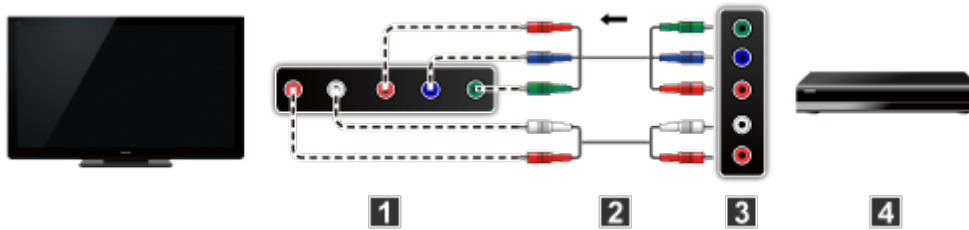
Recommended to use this connection, if the connected equipment has DVI terminal only.



- 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)

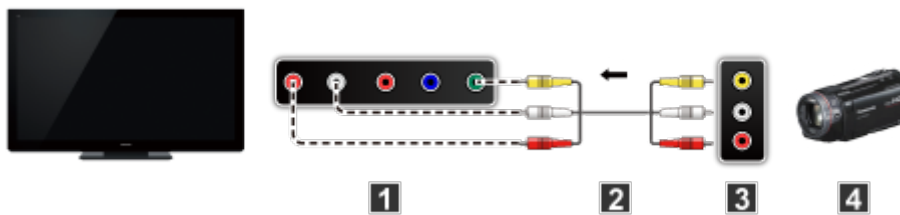
B. Connecting to the COMPONENT input

Recommended to use this connection, if the connected equipment has Component terminal only.



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

C. Connecting to the VIDEO input (For SD (Standard Definition) only)



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

*: Not supplied with this TV

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.

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.

Input signal

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

■ Component/HDMI

Input signal	Vertical frequency (Hz)	Component	HDMI
480/60i	59.94/60.00	○	○
480/60p	59.94/60.00	○	○
720/60p	59.94/60.00	○	○
1,080/60i	59.94/60.00	○	○
1,080/60p	59.94/60.00	○	○
1,080/24p	23.98/24.00		○

○ : Applicable input signal

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 Δ / ∇ from menu bar and press 

- 2) Adjust using Δ / ∇

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.

Cinema

Reproduces the original image quality precisely without any revision.

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

- Use the mode below to adjust the picture mode in more detail.

Custom

Customizes each item according to your taste.

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

- Adjust the Picture mode in more detail.

 → **All settings** > **Picture** > **Pro settings**

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**.

Aspect setting

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

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



FORMAT (to cycle through the aspect modes)

480i, 480p: Full/JUST/4:3/ZOOM

1080p, 1080i, 720p: Full/JUST/4:3/ZOOM/H-FILL/SIDECUT JUST/
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.

- For screen format settings



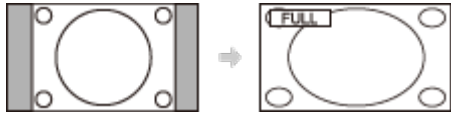
→ **All settings > Picture > Screen settings**

Screen mode

Adjust the screen mode when the picture has black bars (sides or top/bottom)

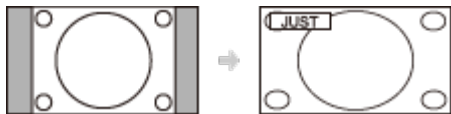
- Mainly for Standard Definition (480i, 480p)

Full



Enlarges the image horizontally to the screen's edges.

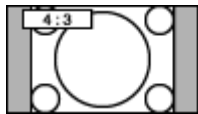
JUST



Justifies the image by stretching it to the four corners on the screen.

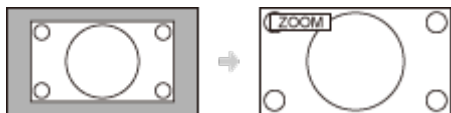
(Recommended for normal TV broadcast)

4:3



Displays the image as original size.

ZOOM



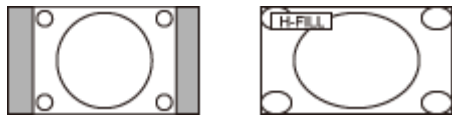
Enlarges the image to the entire screen.

(Recommended for Letterboxed content)

■ Side cut mode for High Definition (1080p, 1080i, 720p)

If the High definition image has the bars on the both side of the screen, side cut it to enlarge the image to 16:9.

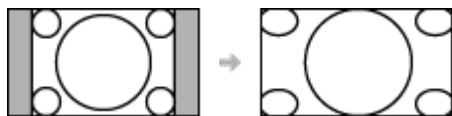
H-FILL



Enlarges the image horizontally to the screen's side edges.

The side edges of the image are cut off.

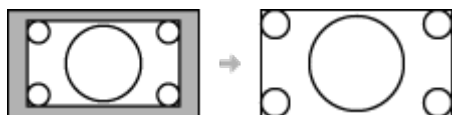
SIDECUT JUST



Justifies the image by stretching it to the four corners on the screen.

The aspect ratio remains the same around the center and enlarges the left and right side of the image.

SIDECUT ZOOM



Enlarges the image to the entire screen.

The side edges of the image are cut off.

Zoom adjustments

If there is a problem with the image position on the screen, 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. Adjust the **V-position** or **V-size**.

V-position:

Vertical position adjustment

Adjust using Δ / ∇ to desired position.



V-size:

Vertical size adjustment

Adjust using \triangleleft / \triangleright to desired size.



- Press **OK** to reset

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 Δ / ∇ and press 

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

Select the menu using Δ / ∇ and press 

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

3. Select **Copy start to copy**

Select the menu using Δ / ∇ and press 

4. Select **Yes** to set

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

For best audio

Sound mode

Selects your favorite sound mode.

- The selected mode affects all input signals.

 **MENU** → **Menu** > **Sound** > **Sound mode**

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.
- Adjust the Sound mode in more detail.

 → **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 an NTSC 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.

Viewing 3D images

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.

Viewing 3D

1. Put on the 3D Eyewear

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](#).

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

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)

  (Red) → **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.

Adjust 3D images

1. Select **3D settings**

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

2. Select the item and set

Select desired menu using \triangle / ∇ and adjust the settings with \triangle / ∇

- 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.

- For 3D settings

 → **All settings** > **Picture** > **3D settings**

Network 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 access 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.

- Wired LAN connection

Recommended for viewing high quality video at high bit-rates and to avoid interference with 2.4 GHz devices.

- Wireless LAN connection

Use when your network router is not close enough to the TV or when a wired connection is not feasible.

3. Connecting to the network

There are some connection type.

See next section, **Network connection types**.

Network connection types

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 service 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 (crossover cable)
- 3** Modem

- To use and operate only DLNA features, a Broadband network service is not needed.

You can simply connect the TV directly to the equipment with a LAN crossover cable.

Network settings

Setting the menu

This menu is used for connecting to a Broadband service.

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/my Home Cloud settings/VIERA network name/TV Remote App settings/Network link/File sharing settings/Software update/New software notice**)

Network connection/Network status

1. Select **Network connection** using \triangle / ∇ and press **OK**

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.

my Home Cloud settings

1. Select **my Home Cloud settings** using Δ / ∇ and press **OK**.
2. Select desired menu.

(Notices)

- To use this function fully, you need a broadband network environment. Ensure the network connections and network settings are completed.

VIERA network name

Set your favorite name for this TV.

1. Select **VIERA network name** using \triangle / ∇ and press **OK**
2. Enter favorite name with screen keyboard

TV remote App settings

1. Select **TV Remote App settings** using Δ / ∇ and press **OK**
2. Select the item and set

■ TV remote (App)

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

- Set to **On** to enable the settings below.
 1. Select **TV Remote** using Δ / ∇ and press **OK**
 2. Switch **On** or **Off** with Δ / ∇

■ Device to upload contents

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


1. Select **Device to upload contents** using Δ / ∇ and press **OK**
2. Select device and press **OK**

Network link

Setting for DLNA server.


■ DLNA server

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

- Set to **On** to enable the settings below.
 1. Select **DLNA server** using Δ / ∇ and press 
 2. Switch **On** or **Off** with Δ / ∇

■ Registration type

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

1. Select **Registration type** using Δ / ∇ and press 
2. Switch **Auto** or **Manual** with Δ / ∇

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 Δ / ∇ and press 
2. Select the desired device with Δ / ∇ and set access limitation.

File sharing settings

■ Network device list

You can select and play movies, photos and music files on Network Devices with Media player.

1. Select [File sharing settings](#)

2. Select [Network device list](#)

Display connected network devices.

3. Select desired network device and press .

4. Registration screen is displayed.

Enter the necessary information to register.


- For registered network device, enter User ID and Password.

5. Press  to register

- Performance is not guaranteed on all servers. Tested for compatibility on PCs with Windows 7 / Windows 8 / Windows 8.1 (as of December, 2013). Additional information for the devices may be found on the following website. (English only)

<http://panasonic.net/viera/support>

Software update

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

  \rightarrow **Software update**

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

New software notice

Select On/Off to display new software update information when TV is turned on.

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

How to use

Operate

Now, you can access and enjoy Network services in various scenes.

- USB keyboard is available. Set **Keyboard type** in **Setup** menu.

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

- 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.

 → **Network services > Connect to network**

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 December, 2013). 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.

- For data information

 → **Support / FAQ > Information > Data information**

Photos

Viewing Photos

1. Display Apps (application) list

 **APPS** → APPS list

2. Display DLNA server

Select **DLNA server** using Δ / ∇ / \triangleleft / \triangleright and press 



3. Select server (Available DLNA servers are displayed)

Select desired server using Δ / ∇ from DLNA server list and press 

4. Select photo (Thumbnails and contents are displayed)

Select desired content using Δ / ∇ 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.

Photo view

■ Thumbnail view



Display [Slideshow settings](#)



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

- Information differs depending on selected data.

■ Playback screen



Display/hide Guide and Banner

Photo status:

Displays current photo status (Slideshow/Single view)

2D/3D status:

Displays current 2D/3D status

Navigation Guide:

Displays available functions.

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

Options menu


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

1. Display **Options menu**

(Options menu is also available in **Menu**.)

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using Δ / ∇ and press 

(**Slideshow settings**)

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

Using slideshow

1. Display **Slideshow settings**

  → **Slideshow settings**

2. Adjust items

Select the item by Δ / ∇ and adjust the settings using Δ / ∇

- 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 Δ / ∇ and press



 **RETURN** → Stop in mid-cycle

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

(Long/Normal/Short)

Sets the time each image is displayed in the Slideshow mode.

Repeat playback

(On/Off)

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.

Videos

Viewing Videos

1. Display Apps list

 **APPS** → APPS list

2. Display DLNA server

Select **DLNA server** using Δ / ∇ / \triangleleft / \triangleright and press 

3. Select server (Available DLNA servers are displayed)

Select desired server using Δ / ∇ from DLNA server list and press 

4. Select video (Thumbnails and contents are displayed)

Select desired content using Δ / ∇ 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.

Video view

■ Thumbnail view



INFO



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

- Information differs depending on selected data.

■ Playback screen



INFO



Display/hide Guide and Banner

Movie banner:

Displays current Video status

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

2D/3D status:

Displays current 2D/3D status

Navigation Guide:


Displays available functions.

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

Forward/Reverse:

Five levels of speed 1 to 5 are available.

Slow playback is also available.

- Press and hold  for 5 seconds to turn to slow playback mode.

- | |
|--|
| <ul style="list-style-type: none">• In DMR mode, Resume playback is not available• Subtitles are not supported in MKV format. |
|--|

Options menu


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

1. Display **Options menu**

(Options menu is also available in **Menu**.)

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using Δ / ∇ 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.

Music

Playing Music

1. Display Apps list

 **APPS** → APPS list

2. Display DLNA server

Select **DLNA server** using \triangle / ∇ / \triangleleft / \triangleright and 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.

Music view

■ Thumbnail view

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

■ Playback screen

-  **INFO** → Display/hide Guide and Banner

Music Guide:

Displays current Music status

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

Navigation Guide:

Displays 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.

Options menu


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

1. Display **Options menu**

(Options menu is also available in **Menu**.)

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using Δ / ∇ 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

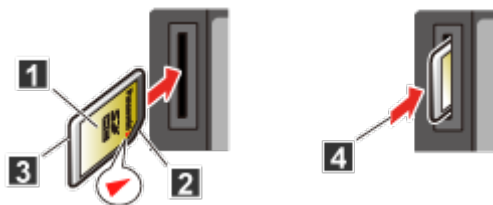
Get started

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.



1 Label surface

2 Cutout

3 Push until a click is heard

4 Press in lightly on SD Card, 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 adaptor.

■ 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 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.

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.)
- 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)



1 2.1 mm

2 32 mm

3 24 mm

File sharing

■ Viewing from Network device

You can select and play movies, photos and music files on Network Devices as SD card or USB Devices connected to the TV with Media player.

- For more information about settings, refer to the page below.

 → **Network services > Network settings > File sharing settings**

Notice

- The picture may not appear correctly on this TV depending on the recording equipment used.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- Partly degraded files might be displayed at a reduced resolution.
- The folder and file names may be different depending on the digital camera used.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.

Photos


Viewing Photos

1. **Insert Media / Prepare Network devices to share the files**
2. **Display Media player**

 **SD/USB** → **Media player**


You can also access from Apps list.

3. **Select the device in **Drive select** (Displays connected drive)**

Select the drive using ◀ / ▶ and press .

- The network device already connected to the TV is also displayed.

 : Enter User ID / Password to access.

 : User ID / Password are already entered.

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

Select the media using ◀ / ▶ and press .

5. **Select the photo in thumbnail view**

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

- 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.

- For File sharing/How to register the network devices, refer to the page below.

 → **Network services > Network settings > File sharing settings**

Photo View

■ Thumbnail view



→ Display **Slideshow settings**



→ Display **Sort**



→ Display **Drive select**



→ Display **Media select**



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



- Information differs depending on selected data.

- Displays function guide for each color button on the bottom of the screen.

■ Playback screen



INFO → Display/hide Guide and Banner

Photo status:

Displays current photo status (Slideshow/Single view)

2D/3D status:

Displays current 2D/3D status

Navigation Guide:

Displays available functions.

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 \triangle / ∇ 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

Options menu


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

1. Display **Options menu**

(Options menu is also available in **Menu**.)

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using Δ / ∇ and press 

(**Slideshow settings/Multi shot 3D/Thumbnails size**)



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

Multi shot 3D

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

1. Select first photo and press  (Red)

2. Select second photo and press  (Red)

- 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)

Thumbnails size

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

Using slideshow

1. Display **Slideshow settings**

  → **Slideshow settings**

2. Adjust items

Select the item by Δ / ∇ and adjust the settings using Δ / ∇

- 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 Δ / ∇ and press



 **RETURN** → Stop in mid-cycle

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

(On/Off)

Continuously plays photos that were shot.

Display interval

(Long/Normal/Short)

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

Repeat playback

(On/Off)

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.

Soundtrack settings

You can register the favorite songs as soundtracks

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

This song:

Register current music

All songs in folder:

Register the music in a folder

- | |
|---|
| <ul style="list-style-type: none">• Picture setting may not work depending on the slideshow settings. |
|---|

Videos

Viewing Videos

1. **Insert Media / Prepare Network devices to share the files**
2. **Display Media player**

 **SD/USB** → **Media player**

You can also access from Apps list.

3. **Select the device in **Drive select** (Displays connected drive)**


Select the drive using ◀ / ▶ and press 

- The network device already connected to the TV is also displayed.

 : Enter User ID / Password to access.

 : User ID / Password are already entered.

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

Select the media using ◀ / ▶ and press 

5. **Select the video in thumbnail view**

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

- 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.
- For File sharing/How to register the network devices refer to the page below.

 → **Network services > Network settings > File sharing settings**

Video view

■ Thumbnail view



Play the video



Display **Drive select**

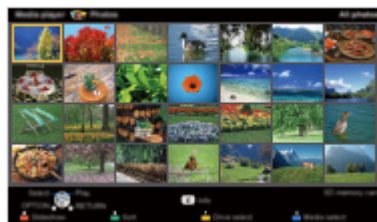


Display **Media select**



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

- Information differs depending on selected data.



- Displays function guide for each color button on the bottom of the screen.

■ Playback screen



Display/hide Guide and Banner

Movie banner:

Displays current Video status

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

2D/3D status:

Displays current 2D/3D status

Navigation Guide:

Displays available functions.

Forward/Reverse:

Five levels of speed 1 to 5 are available.

- | |
|--|
| <ul style="list-style-type: none">• Subtitles are not supported in MKV format. |
|--|

Options menu


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

1. Display **Options menu**

(Options menu is also available in **Menu**.)

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using Δ / ∇ 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.

Music


Playing Music

1. **Insert Media / Prepare Network devices to share the files**
2. **Display Media player**

 **SD/USB** → **Media player**


You can also access from Apps list.

3. **Select the device in **Drive select** (Displays connected drive)**


Select the drive using ◀ / ▶ and press .

- The network device already connected to the TV is also displayed.

 : Enter User ID / Password to access.

 : User ID / Password are already entered.

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

Select the media using ◀ / ▶ and press .

5. **Select the music in thumbnail view**

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

- 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.

- For File sharing/How to register the network devices refer to the page below.

 → **Network services > Network settings > File sharing settings**

Music view

■ Thumbnail view



Play folder



Display **Drive select**

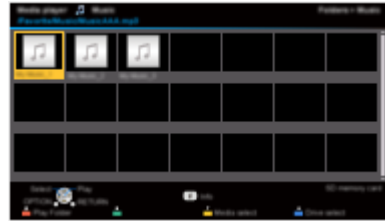


Display **Media select**



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

- Information differs depending on selected data.



- Displays function guide for each color button on the bottom of the screen.

■ Playback screen



Display/hide Guide

Music Guide:

Displays current Music status

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

Navigation Guide:

Displays available functions.

Forward/Reverse:

Five levels of speed 1 to 5 are available.

Options menu


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

1. Display **Options menu**

(Options menu is also available in **Menu**.)

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using Δ / ∇ 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.

Convenience features

Eco navigation

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.

Timer

Setting the menu

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

1. Display the menu

 **MENU** → **Menu**

2. Select **Timer**

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 / ∇

- Set On/Off timer.

 → **All settings > Timer > Timer (On/Off timer)**

- Set Sleep timer.

 → **All settings > Timer > Sleep (Off timer)**

Parental control

Setting the menu

Locks specified channels or shows to prevent children from watching inappropriate 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 / ∇

- 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.

- For Parental control settings

 → **All settings** > **Setup** > **Parental control**

Password setting

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



(Input your 4-digit password)

- 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.

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)

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.

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

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.)

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.

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

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

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

Closed Caption

Setting the 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



2. Select **Setup** from menu bar

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

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

Select the menu using Δ / ∇ and press 

4. Select the item and adjust

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

- Some functions will be disabled depending on the type of input signal.

Reset to defaults will be grayed out if no changes are made.

- For Closed Caption settings

 \rightarrow **All settings > Setup > Closed Caption**

- For Smart TV Internet content CC settings (U.S. only)

“IPTV-CC settings” App is available on the Apps list.

- Some Internet services have their own separate CC settings.

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.

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>

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.

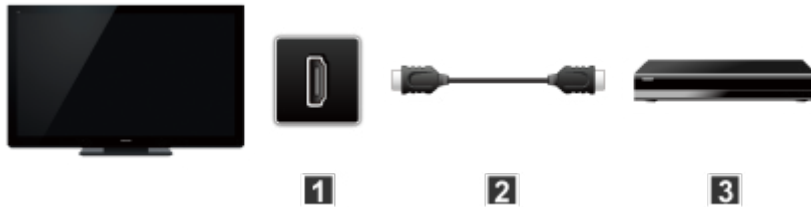
If connection (or setting) of equipment compatible with HDAVI control is changed, switch the power of this unit Off and On again while the power of all equipment is On (so that the unit can correctly recognize the connected equipment) and check that the connected equipment playback operates.

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

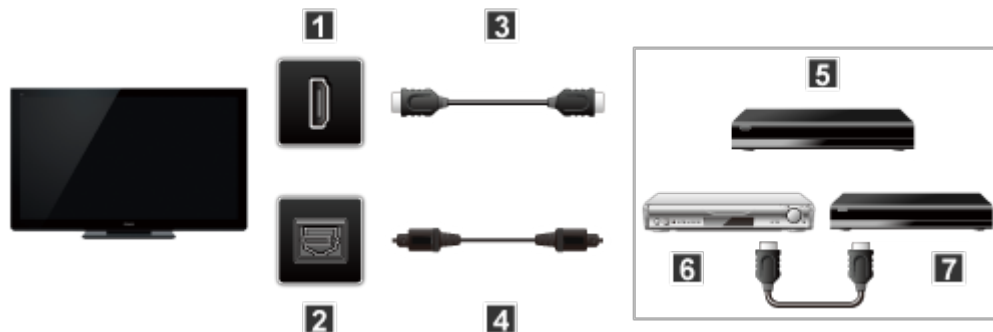
HDMI and Audio connection.

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.

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 Δ / ∇ from menu bar and press  then select **VIERA Link settings** with Δ / ∇ and press  again.

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

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

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

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

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.

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.

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 Δ / ∇
2. Select **Home theater** or **TV** with Δ / ∇

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 Δ / ∇
2. Select the desired equipment with Δ / ∇

(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.

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


User profile

Setting the menu

This setting allows you to enjoy the recommended contents, your favorite Home Screen, etc. Also you can enjoy cloud services.

1. Select **User settings** from **Setup**.

 **MENU** → **Menu** > **Setup** > **User settings**

Select the menu using \triangle / ∇ and press .

2. Select a user or **Create new user**.

Select the item using \triangleleft / \triangleright and press .


3. Follow the on-screen instructions to set the each item.

(**Your icon/Your name/Your voice/Your face/Main Home Screen/my Home Cloud account**)

■ Delete user profile

1. Select **User settings** from **Setup**.

 **MENU** → **Menu** > **Setup** > **User settings**

Select the menu using \triangle / ∇ and press .

2. Select a user, then select **Remove this user**.

Select the item using \triangleleft / \triangleright and press .

3. Select **Yes** on the confirmation screen and press .

- You need a broadband network environment to use this function fully.

- For User settings

 → **All settings** > **Setup** > **User settings**

my Stream

Automatically provides the recommended contents (TV program, Internet content, etc.).

1. Display Apps list.

 **APPS** → **APPS list**

2. Select **my Stream**.

Select **my Stream** with  /  /  /  and press .

3. Follow the on-screen instructions.

- Register a content as your favorite.

 → **Convenience features > Using Touch Pad Controller > My button**

■ Face recognition/Voice Print Recognition

By using the communication camera and voice control function, this TV recognizes your face/voice and provides the recommended contents.

- Say “my Stream” into the microphone of the Touch Pad Controller to use this function.
- To use this function, you need to set up a user profile and register face/voice data, etc.

 → **All settings > Setup > User settings**

- For details of voice control function

 → **Convenience features > Using Voice control**

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

- | |
|--|
| <ul style="list-style-type: none">• You need a broadband network environment to use this function fully. |
|--|


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 Δ / ∇ and press 

Then, switch to **On** using Δ / ∇ and press 

2. Set other items

Select the desired menu using Δ / ∇ and press 

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

(**Voice guidance/Speed/Volume/Language/User level/Web Browser**)

- For Voice guidance settings

 → **All settings** > **Sound** > **Voice guidance settings**

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.

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.)

- For Voice control settings

 → **All settings** > **Setup** > **Voice control settings**

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 onscreen 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 inches (15 cm) of the integrated microphone of Touch Pad Controller when using voice control function.
- Voice control function is subject to change without notice.

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.
- About voice control:
It is recommended to speak within about 6 inches (15 cm) from microphone of Touch Pad Controller when using Voice control function.
- Transmission Range:
Use the Touch Pad Controller within the range of 10.5 ft (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.

■ Pairing Touch Pad Controller

- 1 Insert the batteries in the Touch Pad Controller.**
- 2 Hold the Touch Pad Controller within 1.6 ft. (50 cm) of the TV.**
- 3 Operate touch pad or press any button other than Power button to start pairing.**
- 4 Please complete the pairing by checking the status in the pairing guide on the screen.**

My button

■ Using My button

By pressing ★ (My button) on the Touch Pad controller, the contents are registered as your favorite (if available). These information will be gathered, then used for **my Stream** application.

- **my Stream**

 → **Convenience features > User profile > my Stream**

Setting the menu

1. Select **VIERA Touch Pad settings** from **Setup**.


 **MENU** → **Menu > Setup > VIERA Touch Pad settings**

2. Select item and set.

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

(**Pairing/Cursor settings/Operational Guide**)

- For Touch Pad settings

 → **All settings > Setup > VIERA Touch Pad settings**

Using Bluetooth devices

Settings

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

- Up to 5 devices can be used simultaneously (except the Touch Pad Controller).
 - Only one audio device can be connected simultaneously.
- *1: HID (Human Interface Device Profile) compliant keyboards and mouse 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/Mouse 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.
- For more information about connected device, please refer to the manual of the equipment.

- For more details about Bluetooth settings

 → **All settings** > **Setup** > **Bluetooth settings**

Control by Smartphone, etc.

Smartphone remote

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

1. Select **Network**

 **MENU** → **Menu** > **Network**

2. Select **TV Remote** in **TV Remote App settings**

Select desired menu using Δ / ∇

3. Set the item

Switch to **On** using Δ / ∇

- This function is subject to change without notice.
For more details please visit the site below:
<http://panasonic.net/viera/support> (English only)

Using USB Keyboard

Keyboard

Keyboards requiring the drivers are 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
↑ / ↓ / ← / →	△ / ▽ / ◀ / ▶
Enter	OK
Back Space	RETURN
ESC	EXIT
0 - 9	Numeric buttons
F1	HOME
F2	APPS
F3	MENU
F4	INPUT
F5 / F6	Channel down/Channel up
F7 / F8	Volume down/Volume up
F9 / F10 / F11 / F12	Colored buttons

All settings

How to use

Setting the 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. **Zoom adjustments** 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 Δ / ∇ from menu bar and press 

3. Select the item and adjust

Select desired item using Δ / ∇

- You can also access to desired menu using \triangleleft / \triangleright
 - Adjust the item: Using \triangleleft / \triangleright
 - Set/change the item: Using Δ / ∇

- | |
|---|
| <ul style="list-style-type: none">• Displays the functions that can be adjusted.• Some functions will be disabled depending on the type of input signal. |
|---|

Picture

Basic settings

Adjust the image or picture quality.

 **MENU** → **Menu** > **Picture**

Picture mode

(Vivid/Standard/Home theater/Cinema/Custom)

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

Back light

Adjusts backlight's luminance (light intensity).

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
-

Color temp.

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

Vivid color

(On/Off)

Enhances green and blue color reproduction, especially outdoor scenes.

Adaptive backlight control

Adjusts backlight level to make dark areas of the picture appear more natural. If the picture appear unnatural, try setting to **Off**.

C.A.T.S.

(On/Off)

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.

Motion picture setting

(Strong/Mid/Weak/Off)

Improves motion picture quality by reducing motion blur.

- Gray-out in Game mode, Skype (full screen) or photo contents of Media Player/Network services.

Pro settings

Adjust the picture mode in more detail.

Set **Picture mode** to **Custom/Cinema** first.

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

Contrast A.I.

(**Custom/Auto/Off**)

Automatically controls contrast according to the images. **Auto** is Panasonic setting.

Contrast A.I. setting

Adjust the detail of contrast control setting. If **Contrast A.I.** is set to **Custom**, this menu is enabled.

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.

Cool white effect

(**0-15**)

Adjusts the white temperature point toward cool.

Reset to defaults

Reset **Contrast A.I. setting** to factory defaults settings.

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

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

Reset to defaults

Resets **W/B detail adjustment** 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

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

Reset to defaults

Resets **Color detail adjustment** to factory defaults settings.

Gamma detail adjustment**Gamma**

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

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

Reset to defaults

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

Reset to defaults

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

Advanced picture

 **MENU** ➔ **Menu** > **Picture** > **Advanced picture**

Game mode

(On/Off)

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

- Not available in TV mode.
-

3:2 pulldown

(On/Off/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

(On/Off)

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 during 3D mode.
-

HDMI content type

(Off/Auto/Photos/Graphics)

Based on an HDMI content type, picture is adjusted for optimum playback automatically. **Photos/Graphics** can be selected manually. **Cinema/Game** can be selected 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 setting

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

(On/Off)

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

Screen settings

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

Screen format

SD signal:

Full → JUST → 4:3 → ZOOM

HD signal:

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

(On/Off)

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

(On/Off)

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.

3D settings

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

Auto detect 3D

(Auto 1/Auto 2/Off)

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

(On/Off)

On:

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

2D→3D depth

(High/Mid/Low)

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

3D adjustment

(On/Off)

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

Displays safety notice about 3D viewing.

Please read securely.

Other 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.

Sound

Basic settings

Adjust audio quality.

 **MENU** → **Menu** > **Sound**

Sound mode

(**Standard/Music/Ambience/User**)

Select 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 defaults)

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.

Advanced settings

 **MENU** → [Menu](#) > [Sound](#)

Surround

(Virtual surround/Off)

Enhances audio L/R response when listening to stereo.

Ideal for music and action movies.

- Gray-out when using Home Theater.
-

Bass boost

(On/Off)

Enhances bass sound and provides powerful sound.

- Gray-out when using Home Theater.
-

TV speakers

(On/Off)

Enables the TV's built-in speakers.

Switch to **Off** when using external speakers.

A.I. sound

(On/Off)

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))

Setting for wall mounted TV.

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 its 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.

* : indicate number of terminal

Reset to defaults

Resets all Audio adjustments to factory default settings.

- Gray-out when using Home Theater.

Voice guidance settings

Settings for using voice guidance.

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

Voice guidance

(On/Off)

On:

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

Speed

(Fast/Normal/Slow)

Adjust the readout speed of the voice guidance.

Volume

(High/Mid/Low)

Selects the volume for voice guidance.

Language

(English/Español/Français)

Selects the language for voice guidance.

User level

(Beginner/Expert)

Selects the level of complexity for voice guidance.

Web Browser

(On/Off)

Enables voice guidance on web page.

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.
-

my Home Cloud settings

Notices

Displays the terms of service.

VIERA network name

Set your favorite name for this TV.

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.).

- Set to **On** to enable the settings below.

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

- Set to **On** to enable the settings below.

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.

File sharing settings

Network device list

You can select and play movies, photos and music files on Network Devices as SD card or USB Devices connected to the TV with Media player.

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

(On/Off)

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.

Timer

Sleep (Off timer)

 **MENU** → [Menu](#) > [Timer](#) > [Sleep](#)

Sleep (minutes)

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

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

Timer (On/Off timer)

 **MENU** → [Menu](#) > [Timer](#) > [Timer](#)

Timer set

(On/Off)

Enables or disables the Timer.

Inputs

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

Channel

Sets the channel to display when the TV turns on.

Day

Sets the day when the TV turns on.

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.

Clock settings

 **MENU** ➔ [Menu](#) > [Timer](#) > [Clock](#)

Mode

(Auto/Manual)

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

Date, Time

(Year/Month/Day/Hour/Minute)

Set current date or time.

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.

Auto turn off settings

 **MENU** → **Menu** > **Timer**

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 onscreen 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 onscreen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

Setup

Eco navigation

 **MENU** → [Menu](#) > [Setup](#) > [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.

Voice control settings

Settings for using voice control function.

 **MENU** → [Menu](#) > [Setup](#) > [Voice control settings](#)

Language

(English/Español/Français)

Selects the language for voice control.

Speech detection level

(High/Standard)

Sets sensitivity level for voice control.

Terms of service

Displays the terms of service of voice control.

User settings

This setting allows you to create, edit or delete user profile individually.

User selection

Selects your ID and edit the items.

Create new user

Displays registration screen.

Follow the on-screen instructions to set these information for new user.

Your icon

Sets your favorite user icon.

Your name

Sets the name of the user.

Your voice

Registers the voice data for voice recognition.

Your face

Registers the face data for face recognition.

Main Home Screen

Sets your Home Screen which is displayed by voice control.

- To use this setting, you need to register your voice or face.

my Home Cloud account

Sets up an account for the cloud services.

USB device setup

 **MENU** ➔ **Menu** > **Setup** > **USB device setup**

Remove USB device safely to prevent the damage of data or device.

VIERA Touch Pad settings

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

 **MENU** ➔ **Menu** > **Setup** > **VIERA Touch Pad settings**

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.

Bluetooth settings

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

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

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.

Parental control

 **MENU** → **Menu** > **Setup** > **Parental control**

Change password

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

(**Convenience features** > **Parental control** > **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.

DRRT

This television is designed to support the “Downloadable U.S. Region Rating System” when available. (Currently available only in U.S.A.)

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/Digital only/Analog only)

- Select scan type and press  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  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.

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.)

Display customization

 **MENU** → **Menu** > **Setup** > **Display customization**

OSD color

(**Jet black/Pale gray/Organic brown/Sand beige**)

Selects your favorite on-screen display color.

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 Banner (On/Off)

Sets the banner display status.

Closed Caption

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

Mode

(CC on mute/On/Off)

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/Service 4/Service 5/Service 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.

VIERA Link settings

 **MENU** → **Menu** > **Setup** > **VIERA Link settings**

VIERA Link

(On/Off)

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

(Save/Quick start)

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)

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.

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.

Support / FAQ

Help menu

Using Help menu

The TV's built-in self-help resources.

1. Display the menu

 **MENU** → **Menu**

2. Select **Help** from menu bar

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

3. Select the Help menu

Select desired menu using Δ / ∇ 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.

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.

 **INPUT** → [Input select](#)

- 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.

 **INFO** → Information banner

- 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.

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 displays correctly, then the problem is with the external device (ex. Cable box, DVD player, etc.) or its connection to the TV.

 **MENU** → **Menu** > **Help** > **TV Self-test**

- 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.

 **INPUT** → **Input select**

- 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**.

 **MENU** → **Menu** > **Setup** > **ANTENNA/Cable setup** > **Signal meter**

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.

Picture - Continue

Why is there a black box on the screen?

- Check the 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.

 **MENU** → **Menu** > **Picture** > **C.A.T.S.**

Why does the screen turn off?

- Check if the TV is in energy saving mode.

 → **Convenience features** > **Eco navigation** > **Eco navigation**

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.

 **MENU** → **Menu** > **Sound** > **HDMI input**

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.

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** allows you to find and install the applications to Apps list.

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 displayed. 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.

 **MENU** → **Menu** > **Network** > **Software update**

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.

 **MENU** → **Menu** > **Network** > **New software notice**

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**.

In the **3D format select** (Manual) menu, select 3D format.

 **3D** → **3D format select**

  (Red) → **3D format select** (Manual)

- 3D Blu-ray discs must be played with a 3D capable Blu-ray player.
- Check with your Cable or Satellite provider to make sure their supplied box is 3D capable.
- 3D signal must be connected to the TV via an HDMI cable.

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** (Manual) 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.

 **3D** → **3D format select**

  (Red) → **3D format select** (Manual)

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**.

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

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 the page below.

 → **Convenience features > Using Voice guidance**

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 the page below.

 → **Convenience features > Using Voice control**

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.

 **MENU** → **Menu** > **Setup** > **VIERA Touch Pad settings**

Eco navigation

Why does my picture look dim and/or sometimes changes brightness levels?

- This TV is equipped with a money saving feature called Eco Navigation. 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 the page below.

 → **Convenience features > Eco navigation > Eco navigation**

Other

What is the easiest and best way to connect a High-Definition Cable or Satellite box to the TV?

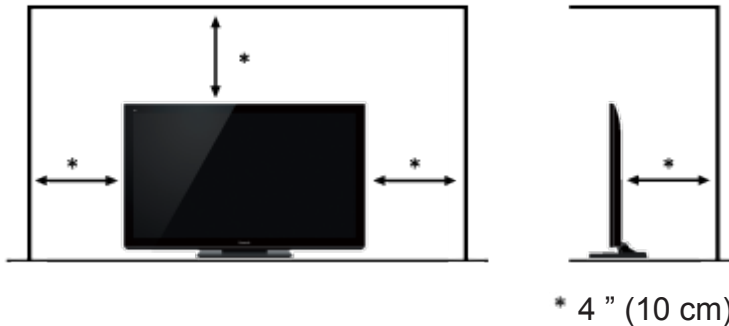
- Use an HDMI cable. It carries both digital video and audio signal in HD. HDMI cable is the only cable needed to connect an HD device to the TV.

Why does the **CC** button not display Closed Caption?

- Check if the setting is turned **On** or **CC on mute**.
- 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 for supported TV programming and supported contents via Video (Composite) input.

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.




Where is the power source and power consumption?

- For information about the power source and power consumption, refer to the nameplate on the rear enclosure.

Menu - Gray-out or missing items

Why the **Antenna/Cable** option or available inputs 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  (Red) **Edit Labels**
 - Select the input you want to reveal 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.

Reset to factory default

How do I reset my TV to all factory defaults and settings?

- In the main menu, select **Setup** and then select **System**. Highlight **Factory defaults** and press **OK**.

Enter your password (if locked).

Confirmation message will be displayed.

Follow the directions on screen to reset the TV to its original factory defaults.

 **MENU** → **Menu** > **Setup** > **System** > **Factory defaults**

Information

Data information

■ Supported 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: AAC/Dolby Digital/Dolby Digital Plus/HE-AAC/MPEG Audio/MP3• MKV files Video codec: H.264/MPEG1/MPEG2 Audio codec: AAC/Dolby Digital/Dolby Digital Plus/DTS core/HE-AAC/MPEG Audio/MP3/Vorbis• FLV files Video codec: H.264 Audio codec: AAC/MP3• 3GPP files Video codec: H.264 Audio codec: AAC/HE-AAC
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	<ul style="list-style-type: none"> • PS files Video codec: H.264 */MPEG1/MPEG2 Audio codec: AAC */Dolby Digital/Dolby Digital Plus */HE-AAC */LPCM/MPEG Audio/MP3 * • TS files Video codec: H.264/MPEG1/MPEG2 Audio codec: AAC/Dolby Digital/Dolby Digital Plus/DTS core */HE-AAC/MPEG Audio/MP3 *
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Music	<ul style="list-style-type: none"> • MP3 files (MP3) • M4A files (AAC/Apple Lossless) <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, TMLPlayer (.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.”

<ul style="list-style-type: none"> • Some files may not be played back even if they fulfill these conditions. • Do not use multi-byte characters or other special codes for file names. • Connected devices may become unusable with this TV if file or folder names are changed.
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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.

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.

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.)

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.
- Avoid storing the 3D Eyewear in hot or highly humid locations.

