Panasonic

GT50 series

eHELP

M0212-0

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Meaning of signs :

Press the Remote control button

INFO Letters in box : Remote control button

MENU Letters in Cyan : Menus on screen display

Watching TV

Cable / Satellite / Fiber with a box

Initial setting

1. Connecting

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

Tip: HDMI will provide the best HD picture

2. Change INPUT

INPUT

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

3. Power on your Cable , Satellite or Fiber box

   Use the box's remote control to change channels.

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

* CC/SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.
* If your box is a high definition, then check that it is outputting 720p or 1080i signal.
  Tip: press the TV's INFO button to verify.
* Check your box "aspect" or "format" settings. It should be set to 16:9, Widescreen or FULL.
* If the audio volume is too low, check the box's audio settings.
* Contact your Cable or Satellite provider for instructions on any box settings.

Watching TV

Antenna / Cable service without a box

Initial setting

---

1. Connect coax

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

2. Scan the channel

MENU → Setup > ANT/Cable setup > ANT in, Auto program

1. Select Programming source Cable or Antenna in Ant in.
2. Select Auto program and select scan mode (All channels / Analog only / Digital only).
3. Start scanning.

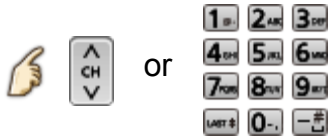
* If at the end of the scanning no channels are found, then check:
Antenna's position - or Availability of Cable service.
Cable, Satellite or Fiber services with a box are typically connected to the TV's A/V inputs, preferably HDMI, for best HD picture. In such a case, the channel scanning is not needed (set ANT IN to Not used).

Watching TV

Antenna / Cable service without a box

Select channels

- Select desired channel



or

- CH buttons are also available on the TV.

- Select desired digital channel

To directly enter a digital channel number use -#

- When turning to a digital channel, press the button to enter the minor number in a compound channel number.
(e.g. CH15-1 → 1 5 -# 1)

* This TV has a "Channel transition effect" function that displays transition picture images when tuning the channels.
Set to Off to disable this function.
Menu > Setup > Advanced setup > Channel transition effect

This function is not available depending on the input signal.

Watching TV

Antenna / Cable service without a box

Favorite channels (Set)

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 △ / ▽ and OK or 1 2 3 4 5 6 7 8 9 0 directly to save the displayed channel.

- Delete a Favorite channel

  OPTION → Options menu > Set favorite

  Select the list number using △ / ▽ and OK (press and hold) to delete.

* To change the page in Set favorite

  FAVORITE or ◁ / ▷ repeatedly

Watching TV

Antenna / Cable service without a box

Favorite channels (Display)

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.

- To display a Favorite channel

  FAVORITE → Favorite channels

  Select the list number using △ / ▽ and OK or 1 2 3 4 5 6 7 8 9 0 directly to displayed on favorite screen.

* To change the page in Favorite channels

  FAVORITE or ◁ / ▷ repeatedly

Watching TV

Antenna / Cable service without a box

Closed caption

Viewing with Closed caption

CC

Switches the Closed caption mode.
(Closed caption Off / Closed caption On / Closed caption On mute)

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

Watching TV

Antenna / Cable service without a box

SAP

Listen with SAP (Secondary Audio Programming)

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

Select the Audio mode for watching TV.

SAP

Digital mode: Select available audio service when receiving a digital channel. Audio track is automatically selected as DTV language and SAP settings in Audio menu.

Menu > Audio > DTV language and SAP settings

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

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

(example)

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

Watching TV

Antenna / Cable service without a box

Other

---

1. Information banner

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

   INFO

   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.

   OPTION

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

   Set favorite: Set favorite channel
   Edit CH caption: Edit the channel identifier
   Signal meter: Check the antenna's signal strength

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

Watching TV

Blu-ray, DVD, Game Console, etc.

Connecting and viewing (1)

---

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.

Watching TV

Blu-ray, DVD, Game Console, etc.

Connecting and viewing (2)

---

2. Select Input

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

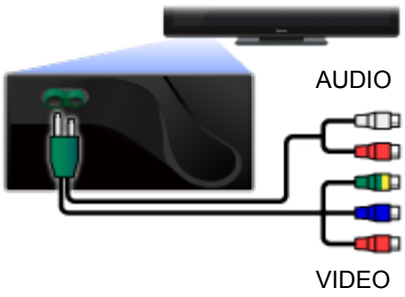
   INPUT

2. Select the input used in step 1

   Select correct input source, using △ / ▽ and press OK

   You can also press the corresponding NUMBER button or press INPUT repeatedly to cycle through the available inputs. If you are unsure which input to select, wait 2 seconds between each selection.

Component and Composite (Video) IN terminals are shared and must be connected using the supplied adapter.
NOTE: One red connector is for video and the other audio.



You need to select Video or Component. (Default: Video)

- Press INPUT and select Video <-> Comp.
- Press ◁ / ▷ to choose Video or Component.

- For your convenience, you can edit the inputs with labels that are easy to remember.

Edit Labels

Set ANT/Cable in

3. Operate using your device's remote control.

Watching TV

Blu-ray, DVD, Game Console, etc.

HDMI connection notice

HDMI (high-definition multimedia interface) allows you to enjoy high-definition digital images and high-quality sound by connecting the TV unit and HD devices.
HDMI-compatible equipment (*1) with an HDMI or DVI output terminal, such as a Cable or Satellite box or a DVD player, can be connected to the HDMI connector using an HDMI compliant (fully wired) cable.

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

(*1): The HDMI logo is displayed on an HDMI-compliant device.
(*2): Inquire at your local digital equipment retailer shop.

Watching TV

Blu-ray, DVD, Game Console, etc.

HDMI connection caution

Caution

- The HDMI terminals on this TV were not specifically designed for use with a PC.
- If the connected device has an aspect adjustment function, set the aspect ratio to "16:9".
- The HDMI connectors are "type A".
- The HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Devices with no digital output terminal may be connected to the input terminal of either "COMPONENT IN", or "VIDEO IN" to receive analog signals.
- The HDMI input terminal can be used only with the following video signals: 480i, 480p, 720p, 1080i and 1080p. Ensure that the device being connected to the TV can produce one of these video signals.

Watching TV

Blu-ray, DVD, Game Console, etc.

Input signal

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

■ Component and HDMI (* HDMI only)

Input signal	Horizontal frequency (kHz)	Vertical frequency (Hz)
525 (480) / 60i	15.73	59.94
525 (480) /60p	31.47	59.94
750 (720) /60p	45.00	59.94
1,125 (1,080) /60i	33.75	59.94
1,125 (1,080)/60p	67.43	59.94
1,125 (1,080)/60p	67.50	60.00
1,125 (1,080)/24p *	26.97	23.98
1,125 (1,080)/24p *	27.00	24.00

Watching TV

For best picture

Picture mode

1. Change picture mode to suite your settings and taste

   1. Select Picture mode

      MENU → Menu > Picture > Picture mode

      Select desired menu using △ / ▽ from menu bar and press OK

   2. Adjust using ◁ / ▷

   Tip: 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.
Cinema:	For watching movies in a darkened room. It provides a soft, film-like picture.
THX*:	Precisely reproduces the original quality of the image without any revision. Recommended for playback of THX disc (disc with "THX" logo). THX mode is used to mirror the picture settings used by professional filmmakers, faithfully reproducing the image quality of THX Certified movies. (THX Certified movies have the "THX" logo on a disc.) * 2D: THX Cinema/THX Bright Room, 3D: THX 3D Cinema
Game:	For playing video games.
Custom:	Customizes each item according to your taste. Photo is displayed in JPEG menu.

Watching TV

For best picture

Auto brightness (ECO)

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

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

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

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

Or

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

* Standard picture mode automatically sets C.A.T.S. to On.

Watching TV

For best picture

Aspect

1. Use FORMAT button to change the aspect ratio
   Use when the picture has bars (sides or top/bottom) and to zoom.

   FORMAT (to cycle through the aspect modes)

   480i, 480p: FULL/JUST/4:3/ ZOOM
   1080p, 1080i, 720p: FULL/H-FILL/JUST/4:3/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.

- FULL: Enlarges the 4:3 image horizontally to the screen's side edges. (Recommended for anamorphic picture)
- JUST: Stretches to justify the 4:3 image to the four corners of the screen. (Recommended for normal TV broadcast)
- H-FILL: Enlarges the 4:3 image horizontally to the screen's side edges. The side edges of the image are cut off.
- 4:3: Standard (Note that "Image retention" of the side bar may occur from displaying it for a long time.)
- ZOOM: Enlarges the 4:3 image to the entire screen. (Recommended for Letter Box)

Zoom adjustments

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

① Select Zoom adjustments in the Picture menu.

MENU → Picture > Aspect adjustments > Zoom adjustments

② V-position: Vertical position adjustment
Adjust using △ / ▽ to desired position.

③ V-size: Vertical size adjustment
Adjust using ◁ / ▷ to desired size.

* Press OK to reset

Watching TV

For best picture

Pro settings (1)

1. Adjust the picture mode in more detail
   Set Custom in Picture mode first.

   MENU → Menu > Picture > Pro settings

Settings	Options	Description
Reset to defaults		• Resets all Pro setting adjustments to factory default settings.
Color space	Wide/Normal	• Each color space is a matrix composed of red, green & blue colors. Select your preference
W/B high R, G, B	-50 - 0 - +50	• Adjusts the white balance for light red/green/blue areas.
W/B low R, G, B	-50 - 0 - +50	• Adjusts the white balance for dark red/green/blue areas.

MENU → Menu > Picture > Pro settings

Settings	Options	Description
Black extension	0-15	• Adjusts the dark shades of the image in gradation.
Gamma adjustment	S-curve/ 1.8/2.0/2.2/ 2.4/2.6	• Gamma correction. Adjusts the intermediate brightness of the image.
Panel brightness	Low/Mid/High	• Selects different levels of overall panel brightness.
Contour emphasis	Off/On	• Adjusts the contour emphasis of the image.
AGC	0-15 (default:7)	• Increases the brightness of dark signal automatically.
Save as default		• Save all "Picture" (when "Picture mode" is "Custom") and "Pro settings" adjustment.

Watching TV

For best audio

Basic adjustments

1. Change the basic audio settings

   1. Select desired audio menu

      MENU → Menu > Audio

      Select desired menu using △ / ▽ from menu bar and press OK

   2. Adjust

      Adjust using ◁ / ▷

Settings	Description
Reset to defaults	• Resets Bass, Treble, and Balance adjustments to factory default settings.
Bass	• Increases or decreases the bass response.
Treble	• Increases or decreases the treble response.
Balance	• Emphasizes the left / right speaker volume.

MENU → Menu > Audio > Advanced audio

Settings	Options	Description
A.I. sound	Off/On	• Equalizes overall volume levels across all channels and external inputs.
Surround	Off/On	• Enhances audio L/R response when listening to stereo. Ideal for music and action movies.
Volume leveler		• Minimizes volume disparity after switching to external inputs.
Distance to wall	Over 1ft(30cm)/ Up to 1ft(30cm)	• Over 1ft(30cm): TV is on a stand. Keeps current setup. • Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.
TV speakers	Off/On	• Enables the TV's built-in speakers. • Switches to "Off" when using external speakers. • "A.I. sound", "Surround", "Volume leveler", and "Distance to wall" do not work if "Off" is selected.
HDMI in	Digital/ Comp./Video	• 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.

Watching TV

3D

Notice

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

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

About 2D → 3D

* You can watch content in simulated 3D from photo and all video sources except the PC input.
* This function converts standard 2D images and displays them in 3D. For this reason, the 3D images appear slightly different from the originals. Please bear this in mind when using this function.
* Using this function for profit-making purposes, or publically showing images converted from 2D to 3D in places such as coffee shops or hotels etc. may infringe on the rights of the copyright holder protected under the Copyright Act.

Watching TV

3D

Viewing 3D

1. Using the 3D Eyewear
   ① Turn on the 3D Eyewear.
   ② Make sure that registration is finished completely.
   (Displays messages and information on the screen.)
   ③ 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.
3. After use
   ① Set the 3D Eyewear power switch to OFF.
   (The 3D Eyewear indicator lamp turns off, and the power turns off.)
   ② Store the eyewear in the case.

Watching TV

3D

Change 3D ⇔ 2D

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

3D → 3D format select

Switch 3D or 2D using △ / ▽ and press

■ Change 3D format (Manual mode)

1. Display 3D format select (Manual)

→ 3D format select (Manual)

2. Select 3D format

3D → Cycle through the 3D format

(Native/Frame sequential (3D)/Frame sequential (2D)/Side by side (3D)/Side by side (2D)/Top and bottom (3D)/Top and bottom (2D)/2D → 3D)

Watching TV

3D

Adjust 3D images

1. Select 3D settings

   MENU → Menu > Setup > 3D settings

2. Select the item and set

   Select desired menu using △ / ▽ and adjust the settings with ◁ / ▷

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

Watching TV

3D

3D settings (1)

MENU → Menu > Setup > 3D settings

Settings	Options	Description
Auto detect 3D	Off/Auto 1/ Auto 2	• Auto 1: Switches to 3D display when 3D indication is available (HDMI (3D), AVCHD file, etc.) • Auto 2: Same as Auto 1. Also detects 3D signal by identifying similar image in side-by-side or top-and-bottom 3D formats. Note: Choose 3D mode manually when auto detection is not available.
3D signal notification	Off/On	• On: Displays a message according to the signal received by the Auto detect 3D.
2D → 3D depth	Minimum/ Medium/ Maximum	• Adjusts 3D depth. Available only when 2D → 3D is selected in 3D format select. • Available only when 3D content is displayed.

3D settings (2)

MENU → Menu > Setup > 3D settings

Settings	Options	Description
3D adjustment	Off/On	• Changes 3D depth by adjusting left-right parallax. Set to On to adjust Effect (-3 to +3).
Left/Right swap	Normal/ Swapped	• Change this to Swapped when the phases are reversed (When there is an unusual sense of depth).
Diagonal line filter	Off/On	• On: Resolves discomfort caused by receiving a quincunx matrix signal.
Safety precautions		• Displays message for viewing 3D images.

Watching TV

Computer on TV

Display PC screen

1. Connect PC

   Connect the PC's video output to the PC terminal of this TV with PC cable.
   To listen to the PC sound, connect an audio cable between the computer and the TV.

2. Select Input and display

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

      INPUT

   2. Select the PC input
      Select PC input using △ / ▽ and press OK

   3. Display PC screen

PC adjustments (1)

MENU → Menu > Picture > PC adjustments

Settings	Options	Description
Reset to defaults		• Resets all PC adjustments to factory default settings.
Sync	H & V	• The H and V sync signals are input from the HD/VD connector.
	On green	• Uses a synchronized signal on the Video G signal, which is input from the G connector.
Dot clock		• Alleviates the problem if a picture appears to be vertically-striped, flickers partially or is blurred.
H-position		• Adjusts the horizontal position using left/right cursor button.
V-position		• Adjusts the vertical position using left/right cursor button.

MENU → Menu > Picture > PC adjustments

Settings	Options	Description
Clock phase		• Alleviates the problem if the whole picture appears to flicker or is blurred. First adjust the Dot Clock to get the best possible picture, then adjust the Clock phase so that a clear picture appears. • It may not be possible to display a clear picture due to poor input signals.
Input resolution		• Switches to wide display and selects the appropriate screen resolution. • VGA (640 x 480 pixels), WVGA (852 x 480 pixels), XGA (1,024 x 768 pixels), WXGA (1,280 x 768 pixels) • Options change depending on signals.
H-frequency V-frequency		• Displays the H (Horizontal)/V (Vertical) frequencies. Display range Horizontal: 15 - 110 kHz Vertical: 48 - 120 Hz

Watching TV

Computer on TV

Input signal

- Signals other than below may not be displayed properly.
- The signals are reformatted for optimal viewing on your display.
- Computer signals which can be input are those with a horizontal scanning frequency of 15 to 110 kHz and vertical scanning frequency of 48 to 120 Hz.

(However, the image will not be displayed properly if the signals exceed 1,200 lines.)

Input signal	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 x 480 @60	31.47	59.94
852 x 480 @60	31.44	59.89
800 x 600 @60	37.88	60.32
1,024 x 768 @60	48.36	60.00
1,280 x 768 @60	47.78	59.87
1,280 x 1,024 @60	63.98	60.02
1,366 x 768 @60	48.39	60.04

Internet services "VIERA Connect"

Connect to network

Network connections (1)

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1. Contact your Broadband service provider

   If you don't have Internet service from your local provider, please order a high-speed Internet service at no less than the connection speed below. If you already have this service, make sure that the connection speed exceeds the following:

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

2. Select wired or wireless connection

   If the Cable/DSL modem is close to the TV and you have only one TV set, you may choose a wired connection.
   If the Cable/DSL modem is far from the TV and/or you have more TVs in the house, you may want to use a wireless network.

3. Connecting to the Internet

A. Wireless connection

If you are using the network for connecting various pieces of equipment and want to connect the TV, you could also use a Wireless LAN and Access point to connect the TV to the Internet.

TV
(Built-in Wireless LAN)

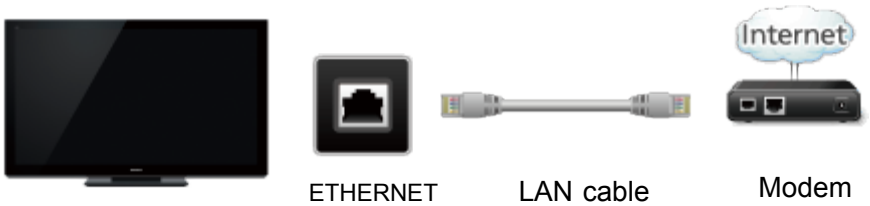
Access point

- Hub, Router
- Modem
- DLNA Certified media server (for example, PC, etc.)

* To use only DLNA features, you can operate the features without Broadband network environment.
You can just connect the TV directly to the equipment with a LAN cross cable.

B. 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 cable.

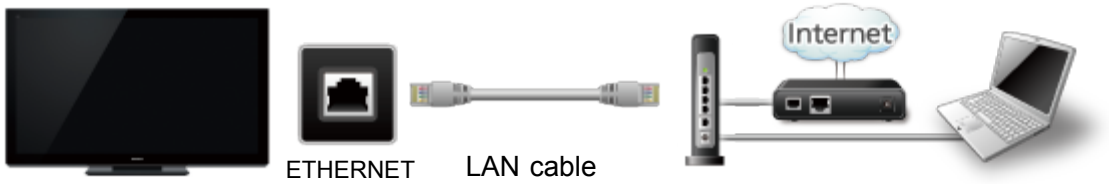


TV ETHERNET LAN cable Modem

Internet services "VIERA Connect"
Connect to network
Network connections (4)

C. Wired connection (Using Router)

If you are using the network for connecting various pieces of equipment and want to connect the TV, you should use a router to connect the TV to the Internet with LAN straight cable.



TV

ETHERNET

LAN cable

- Hub, Router
- Modem
- DLNA Certified media server (for example, PC, etc.)

* To use only DLNA features, you can operate the features without Broadband network environment.
You can just connect the TV directly to the equipment with a LAN cross cable.

Internet services "VIERA Connect"

Network settings

Setting menu

This menu is used for connecting to a Broadband environment.

1. Display the Menu and select Network

   MENU → Menu > Network

   Select Network using △ / ▽ from menu bar and press OK

2. Select the options and set

   (Connection test/Network connection/Wireless network settings/
   IP address/DNS settings/Network link/Software update/
   New software notice/Wake on LAN/Network status)

■ Connection test

Check that the all Network settings, and then start Connection test

① Select Connection test using △ / ▽ and press OK
(It takes a while to cancel the test.)

② Displayed Connection test screen

- Check mark appears at front of each check item's box when check has been finished successfully.

③ Complete Connection test

Success → Completion screen is displayed.

Error → Follow the directions on screen to complete the setting.

If you perform the Proxy settings, check the Proxy address and the Proxy port number.

Network connection

① Select Network connection using △ / ▽
② Select Network type (Ethernet cable/Wireless (WiFi)) with ◁ / ▷

Wireless network settings

① Select Wireless network settings with △ / ▽ and press OK

② Display Wireless networks and select access point.
Or select connection method (below) with color key and follow the directions on screen to complete the setting.

- **WPS (push button):**
  You can connect to the access point by pressing a connection button.
- **WPS (PIN):**
  Set the PIN code that is displayed on the TV on the access point.
- **Manual settings:**
  Manually set SSID, security type, and encryption type to match the settings of the access point to which to connect.
- **Search again:**
  Search again an available wireless network within the range.

* Wi-Fi Protected Setup is an easy setting of the Wi-Fi Alliance's certification.
* For more details on setting of an access point, please refer to operating manual for the access point.
* When connecting by 11n (5 GHz), select "AES" as the encryption type for the wireless LAN.

■ IP address/DNS settings

① Select IP address/DNS settings using △ / ▽ and press OK
② Displayed IP address/DNS settings
③ Select IP setting mode / DNS setting mode using △ / ▽ and select Automatic with ◁ / ▷
④ Each IP address is acquired automatically

If you are using a Broadband router, IP automatic acquisition in DHCP can be used under normal circumstances. If you are not sure, check with the person who installed the equipment, or check the instructions for each device.

● Manual setting

① On ③ above, Select IP setting mode / DNS setting mode using △ / ▽ and select Manual with ◁ / ▷
② Select the item
③ Check the specifications of the Broadband router and enter each IP address. Or Enter each IP address as specified by the provider.

■ Proxy settings

Set only if specified by the provider. It is not required for normal household use.

① Select IP address/DNS settings using △/▽ and press OK

② Select Proxy setting using △/▽ and press OK

③ Select the item and press OK

④ Enter address or port number and press OK

Proxy address

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

Proxy port

This number is specified by the provider together with the Proxy address.

Network link

① Select Network link using △ / ▽ and press OK
② Displayed Network link
③ Select the item and set

Edit the name of this TV

Sets your favorite name for this TV. This name will be displayed on the screen of the other Network compatible equipment.

① Select VIERA network name using △ / ▽ and press OK
② Enter name and press OK

Enabling DLNA remote control

Select DLNA remote control using △ / ▽ and switches Disable or Enable with ◁ / ▷

Volume setting in DMR operation

Select DLNA remote volume control using △ / ▽ and switches Disable or Enable with ◁ / ▷

- Available only when Enable is selected in DLNA remote control above.

- Enabling Network remote control

(network device such as a smartphone.)

Select Network remote control using △ / ▽ and switches Disable or Enable with ◁ / ▷

Software update

① Select Software update using △ / ▽ and press OK
② Press OK to start the Software update screen

→ Software update

③ Follow directions on the screen

- Make sure to set Clock before the update starts.

■ New software notice

Displays new software update information when TV is turned on.

① Select New software notice using △ / ▽

② Switches Off or On with ◁ / ▷

■ Wake on LAN

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

① Select Wake on LAN using △ / ▽

② Switches Off or ON with ◁ / ▷

■ Network status

Displayed Current settings and status screen.

① Select Network status using △ / ▽ and press OK

② Display Network status screen

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

Internet services "VIERA Connect"

How to use

Operate

1. Access to VIERA Connect

   INTERNET → VIERA Connect

(example)

2. Select and Enjoy Internet Service

   Select the desired item using △ / ▽ / ◁ / ▷ and press OK

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

* You need a Broadband environment to use this service.
* Please confirm Network connections and Network settings before use this function.
* Depending on the usage conditions, it may take a while to download all the data.
* Internet services available in VIERA Connect are subject to change without notice.
* Not all VIERA Connect contents are available depending on the country and area.
* 3D images are not displayed on center of the home screen depending on the signal.
* Video communication (e.g. Skype ™) requires an exclusive Communication Camera TY-CC20W.

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 menu settings before use this function.

This TV is a DLNA Certified ™ product.

DLNA (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, visit www.dlna.org. It allows you to share photos, videos and music stored in the DLNA Certified media server (for example, PC with Windows 7 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 or ensure the server software is installed on the PC. "Windows 7" is the server software that has been tested for compatibility with this TV (as of January, 2011). Any other server software have not been tested with this TV, therefore compatibility and performance cannot be assured.

- Windows 7

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

Home network "DLNA"

Connect to network

Network connections (1)

1. Contact your Broadband service provider

   If you don't have Internet service from your local provider, please order a high-speed Internet service at no less than the connection speed below. If you already have this service, make sure that the connection speed exceeds the following:

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

2. Select wired or wireless connection

   If the Cable/DSL modem is close to the TV and you have only one TV set, you may choose a wired connection.
   If the Cable/DSL modem is far from the TV and/or you have more TVs in the house, you may want to use a wireless network.

Home network "DLNA"
Connect to network
Network connections (2)

3. Connecting to the Internet

A. Wireless connection

If you are using the network for connecting various pieces of equipment and want to connect the TV, you could also use a Wireless LAN and Access point to connect the TV to the Internet.

TV
(Built-in Wireless LAN)

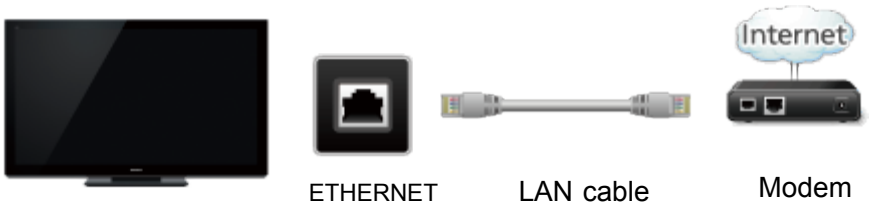
Access point

- Hub, Router
- Modem
- DLNA Certified media server (for example, PC, etc.)

* To use only DLNA features, you can operate the features without Broadband network environment.
You can just connect the TV directly to the equipment with a LAN cross cable.

B. 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 cable.

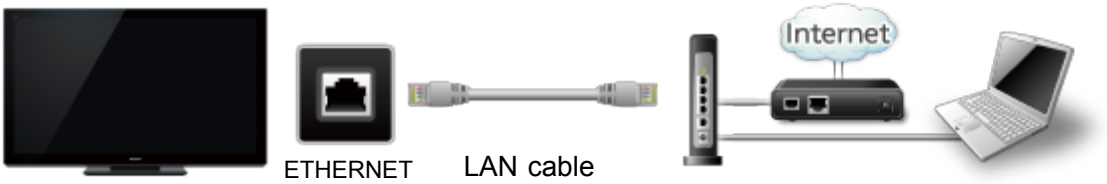


TV ETHERNET LAN cable Modem

Home network "DLNA"
Connect to network
Network connections (4)

C. Wired connection (Using Router)

If you are using the network for connecting various pieces of equipment and want to connect the TV, you should use a router to connect the TV to the Internet with LAN straight cable.



TV

ETHERNET

LAN cable

- Hub, Router
- Modem
- DLNA Certified media server (for example, PC, etc.)

* To use only DLNA features, you can operate the features without Broadband network environment.
You can just connect the TV directly to the equipment with a LAN cross cable.

Home network "DLNA"
Network settings
Setting menu

This menu is used for connecting to a Broadband environment.

1. Display the Menu and select Network

   MENU → Menu > Network

   Select Network using △ / ▽ from menu bar and press OK

2. Select the options and set

   (Connection test/Network connection/Wireless network settings/
   IP address/DNS settings/Network link/Software update/
   New software notice/Wake on LAN/Network status)

■ Connection test

Check that the all Network settings, and then start Connection test

① Select Connection test using △ / ▽ and press OK
(It takes a while to cancel the test.)

② Displayed Connection test screen

- Check mark appears at front of each check item's box when check has been finished successfully.

③ Complete Connection test

Success → Completion screen is displayed.

Error → Follow the directions on screen to complete the setting.

If you perform the Proxy settings, check the Proxy address and the Proxy port number.

Home network "DLNA"
Network settings
Network connection

■ Network connection

① Select Network connection using △ / ▽

② Select Network type (Ethernet cable/Wireless (WiFi)) with ◁ / ▷

Home network "DLNA"
Network settings
Wireless network settings

■ Wireless network settings

① Select Wireless network settings with △ / ▽ and press OK

② Display Wireless networks and select access point.
Or select connection method (below) with color key and follow the directions on screen to complete the setting.

- WPS (push button):
  You can connect to the access point by pressing a connection button.
- WPS (PIN):
  Set the PIN code that is displayed on the TV on the access point.
- Manual settings:
  Manually set SSID, security type, and encryption type to match the settings of the access point to which to connect.
- Search again:
  Search again an available wireless network within the range.

* Wi-Fi Protected Setup is an easy setting of the Wi-Fi Alliance's certification.
* For more details on setting of an access point, please refer to operating manual for the access point.
* When connecting by 11n (5 GHz), select "AES" as the encryption type for the wireless LAN.

■ IP address/DNS settings

① Select IP address/DNS settings using △ / ▽ and press OK
② Displayed IP address/DNS settings
③ Select IP setting mode / DNS setting mode using △ / ▽ and select Automatic with ◁ / ▷
④ Each IP address is acquired automatically

If you are using a Broadband router, IP automatic acquisition in DHCP can be used under normal circumstances. If you are not sure, check with the person who installed the equipment, or check the instructions for each device.

● Manual setting

① On ③ above, Select IP setting mode / DNS setting mode using △ / ▽ and select Manual with ◁ / ▷
② Select the item
③ Check the specifications of the Broadband router and enter each IP address. Or Enter each IP address as specified by the provider.

■ Proxy settings

Set only if specified by the provider. It is not required for normal household use.

① Select IP address/DNS settings using △/▽ and press OK

② Select Proxy setting using △/▽ and press OK

③ Select the item and press OK

④ Enter address or port number and press OK

Proxy address

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

Proxy port

This number is specified by the provider together with the Proxy address.

Home network "DLNA"
Network settings
Network link (1)

■ Network link

① Select Network link using △ / ▽ and press OK
② Displayed Network link
③ Select the item and set

● Edit the name of this TV

Sets your favorite name for this TV. This name will be displayed on the screen of the other Network compatible equipment.

① Select VIERA network name using △ / ▽ and press OK
② Enter name and press OK

● Enabling DLNA remote control

Select DLNA remote control using △ / ▽ and switches Disable or Enable with ◁ / ▷

● Volume setting in DMR operation

Select DLNA remote volume control using △ / ▽ and switches Disable or Enable with ◁ / ▷

- Available only when Enable is selected in DLNA remote control above.

- Enabling Network remote control

(network device such as a smartphone.)

Select Network remote control using △ / ▽ and switches Disable or Enable with ◁ / ▷

Home network "DLNA"
Network settings
Software update

■ Software update

① Select Software update using △ / ▽ and press OK

② Press OK to start the Software update screen

→ Software update

③ Follow directions on the screen

- Make sure to set Clock before the update starts.

Home network "DLNA"
Network settings
New software notice

■ New software notice

Displays new software update information when TV is turned on.

① Select New software notice using △ / ▽

② Switches Off or On with ◁ / ▷

Home network "DLNA"
Network settings
Wake on LAN

■ Wake on LAN

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

① Select Wake on LAN using △ / ▽

② Switches Off or ON with ◁ / ▷

Home network "DLNA"
Network settings
Network status

■ Network status

Displayed Current settings and status screen.

① Select Network status using △ / ▽ and press OK

② Display Network status screen

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

Home network "DLNA"

Photos

Viewing Photos

1. Display VIERA TOOLS

   VIERA TOOLS → VIERA TOOLS

2. Display DLNA server

   Select DLNA using ◁ / ▷ and press OK

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

   Select desired server using △ / ▽ from DLNA server list and press OK

4. Select photo (Thumbnail and Contents type are displayed).

   Select desired content using △ / ▽ from file list and press OK

5. View

   Follow the Navigation and guide to operate.

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

Home network "DLNA"
Photos
Photo view

■ Thumbnail view

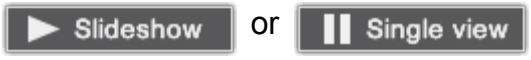
→ Display Slideshow settings

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

■ Playback screen

INFO → Display/hide Guide and Banner

Photo status: Shows current photo status



2D/3D status: Shows current 2D/3D status
Navigation Guide: Shows available functions.

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

Home network "DLNA"
Photos
Options menu

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

1. Display Options menu

   OPTION → Options menu

2. Select the item

   Select the desired menu using △ / ▽ and press OK

   (Slideshow settings)

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

Home network "DLNA"

Photos

Using slideshow

1. Display Slideshow settings

→ Slideshow settings

2. Adjust items

Select the item by △/▽ and adjust the settings using ◁/▷

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

3. Start Slideshow

After adjusting each setting, select Start slideshow with △/▽ and press OK

RETURN → Stop in mid-cycle

Home network "DLNA"
Photos
Slideshow settings

Item	Description
Transition effect	Select the Transition effect shown between photos. (Off/Fade in/Wipe ↓ /Wipe ↑ /Wipe → /Wipe ← / Slide in ↓ /Slide in ↑ /Slide in → /Slide in ← /Zoom in/ Comb ↑ ↓ /Comb → ← /Dissolve/Checker wipe/ Motion/Random)
Display interval	Display interval sets the time each image is displayed in the Slideshow mode. (Short/Fast/Normal/Slow/Very slow)
Repeat playback	Turn the Slideshow Repeat (cycle) function on or off. (Off/On)
Soundtrack settings	Select the music. (Off/Music 1/Music 2/Music 3/Music 4/Music 5)

Home network "DLNA"
Videos
Viewing Videos

1. Display VIERA TOOLS

   VIERA TOOLS → VIERA TOOLS

2. Display DLNA server
   Select DLNA using ◁ / ▷ and press OK
3. Select server (Available DLNA servers are displayed).
   Select desired server using △ / ▽ from DLNA server list and press OK
4. Select video (Thumbnail and Contents type are displayed).
   Select desired content using △ / ▽ from file list and press OK
5. Play
   Follow the Navigation and guide to operate.
   * Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Videos

Video view

■ Thumbnail view

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

■ Playback screen

INFO → Display/hide Guide and Banner

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

2D/3D status: Shows current 2D/3D status
Navigation Guide: Shows available functions.

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

- Forward/Reverse: Five level of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

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

Home network "DLNA"
Videos
Options menu

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

1. Display Options menu

   OPTION → Options menu

2. Select the item

   Select the desired menu using △/▽ and press OK

   (Video options)

   - Repeat playback
     Set play repeat function (Off/On)

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

Home network "DLNA"

Music

Playing Music

1. Display VIERA TOOLS

   VIERA TOOLS → VIERA TOOLS

2. Display DLNA server

   Select DLNA using ◁ / ▷ and press OK

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

   Select desired server using △ / ▽ from DLNA server list and press OK

4. Select music (Thumbnail and Contents type are displayed).

   Select desired content using △ / ▽ from file list and press OK

5. Play

   Follow the Navigation and guide to operate.

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

Home network "DLNA"

Music

Music view

■ Thumbnail view

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

■ Playback screen

INFO → Display/hide Guide and Banner

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

- Forward/Reverse: Five levels of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

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

Home network "DLNA"
Music
Options menu

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

1. Display Options menu

   OPTION → Options menu

2. Select the item

   Select the desired menu using △/▽ and press OK

   (Music options)

   - Repeat playback

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

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

Home network "DLNA"
Data information
Compatible Data format (1)

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

Media	Compatible format
Photo	• 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

Home network "DLNA"

Data information

Compatible Data format (2)

Media	Compatible format
Videos	• 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. • MotionJPEG files (taken with LUMIX)* • MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3 • MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3 • FLV files Video codec H.264 Audio codec MP3/AAC • 3GPP files Video codec H.264/MPEG1/MPEG2 Audio codec AAC/HE-AAC • PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM • TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/E-AC3

* for Media player only

Home network "DLNA"

Data information

Compatible Data format (3)

Media	Compatible format
Music	• MP3 files (MP3) • AAC files (AAC) • FLAC files (FLAC)

Home network "DLNA"

Data information

Notice

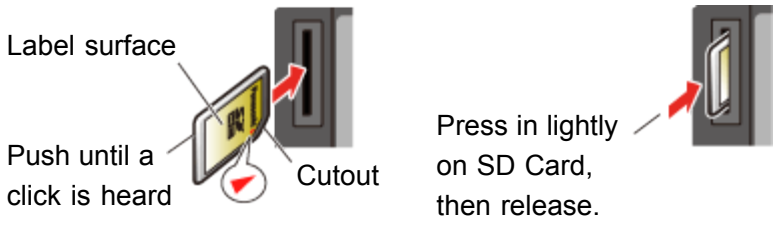
- Format the card with the recording equipment.
- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- Depending on how you make SD Card, USB Flash Memory or the media server, files and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

Media player
Get started
Information

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

■ SD card

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



- Compliant card type (maximum capacity):
  SDXC Card (64 GB), SDHC Card (32 GB), microSDHC Card (32 GB), SD Card (2 GB), miniSD Card (2 GB), microSD Card (2 GB)
  (requiring microSDHC Card/miniSD Card/microSD Card/ adapter)

- If a microSDHC Card, miniSD Card or microSD Card is used, insert / remove it together with the adapter.

■ USB flash memory

- When you use a USB device, insert straight in and pull straight out.
- Media player only supports USB Mass storage class devices.

Media player

Get started

Media warning messages

Message	Meaning
No media. Please insert an SD memory card or USB storage device.	• The device is not inserted.
No media. Device removed.	• The device is removed.
No photos/No movies/ No music files to play/ No playable media	• The device has no data or this type of data is not supported.
Cannot read file	• The file is broken or unreadable. • The TV does not support the format.

Media player

Get started

SD card handling cautions

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

Media player
Photos
Viewing Photos

1. Insert Media (SD card or USB flash memory)
2. Display Media player

   VIERA TOOLS → VIERA TOOLS > Media player

3. Select the SD/USB in Drive select (Displays connected drive)
   Select the drive using ◁ / ▷ and press OK
4. Select the Photos in Media select
   Select the drive using ◁ / ▷ and press OK
5. Select the photo in thumbnail view
   Select the data using ◁ / ▷ / △ / ▽ and OK
   * How data is displayed differs depending on data storage conditions.
6. View
   Follow the Navigation and guide to operate.
   * Displayed navigation and guide may differ depending on data type.

■ Other settings

Some basic menus are available after pressing the MENU button.

MENU → Menu > Picture/Audio/3D settings/VIERA Link

Media player
Photos
Photo view

■ Thumbnail view

→ Display Slideshow settings

→ Display Sort

→ Display Drive select

→ Display Media select

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

■ Playback screen

INFO → Display/hide Guide and Banner

Photo status: Shows current photo status

Slideshow or Single view

2D/3D status: Shows current 2D/3D status
Navigation Guide: Shows available functions.

Media player

Photos

Sort the photos

1. Display Sort select menu

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

2. Select the sort type

   Select the type using △/▽ and press OK

3. Displayed each screen

   Folders: ascending order of numeric/alphabetical
   Sort by month: ascending order of the month
   Sort by date: ascending order of the day

Media player
Photos
Options menu

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

1. Display Options menu

   OPTION → Options menu

2. Select the item

   Select the desired menu using △/▽ and press OK
   (Slideshow settings/Multi shot 3D/Thumbnails size)

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

Media player

Photos

Multi shot 3D / Thumbnails size

■ Multi shot 3D

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

① Select first photo using ◁ / ▷ / △ / ▽ and press

② Select second photo using ◁ / ▷ / △ / ▽ and press

- To select the second image, the size and date must be the same as the first image.
  L and R are displayed at the top left-hand corner of selected photos.

③ Start Conversion processing by pressing OK

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.
(7 x 4 ⇔ 10 x 6)

Media player
Photos
Using slideshow

1. Display Slideshow settings

→ Slideshow settings

2. Adjust items

Select the item by △/▽ and adjust the settings using ◁/▷

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

3. Start Slideshow

After adjusting each of the settings, select Start slideshow with △/▽ and press OK

RETURN → Stop in mid-cycle

Media player

Photos

Slideshow settings

Item	Description
Frame	Select the Frame. (Off/Array/Collage/Drift (with calendar)/Drift/Gallery (with calendar) / Gallery / Cinema)
Photo effect	Select the display effect. (Off/Sepia/Gray scale)
Transition effect	Select the Transition effect shown between photos. (Off/Fade in/Wipe ↓ /Wipe ↑ /Wipe → /Wipe ← / Slide in ↓ /Slide in ↑ /Slide in → /Slide in ← / Zoom in/Comb ↑ ↓ /Comb → ← /Dissolve/ Checker wipe/Motion/Random)
Photo size	Removes the black borders that are added according to the size of the photo being displayed. (Normal/Zoom)
Burst playback	Continuously plays photos that were shot. (Off/On)
Display interval	Display interval sets the time each image is displayed in the Slideshow mode. (Short/Fast/Normal/Slow/Very slow)
Repeat playback	Turn the Slideshow Repeat (cycle) function on or off. (Off/On)
Soundtrack settings	Select the music. (Off/Music 1/Music 2/Music 3/Music 4/Music 5/ User selected/Auto) User selected: Plays the soundtrack registered in the Soundtrack settings menu. Auto: Plays the songs on the SD card or USB flash memory.

Media player

Photos

Soundtrack settings

You can register the favorite songs as soundtracks

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

This song: Register current music
All songs in folder: Register the music in a folder

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

Media player
Videos
Viewing Videos

1. Insert Media (SD card or USB flash memory)
2. Display Media player

   VIERA TOOLS → VIERA TOOLS > Media player

3. Select the SD/USB in Drive select (Displays connected drive)
   Select the drive using ◁ / ▷ and press OK
4. Select the Videos in Media select
   Select the drive using ◁ / ▷ and press OK
5. Select the video in thumbnail view
   Select the data using ◁ / ▷ / △ / ▽ and OK
   * How data is displayed differs depending on data storage conditions.
6. Play
   Follow the Navigation and guide to operate.
   * Displayed navigation and guide will be different depending on data type.

■ Other settings

Some basic menus are available after pressing the MENU button.

MENU → Menu > Picture/Audio/3D settings/VIERA Link

Media player
Videos
Video view

■ Thumbnail view

→ Play the video

→ Display Drive select

→ Display Media select

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

■ Playback screen

INFO → Display/hide Guide and Banner

Movie banner: Shows current Video status
(Drive type (SD/USB/DLNA), Date and time or File name and Elapsed time.)
2D/3D status: Shows current 2D/3D status
Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

* Subtitles are not supported in MKV format.

Media player
Videos
Options menu

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

1. Display Options menu

   OPTION → Options menu

2. Select the item

   Select the desired menu using △/▽ and press OK

   (Video options)

   - Repeat playback
     Set play repeat function (On/Off)

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

Media player

Music

Playing Music

1. Insert Media (SD card or USB flash memory)
2. Display Media player

   VIERA TOOLS → VIERA TOOLS > Media player

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

   Select the drive using ◁ / ▷ and press OK
4. Select the Music in Media select

   Select the drive using ◁ / ▷ and press OK
5. Select the music in thumbnail view

   Select the data using ◁ / ▷ / △ / ▽ and OK

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

   Follow the Navigation and guide to operate.

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

■ Other settings

Some basic menus are available by pressing the MENU button.

MENU → Menu > Picture/Audio/3D settings/VIERA Link

Media player
Music
Music view

■ Thumbnail view

Play folder

Display Drive select

Display Media select

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

■ Playback screen

INFO → Display/hide Guide and Banner

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

- Forward/Reverse: Five levels of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

Media player
Music
Options menu

■ Music options

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

1. Display Options menu

OPTION → Options menu

2. Select the item

Select the desired menu using △/▽ and press OK

(Music options)

● Repeat playback

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

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

Media player

Data information

Compatible Data format (1)

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

Media	Compatible format
Photo	• 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

Media player

Data information

Compatible Data format (2)

Media	Compatible format
Videos	• 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. • MotionJPEG files (taken with LUMIX)* • MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3 • MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3 • FLV files Video codec H.264 Audio codec MP3/AAC • 3GPP files Video codec H.264/MPEG1/MPEG2 Audio codec AAC/HE-AAC • PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM • TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/E-AC3

* for Media player only

Media player

Data information

Compatible Data format (3)

Media	Compatible format
Music	• MP3 files (MP3) • AAC files (AAC) • FLAC files (FLAC)

Media player

Data information

Notice

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

Convenience features
Using VIERA TOOLS
Using VIERA TOOLS

VIERA TOOLS is the easy way to access the TV's special features.
They are displayed as shortcut icons on the TV screen.

1. Display VIERA TOOLS menu

   VIERA TOOLS → VIERA TOOLS

2. Select the item

   Select desired item using ◁ / ▷ and press OK

3. Access desired feature and set

   Follow the directions on screen to use each feature.

(example)

■ Available items

3D/THX/VIERA Connect/Media player/DLNA/VIERA Link/Eco/eHELP

Convenience features

Timer

Setting menu

The TV can automatically turn On/Off at a designated date and time.
If the Timer settings are grayed out, first set the clock and make sure Auto power on is set to No.

1. Display the menu

   MENU → Menu

2. Select Timer from menu bar

   Select desired menu using △ / ▽ from menu bar and press OK

3. Select the item and adjust

   Select desired item using △ / ▽ and adjust with ◁ / ▷

Convenience features

Timer

Sleep (Off timer)

MENU → Menu > Timer

Settings	Options	Description
Sleep (minutes)	Off/15/30/ 60/90	• Selects how long the TV stays on before it automatically turns off.

Convenience features

Timer

Timer (On/Off timer)

MENU → Menu > Timer

Settings	Options	Description
Timer set	Off/On	• Enables or disables the Timer.
Inputs		• Sets the input to select when the TV turns on.
Channel		• Sets the channel to select when the TV turns on.
Day		• Sets the day when the TV turns on. [SUN/MON/TUE/WED/THU/FRI/SAT (displays the nearest future date) MON-FRI/SAT-SUN/ DAILY/Every SUN/Every MON/Every TUE/ Every WED/Every THU/Every FRI/ Every SAT]
On time		• Sets the time when the TV turns on. The TV will turn off after 90 minutes or as specified.
Off time		• Sets the time when the TV turns off within 24 hours.

Convenience features
Lock (parental control)
Setting menu

Locks specified channels or shows to prevent children from watching objectionable content.
You will be asked to enter your password each time you display the Lock menu.
Set Custom in Mode to specify Channel, Game, Program and VIERA Connect settings.

1. Display the menu

   MENU → Menu

2. Select Lock from menu bar

   Select desired menu using △/▽ from menu bar and press OK

3. Select the item and adjust

   Select desired item using △/▽ and adjust with ◁/▷

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

Convenience features
Lock (parental control)
Lock (1)

MENU → Menu > Lock

Settings	Options	Description
Mode	Off/All/Custom	• Locks (All) or Unlocks (Off) all channels, programs or inputs. For Custom, Locks specified inputs of Channel, Game, Program and VIERA Connect.
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	Off/On	• Restricts access to channel 3, channel 4 and all the TV's inputs.

MENU → Menu > Lock

Settings	Options	Description
Program (Prohibits viewing of TV content based on the rating provided by the broadcasters.)	Mode	• Sets program lock status. (Off/On) "V-chip" technology enables restricted shows to lock according to TV ratings. On: Set each rating level (MPAA, US.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.
VIERA Connect	Off/On	• Locks VIERA Connect. When you access VIERA Connect, the "VIERA Connect Lock" screen is displayed. Type the correct password to enter the Home screen.
Change password		• Create a new password. Input the new 4-digit password twice.

Convenience features

Lock (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.

Convenience features
Lock (parental control)
Parental control ratings (1)

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

Caution

The V-Chip system used in this set is capable of blocking "NR" programs (non rated, not applicable and none) as per FCC Rules Section15.120(e)(2). If the option of blocking "NR" programs is chosen "unexpected and possibly confusing results may occur, and you may not receive emergency bulletins or any of the following types of programming:"

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

Convenience features
Closed caption
Setting menu

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

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

1. Display the menu

   MENU → Menu

2. Select Setup from menu bar

   Select desired menu using △ / ▽ from menu bar and press OK

3. Select Closed caption

   Select desired menu using △ / ▽ and press OK

4. Select the item and adjust

   Select desired item using △ / ▽ and adjust with ◁ / ▷

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

Convenience features
Closed caption
Closed caption (1)

MENU → Menu > Setup > Closed caption

Settings	Options	Description
Reset to defaults		• Resets all Closed caption settings to factory default settings.
Mode	Off/On/ CC on mute	• On: To display Closed captions. • CC on mute: To display Closed captions when the audio is muted. (When not using, select Off).
Analog	CC1-4/T1-4	• Choose the Closed caption service of Analog broadcasting. • CC1-4: Information related to pictures (Appears at the bottom of the screen) • T1-4: Textual information (Appears over the entire screen)

Convenience features
Closed caption
Closed caption (2)

MENU → Menu > Setup > Closed caption

Settings	Options	Description
Digital	Primary/ Second./ Service 3/4/5/6	• The Digital Closed caption menu lets you configure the way you choose to view the digital captioning.
Digital setting (Set display settings in digital programs.)	Size	• Select the text size
	Font	• Select the text font
	Style	• Select the text style (Raised, Depressed, etc.)
	Foreground	• Select the color of text
	Fore. opacity	• Select the opacity of text
	Background	• Select the color of text box
	Back. opacity	• Select the opacity of text box
	Outline	• Select the outline color of text (Identify the setting options on the screen).

Convenience features

Closed caption

Closed caption notice

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

Convenience features

VIERA Link ™ "HDAVI Control ™"

Basic feature

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

■ Available HDAVI Control functions

Version	Operations
HDAVI Control or later	• Automatic Input Switching • Power on link • Power off link • Default speakers • Speaker control
HDAVI Control 2 or later	• VIERA Link control only with the TV's remote control • Unselected device energy save (for available equipment only)
HDAVI Control 3 or later	• Provides setting information (Language, time, etc.) • Automatic lip-sync function
HDAVI Control 4 or later	• Energy saving mode (with Quick Start mode)
HDAVI Control 5	• Audio Return Channel 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.

Convenience features

VIERA Link ™ "HDAVI Control ™"

Connecting note (1)

■ 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. It is recommended that you use Panasonic's HDMI cable.
Recommended part number:
RP-CDHS15 (4.9 ft/1.5 m), RP-CDHS30 (9.8 ft/3.0 m), RP-CDHS50 (16.4 ft/5.0 m)

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

Convenience features

VIERA Link ™ "HDAVI Control ™"

Connecting note (2)

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 (current as of November, 2011) 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.

■ Connecting Blu-ray Disc player/DVD Recorder (DIGA)

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

- You can use any HDMI terminal on this TV.

TV

HDMI

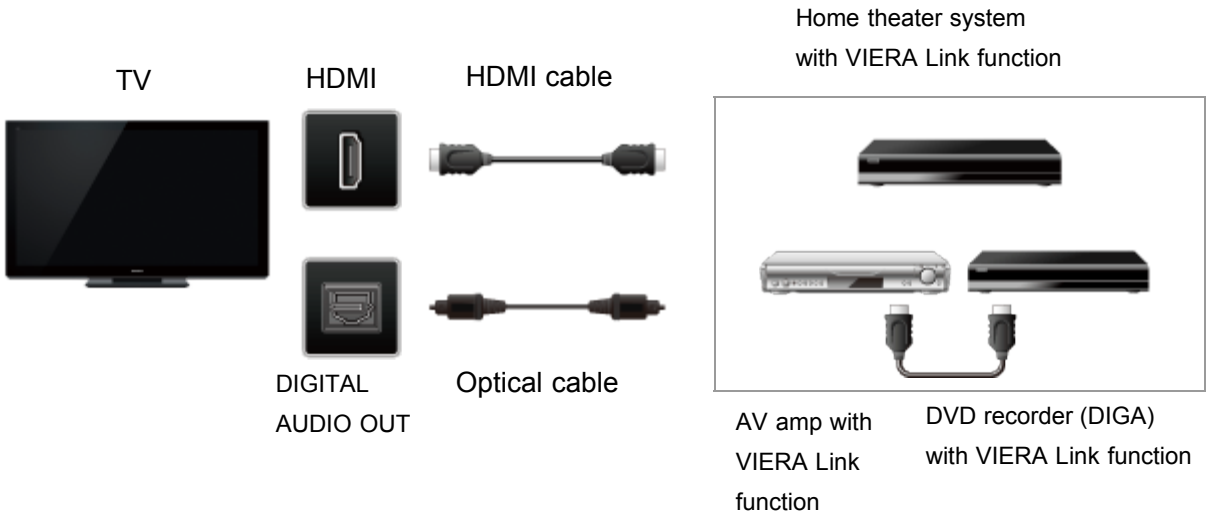
HDMI cable

DVD recorder (DIGA)
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 (DIGA) can be operated with this unit by connecting with an HDMI cable.



Convenience features

VIERA Link ™ "HDAVI Control ™"

VIERA Link connections (3)

■ 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.

TV

HDMI

HDMI /
mini HDMI cable

HD Camcorder
with VIERA Link
function

LUMIX
with VIERA Link
function

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

Convenience features

VIERA Link ™ "HDAVI Control ™"

VIERA Link settings

To use all VIERA Link functions: After everything is connected, set VIERA Link to On in VIERA Link settings menu.
Some features are disabled depending on the "HDAVI Control" version of the equipment.

1. Display the menu

   MENU → Menu

2. Select VIERA Link settings

   Setup > VIERA Link settings

   Select Setup using △/▽ from menu bar and press OK then select VIERA Link settings with △/▽ and press OK again.

3. Select VIERA Link and set to On

   Change the VIERA Link to On with ◁/▷

4. Select and set other VIERA Link settings

   (Power on link/Power off link/Energy saving mode/ Unselected device energy save /Default speakers)

■ 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 energy save

Yes: 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.

■ Default speakers

TV is the default setting. To set the Home theater system as Default speakers, change the Default speakers setting from TV to Theater. Sound will be output from the Home Theater whenever the TV is powered on.

■ Automatic lip-sync function

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

■ TV provided setting information

The following information about the TV settings can be transmitted to each piece of equipment (Recorder/Home theater/Player) that has "HDAVI Control 3 or later" function connected to a TV with an HDMI cable.

Transmittable data	Recorder	Home theater/Player
On Screen Display Language setting	○	○
Panel Aspect Ratio (16:9 fixed)	○	○
Closed caption information (Mode/CC type/Digital setting)	○	---

* There is a possibility that all the GUI language information might be set from equipment that has an HDMI CEC function connected to the TV with an HDMI cable. Depending on the operating conditions or the specification for each piece of equipment the setting may or may not be applied.
* For more details on the external equipment's operation, please refer to the operating manual for the equipment.

Convenience features

VIERA Link ™ "HDAVI Control ™"

VIERA Link

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

1. Display the VIERA Link menu

   VIERA TOOLS → VIERA Link

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

   Select the desired menu using △ / ▽ and set with ◁ / ▷

* 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.

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 △ / ▽
② Select Home theater or TV with ◁ / ▷

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.

■ Back to TV

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

Select Back to TV using △ / ▽ and press OK

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

① Select VIERA Link control using △ / ▽

② Select the desired equipment with ◁ / ▷ (You can select available items only.)
(Recorder/Home theater/Player/Camcorder/LUMIX/Others)

- 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.

Convenience features
Control by smartphone, etc.
Smartphone remote

You can use your Smartphone as your TV's remote controller.
Download the VIERA remote app. from Apple/Android store.

1. Select Network

   MENU → Menu > Network

2. Select Network remote control in Network link

   Select desired menu using △/▽

3. Set the item

   Switches to Enable using ◁/▷

* This function is subject to change without notice.

Convenience features

Control by smartphone, etc.

Remote control via IP

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

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

  MENU → Menu > Network > Wake on LAN

Convenience features
Using USB Keyboard / Gamepad
Keyboard

The USB Keyboard requiring its driver is not supported.

■ To select the language type of the keyboard

MENU → Menu > Setup > Keyboard type

■ Key map

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

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

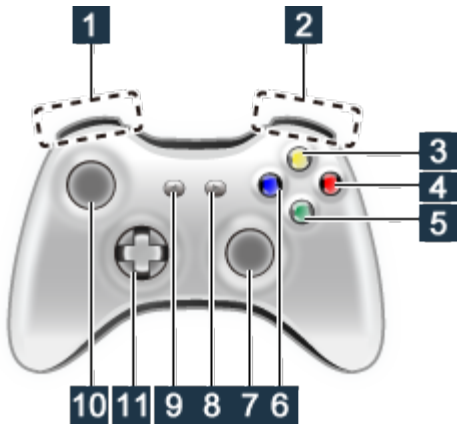
Convenience features
Using USB Keyboard / Gamepad
Gamepad

The Gamepad requiring its driver is not supported.

■ Key map

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

Example:



Gamepad	Remote Control
1	Volume up/down
2	Channel up/down
3	MENU
4	OK
5	Back/Return
6	INTERNET
7	VIERA TOOLS
8	EXIT
9	INPUT
10	OPTION
11	Cusor buttons

This setting enables you to use Bluetooth keyboard*1 and Bluetooth audio devices*2 (headphones, etc.)
*1: HID (Human Interface Device Profile) compliant keyboards are available.
*2: A2DP (Advanced Audio Distribution Profile) compliant audio devices are available.

1. Display the Menu and select Bluetooth settings

   MENU → Menu > Setup > Bluetooth settings

   Select Bluetooth settings using △/▽ from menu bar and press OK

2. Select the options and set
   (Bluetooth devices/Bluetooth audio settings)

■ Bluetooth devices

Search and register Bluetooth keyboard and Bluetooth audio devices.

① Select Bluetooth devices using △/▽ and press OK

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 △/▽ and press OK

Follow the directions on screen to complete the setting.

* This function is available only for Bluetooth audio devices.

All settings
Picture
Setting menu

Adjust the image or picture quality.

- 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 Picture from menu bar

   Select desired menu using △ / ▽ from menu bar and press OK

3. Select the item and adjust

   Select desired item using △ / ▽ and adjust with ◁ / ▷

* Shows the functions that can be adjusted.
* Some functions will be disabled depending on the type of input signal. Reset to defaults will be grayed out if no changes are made.

All settings
Picture
Basic settings (1)

MENU → Menu > Picture

Settings	Options	Description
Reset to defaults		• Resets all picture adjustments to factory default settings except for advanced settings.
Picture mode	Vivid/ Standard/ Cinema/ THX*/ Game/ Custom	• Adjusts the picture quality according to ambient lighting conditions or situation. • When changing picture mode from/to Game the screen will momentarily go black. This is normal. The blacking out of the screen is normal and is due to a change of parameters in order to improve the response to video games. *THX 2D: THX Cinema/THX Bright Room 3D: THX 3D Cinema
Contrast, Brightness, Color, Tint, Sharpness		• Adjusts the color, brightness, etc. for each picture mode to suit your taste. • Display range Contrast/Brightness/Color/Sharpness : 0 - 100 Tint :-50 - +50

All settings
Picture
Basic settings (2)

MENU → Menu > Picture

Settings	Options	Description
Color temp.	Cool2/1/ Normal/ Warm1/2	• Selects color temperature preference, from "cool" (bluish) to "warm" (reddish) or normal.
Color mgmt.	Off/On	• On: Enhances green and blue color reproduction, especially outdoor scenes.
C.A.T.S.	Off/On	• Contrast Automatic Tracking System (C.A.T.S.) adjusts the screen brightness and contrast according to the room's ambient light conditions. This ECO feature automatically dims the brightness of the screen when the room lighting is lowered. C.A.T.S. features a built-in delay when the lighting conditions change. The adjustment happens gradually. If you prefer a consistent brightness, disable C.A.T.S. by: • Menu > Picture > scroll down to C.A.T.S. and turn it off. Or • Menu > Picture > Picture mode then select viewing mode such as Custom. Note: Standard picture mode automatically sets C.A.T.S. to On.
Video NR	Off/Weak/ Medium/ Strong/Auto	• Reduces noise, commonly called snow. Leave it off when receiving a strong signal.

All settings

Picture

Pro settings (1)

MENU → Menu > Picture > Pro settings

Settings	Options	Description
Reset to defaults		• Resets all Pro setting adjustments to factory default settings.
Color space	Wide/Normal	• Each color space is a matrix composed of red, green & blue colors. Select your preference.
W/B high R, G, B	-50 - 0 - +50	• Adjusts the white balance for light red/green/blue areas.
W/B low R, G, B	-50 - 0 - +50	• Adjusts the white balance for dark red/green/blue areas.

All settings
Picture
Pro settings (2)

MENU → Menu > Picture > Pro settings

Settings	Options	Description
Black extension	0-15	• Adjusts the dark shades of the image in gradation.
Gamma adjustment	S-curve/ 1.8/2.0/ 2.2/2.4/2.6	• Gamma correction. Adjusts the intermediate brightness of the image.
Panel brightness	Low/Mid/High	• Selects different levels of overall panel brightness.
Contour emphasis	Off/On	• Adjusts the contour emphasis of the image.
AGC	0-15	• Increases the brightness of dark signal automatically.
Save as default		• Saves all "Picture" (when "Picture mode" is "Custom") and "Pro settings" adjustment.

MENU → Menu > Picture > Aspect adjustments

Settings	Options	Description
Screen format	FULL/H-FILL/ JUST/4:3/ ZOOM	• Changes the format (aspect ratio). Lets you choose the aspect depending on the format of received signal.
HD size	Size 1/Size 2	• Selects between 95 % (Size 1) or 100 % (Size 2) for the scanning area with High Definition signal.
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 Ratio: FULL/JUST(H-FILL/ZOOM) • The width will be increased on both sides to reduce noise.
Zoom adjustments		• Adjusts vertical alignment and size when aspect setting is "ZOOM".

All settings
Picture
PC adjustments (1)

MENU → Menu > Picture > PC adjustments

Settings	Options	Description
Reset to defaults		• Resets all PC adjustments to factory default settings.
Sync	H & V	• The H and V sync signals are input from the HD/VD connector.
	On green	• Uses a synchronized signal on the Video G signal, which is input from the G connector.
Dot clock		• Alleviates the problem if a picture appears to be vertically-striped, flickers partially or is blurred.
H-position		• Adjusts the horizontal position using left/right cursor button.
V-position		• Adjusts the vertical position using left/right cursor button.

MENU → Menu > Picture > PC adjustments

Settings	Options	Description
Clock phase		• Alleviates the problem if the whole picture appears to flicker or is blurred. First adjust the Dot Clock to get the best possible picture, then adjust the Clock phase so that a clear picture appears. • It may not be possible to display a clear picture due to poor input signals.
Input resolution		• Switches to wide display and selects the appropriate screen resolution. • VGA (640 x 480 pixels), WVGA (852 x 480 pixels), XGA (1,024 x 768 pixels), WXGA (1,280 x 768 pixels) • Options change depending on signals.
H-frequency V-frequency		• Displays the H (Horizontal)/V (Vertical) frequencies. Display range Horizontal: 15 - 110 kHz Vertical: 48 - 120 Hz

All settings
Picture
HDMI settings

MENU → Menu > Picture > HDMI settings

Settings	Options	Description
HDMI/DVI RGB range (HDMI)	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.
Content type (HDMI)	Off/Auto/ Photos/ Graphics	• Sets content type to each HDMI input. • Auto: Switches content type automatically depending on the HDMI signal information. • Photo: Best setting for JPEG viewing. • Graphics: Best setting for On-Screen display of connected equipment.

All settings
Picture
Advanced picture (1)

MENU → Menu > Picture > Advanced picture

Settings	Options	Description
3D Y/C filter	Off/On	• Minimizes rough edges (dot crawl) in the picture from a composite source.
Color matrix	SD/HD	• Selects image resolution of component-connected devices. • SD: Standard Definition HD: High Definition • Only used with 480p video signal.
Block NR	Off/On/Auto	• Reduces noise of specific digital signals of DVD, Cable box, etc.
Mosquito NR	Off/On	• Reduces HDTV flicker noise in the contoured sections of a compressed image.
Motion smoother	Off/Weak/ Medium/ Strong	• Improves motion picture quality by reducing motion blur.
1080p pure direct	Off/On	• Enables the support of a 4:4:4 digital video format signal. Use only with a 4:4:4 capable source. Note: • This function is available only for HDMI 1080p input. • Not in use when no signal is received, input signal is YCbCr 4:2:2, or while 3D mode. • "Block NR" and "Mosquito NR" does not work if "On" is selected.

All settings
Picture
Advanced picture (2)

MENU → Menu > Picture > Advanced picture

Settings	Options	Description
Black level	Light/Dark	• Select Dark when details are washed out in dark areas of picture from external source. Valid only for external input signals.
3:2 pulldown	Off/On/Auto	• Reduces motion jitter in film-based content by transforming 24 fps to 30 fps (non-HDMI).
24p Direct in	60Hz/48Hz	• 48Hz: Achieves more cinematic playback by reproducing the movie contents at twice the speed of 24 frames per second.

All settings

Audio

Setting menu

Adjust audio quality.

1. Display the menu

   MENU → Menu

2. Select Audio from menu bar

   Select desired menu using △ / ▽ from menu bar and press OK

3. Select the item and adjust

   Select desired item using △ / ▽ and adjust with ◁ / ▷

* Shows the functions that can be adjusted.
* Some functions will be disabled depending on the type of input signal. Reset to defaults will be grayed out if no changes are made.

MENU → Menu > Audio

Settings	Options	Description
Reset to defaults		• Resets Bass, Treble, and Balance adjustments to factory default settings.
Bass		• Increases or decreases the bass response.
Treble		• Increases or decreases the treble response.
Balance		• Emphasizes the left / right speaker volume.

All settings
Audio
Advanced audio

MENU → Menu > Audio > Advanced audio

Settings	Options	Description
A.I. sound	Off/On	• Equalizes overall volume levels across all channels and external inputs.
Surround	Off/On	• Enhances audio L/R response when listening to stereo. Ideal for music and action movies.
Volume leveler		• Minimizes volume disparity after switching to external inputs.
Distance to wall	Over 1ft(30cm)/ Up to 1ft(30cm)	• Over 1ft(30cm): TV is on a stand. Keeps current setup. • Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.
TV speakers	Off/On	• Enables the TV's built-in speakers. • Switches to "Off" when using external speakers. • "A.I. sound", "Surround", "Volume leveler", and "Distance to wall" do not work if "Off" is selected.
HDMI in	Digital/ Comp./Video	• 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.

All settings

Audio

DTV language and SAP settings

MENU → Menu > Audio > DTV language and SAP settings

Settings	Options	Description
Preferred language	English/ Spanish/ French	Selected preferred language is used for automatic selection of audio service.
Preferred audio type	Main Audio/ Hearing Impaired/ Visually Impaired	Selected preferred audio type is used for automatic selection of audio service.

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 SD Card Movie player, when the sound has been recorded in Dolby Digital, the output from the DIGITAL AUDIO OUT terminal will be Dolby Digital. When the sound is recorded in other formats, the output will be PCM.

All settings
Network
Network settings (1)

MENU → Menu > Network

Settings	Options	Description
Connection test		• Checks for proper network connection, settings and communication to the Internet & server.
Network connection	Ethernet cable/Wireless (WiFi)	• Select Network type.

All settings
Network
Network settings (2)

MENU → Menu > Network

Settings	Options	Description
Wireless network settings		• This setting is performed only when "Wireless (WiFi)" is selected in Network connection. • Select the Access point from the list or select Connection method with color key. • Follow the directions on screen to complete the setting.

MENU → Menu > Network

Settings	Options	Description
IP address/ DNS settings	IP setting mode/ IP address/ Subnet mask/ Default gateway/ DNS setting mode/ DNS/ Proxy setting	• Select IP setting mode/DNS setting mode and set to Automatic, then each IP address is acquired Automatically. [Manual setting] • Select IP setting mode/DNS setting mode and set to Manual, then select item and press OK. • Check the specifications of the broadband router and enter each IP address. Or Enter each IP address as was specified by the provider. ■ Proxy setting • Set only if specified by the provider. It is not required for normal household use Proxy address/Proxy port: Setting is only required if specified by the provider.

MENU → Menu > Network

Settings	Options	Description
Network link (Stream and control content from networked portable devices.)	VIERA network name	• Sets your favorite name for this TV. This name will be displayed on the screen of the other Network compatible equipment.
	DLNA remote control	• Enables Digital Media Renderer for playback of DLNA content.
	DLNA remote volume control	• Sets volume setting in DMR operation • Available only when Enable is selected in DLNA remote control
	Network remote control	• Switches remote control of network device such as a smartphone to Disable or Enable.

MENU → Menu > Network

Settings	Options	Description
Software update		• Press OK to start the Software update screen. And follow directions on the screen. * Set Clock first.
New software notice	Off/On	• On: When TV is turned On, update message is displayed if available. Follow the directions on the screen to download.
Wake on LAN	Off/On	• On: "Power On" command is available when you use Remote control via IP.
Network status		• 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.

All settings
Timer
Setting menu

The TV can automatically turn On/Off at a designated date and time.
If the Timer settings are grayed out, first set the clock and make sure Auto power on is set to No.

1. Display the menu

   MENU → Menu

2. Select Timer from menu bar

   Select desired menu using △ / ▽ from menu bar and press OK

3. Select the item and adjust

   Select desired item using △ / ▽ and adjust with ◁ / ▷

All settings
Timer
Sleep (Off timer)

MENU → Menu > Timer

Settings	Options	Description
Sleep (minutes)	Off/15/30/ 60/90	• Selects how long the TV stays on before it automatically turns off.

All settings
Timer
Timer (On/Off timer)

MENU → Menu > Timer

Settings	Options	Description
Timer set	Off/On	• Enables or disables the Timer.
Inputs		• Sets the input to select when the TV turns on.
Channel		• Sets the channel to select when the TV turns on.
Day		• Sets the day when the TV turns on. [SUN/MON/TUE/WED/THU/FRI/SAT (displays the nearest future date) MON-FRI/SAT-SUN/ DAILY/Every SUN/Every MON/Every TUE/ Every WED/Every THU/Every FRI/ Every SAT]
On time		• Sets the time when the TV turns on. The TV will turn off after 90 minutes or as specified.
Off time		• Sets the time when the TV turns off within 24 hours.

All settings

Lock (parental control)

Setting menu

Locks specified channels or shows to prevent children from watching objectionable content.
You will be asked to enter your password each time you display the Lock menu.
Set Custom in Mode to specify Channel, Game, Program and VIERA Connect settings.

1. Display the menu

   MENU → Menu

2. Select Lock from menu bar

   Select desired menu using △/▽ from menu bar and press OK

3. Select the item and adjust

   Select desired item using △/▽ and adjust with ◁/▷

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

All settings
Lock (parental control)
Lock (1)

MENU → Menu > Lock

Settings	Options	Description
Mode	Off/All/Custom	• Locks (All) or Unlocks (Off) all channels, programs or inputs. For Custom, Locks specified inputs of Channel, Game, Program and VIERA Connect.
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	Off/On	• Restricts access to channel 3, channel 4 and all the TV's inputs.

MENU → Menu > Lock

Settings	Options	Description
Program (Prohibits viewing of TV content based on the rating provided by the broadcasters.)	Mode	• Sets program lock status. (Off/On) "V-chip" technology enables restricted shows to lock according to TV ratings. On: Set each rating level (MPAA, US.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.
VIERA Connect	Off/On	• Locks VIERA Connect. When you access VIERA Connect, the "VIERA Connect Lock" screen is displayed. Type the correct password to enter the Home screen.
Change password		• Create a new password. Input the new 4-digit password twice.

All settings

Lock (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.

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

Caution

The V-Chip system used in this set is capable of blocking "NR" programs (non rated, not applicable and none) as per FCC Rules Section15.120(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

Other functions settings

1. Display the menu

MENU → Menu

2. Select Setup from menu bar

Select desired menu using △ / ▽ from menu bar and press OK

3. Select the item and adjust

Select desired item using △ / ▽ and adjust with ◁ / ▷

* Shows the functions that can be adjusted.
* Some functions will be disabled depending on the type of input signal. Reset to defaults will be grayed out if no changes are made.

All settings
Setup
3D settings (1)

MENU → Menu > Setup > 3D settings

Settings	Options	Description
Auto detect 3D	Off/Auto 1/ Auto 2	• Auto 1: Switches to 3D display when 3D indication is available (HDMI (3D), AVCHD file, etc.) • Auto 2: Same as Auto 1. Also detects 3D signal by identifying similar image in side-by-side or top-and-bottom 3D formats. Note: Choose 3D mode manually when auto detection is not available.
3D signal notification	Off/On	• On: Displays a message according to the signal received by the Auto detect 3D.
2D → 3D depth	Minimum/ Medium/ Maximum	• Adjusts 3D depth. Available only when 2D → 3D is selected in 3D format select. • Available only when 3D content is displayed.

All settings
Setup
3D settings (2)

MENU → Menu > Setup > 3D settings

Settings	Options	Description
3D adjustment	Off/On	• Changes 3D depth by adjusting left-right parallax. Set to On to adjust Effect (-3 to +3).
Left/Right swap	Normal/ Swapped	• Change this to Swapped when the phases are reversed (When there is an unusual sense of depth).
Diagonal line filter	Off/On	• On: Resolves discomfort caused by receiving a quincunx matrix signal.
Safety precautions		• Displays message for viewing 3D images.

All settings
Setup
ANT/Cable setup (1)

MENU → Menu > Setup > ANT/Cable setup

Settings	Options	Description
ANT in	Cable/ Antenna/ Not used	• Select desired signal type to scan or edit. Not used: Following channel settings are not available
Auto program	All channels/ Analog only/ Digital only	• Select scan type and press OK to start scanning automatically. After the scanning is completed. Select Apply . • All previously saved channels are erased.
Manual program		• Change the channel setting or channel display. Edit: Edit these items. • Caption: Changes the station identifier. (maximum 7 characters available) • Favorite: Registers channels to the Favorite List from Set favorite. • Add: Adds (Yes) or skips (No) channels Apply: After the editing is completed, press OK to save the settings. Cancel: Cancel the changes.

All settings
Setup
ANT/Cable setup (2)

MENU → Menu > Setup > ANT/Cable setup

Settings	Options	Description
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 "ANT in" • Available only for digital antenna channels.

All settings
Setup
Anti Image retention

MENU → Menu > Setup > Anti image retention

Settings	Options	Description
Pixel orbiter	Disable/Enable	• Enable: Shifts the display image automatically.
4:3 side bars (4:3 mode only)	Off/Dark/Mid/ Bright	• Changes the brightness of the side bar The recommended setting is "Bright" to prevent the panel "Image retention". • Do not display a picture in 4:3 mode for an extended period, as this can cause "Image retention" to remain on either or both sides of the display field. To reduce the risk of such "Image retention", change the brightness of the side bars. • The side bar may flash (alternate black/white) depending on the picture.
Scrolling bar		• Press "OK" to start the horizontal "Scrolling" on the screen. Press any key except the POWER key to return to previous screen. You will return to the previous screen if no key operation has been performed for 15 minutes.

All settings
Setup
Closed caption (1)

MENU → Menu > Setup > Closed caption

Settings	Options	Description
Reset to defaults		• Resets all Closed caption settings to factory default settings.
Mode	Off/On/ CC on mute	• On: To display Closed captions. • CC on mute: To display Closed captions when the audio is muted. (When not using, select Off).
Analog	CC1-4/T1-4	• Choose the Closed caption service of Analog broadcasting. • CC1-4: Information related to pictures (Appears at the bottom of the screen) • T1-4: Textual information (Appears over the entire screen)

All settings
Setup
Closed caption (2)

MENU → Menu > Setup > Closed caption

Settings	Options	Description
Digital	Primary/ Second./ Service 3/4/5/6	• The Digital Closed caption menu lets you configure the way you choose to view the digital captioning.
Digital setting (Set display settings in digital programs.)	Size	• Select the text size
	Font	• Select the text font
	Style	• Select the text style (Raised, Depressed, etc.)
	Foreground	• Select the color of text
	Fore. opacity	• Select the opacity of text
	Background	• Select the color of text box
	Back. opacity	• Select the opacity of text box
	Outline	• Select the outline color of text (Identify the setting options on the screen).

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

All settings
Setup
VIERA Link settings (1)

MENU → Menu > Setup > VIERA Link settings

Settings	Options	Description
VIERA Link	Off/On	• To use all VIERA Link functions, set to On after everything is connected.
Power on link	No/Yes	• 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	No/Yes	• 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.

All settings
Setup
VIERA Link settings (2)

MENU → Menu > Setup > VIERA Link settings

Settings	Options	Description
Energy saving mode	Quick start/ Save	• Quick Start: When TV is turned off, all connected VIERA Link compatible equipment is moved to ECO Standby mode* automatically under these conditions. • Power off link:(Yes). The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)" * Minimum power consumption of Standby condition for the equipment.
Unselected device energy save	No (stay on)/ Yes (with prompt)/ Yes (no prompt)	• Yes: 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)
Default speakers	TV/Theater	• TV is the default setting. To set the Home theater system as Default speakers, change the Default speakers setting from TV to Theater. Sound will be output from the Home Theater whenever the TV is powered on.

All settings
Setup
ECO/energy saving (1)

MENU → Menu > Setup > ECO/energy saving

Settings	Options	Description
Power save	Standard/ Saving	• Reduces screen brightness to lower power consumption. Eye-friendly for viewing in a dark room.
No signal for 10 minutes	Stay on/ Power TV off	• To conserve energy, the TV automatically turns off when NO SIGNAL and NO OPERATION continue for more than 10 minutes. • Not in use when "Auto power on" is set to "Yes", or "On/Off Timer" is set. • "No signal for 10 minutes was activated" will be displayed for about 10 seconds when the TV is turned on for the first time after the power was turned off by "No signal for 10 minutes" feature. • The on-screen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

All settings
Setup
ECO/energy saving (2)

MENU → Menu > Setup > ECO/energy saving

Settings	Options	Description
No activity for 3 hours	Stay on/ Power TV off	• To conserve energy, the TV automatically turns off when no operation of remote and side panel key continues for more than 3 hours. • Not in use when "Auto power on" is set to "Yes", or "On/Off Timer" is set, or while "PC inputs" is selected. • "No activity for 3 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 3 hours" feature. • The on-screen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

MENU → Menu > Setup > Advanced setup

Settings	Options	Description
Auto power on	No/Yes	• Turns TV On automatically when the cable box or connected device is turned On. • TV AC cord must be plugged into this device. TV turns on every time the power is restored.
Image viewer auto play	Slideshow/ Photos/ Videos/Music/ Set later/Off	• Sets the media contents or playback type to playback SD cards automatically. • Set later: Image viewer settings menu will be displayed repeatedly.
VIERA Connect Banner	Off/On	• Sets the banner display status.
Channel transition effect	On/Off	• Set to Off to disable transition effect during tuning the channel.

All settings
Setup
Other settings (1)

MENU → Menu > Setup

Settings	Options	Description
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.
Language	English/ Español/ Français	• Selects the screen menu language.
Clock		• Adjusts the TV's date and time. (Needed for timer function).
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: [BLANK] Blu-ray/CABLE/SATELLITE/ DVD /DVD REC/DVR/GAME/HOME THTR/ RECEIVER/COMPUTER/MEDIA CTR/ MEDIA EXT/VCR/CAMERA/MONITOR/ AUX/OTHER/Not used

All settings
Setup
Other settings (2)

MENU → Menu > Setup

Settings	Options	Description
Bluetooth settings		• Search and register Bluetooth headphone and Keyboard. • Adjusts lip sync delay, audio output setting, and volume for the Bluetooth audio devices.
Keyboard type		• Selects the country/region of the keyboard connected to this TV. (U.S./Canadian French/Canadian Multilingual Standard/Spanish (Latin America)/Spanish (Spain))
First time setup		• Launches First time setup wizard. Repeats the initial step-by-step TV setup.
About		• Displays TV's firmware version and software license.
Reset to defaults		• Clears all TV settings and memory to factory defaults.

If there is a problem with your TV, please refer to the table below to determine the symptoms, then carry out the suggested check. If this does not solve the problem, visit the Panasonic website for further assistance.

Questions	Answers
How do I view the picture from devices such as : Cable/Satellite box, game console, Blu-ray or DVD player?	• Press the INPUT button on the remote to select the correct input source. • Check that the device is turned on and functioning correctly.
Why doesn't the picture look like it is in High Definition?	• Press the INFO button on the remote to confirm the type of signal being received. HD signal should be 720p, 1080i or 1080p. • Select a High Definition channel from your HD source (Cable, Satellite or fiber optic service). HD channels sometimes broadcast non-HD content. • Ensure that your HD source (HD box, Blu-ray player, etc.) is connected to the TV with an HDMI or Component cable and set to output an HD video signal.

Questions	Answers
Why is there no picture or just a blue, black or snowy screen being displayed?	• Check if the power cord is plugged in and the TV is turned on (front red LED light should be on; not blinking) • Press the INPUT button on the remote to select the correct input source. • Ensure all connections are correct and secure. Especially check for Component and VIDEO connection since these terminals are shared. • When using an external video source, such as a Cable/Satellite box or DVD player, check that the device is on and functioning correctly. • Press MENU on the TV's remote control. If the menu is displayed, then the TV is working; recheck above steps.
Why is the picture snowy when ANT/Cable in 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.

Questions	Answers
The picture is distorted after selecting the "Video/Comp." input. What should I do?	• Ensure that the device is connected correctly with the supplied Component/AV adapter to the TV's Video/Component green mini-connector. NOTE: One red connector is for video and the other is for audio. • Press INPUT and select Video <-> Comp. • Press ◁ / ▷ to choose 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.

Questions	Answers
Why is there a black box on the screen?	• Change settings of Closed caption (CC).
Why do some small spots on the screen remain bright or dark?	• The panel is made up of a few million pixels and is produced with advanced technology through an intricate process. Sometimes a few pixels may be bright or dark. These pixels do not indicate a defective panel and will have no impact on the performance of the TV.
Why is the picture brightness changing?	• Turn the C.A.T.S. feature off. Press MENU → Setup > Picture > C.A.T.S.

Sound - none

Questions	Answers
Why is there no sound coming from the TV?	• Make sure the volume is up and MUTE is off. • Confirm the TV speakers are set to On by pressing MENU and selection Audio> Advanced audio. • 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.

Questions	Answers
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.

Questions	Answers
How do I get VIERA Connect 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. Run the Connection test, under the Network menu. If Connection test 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 VIERA Connect TV?	• Yes. Select the VIERA Connect Market item in the middle bottom of the VIERA Connect home screen. VIERA Connect Market allows you to find and install the applications to VIERA Connect home screen.

Questions	Answers
How do I check for the latest software (firmware) version for my TV?	• In the main menu, select Network. Select Software update. The current version and latest version software will be shown. If software update is grayed out, the TV is not connected to the Internet. If a newer version is available, update your TV. Follow the on screen instructions, do not power off the TV until the update is complete. Be patient; firmware update may take a while.
How do I get the software update information and download periodically?	• In the main menu, select Network. Highlight New software notice. Make sure that setting is On. When the TV is turned On, update message is displayed if available. Follow the directions on the screen to download.

Questions	Answers
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 or press [VIERA TOOLS] button and select 3D. 4. In the 3D format select menu, select 3D. Notes: 1. 3D Blu-ray discs must be played with a 3D capable Blu-ray player. 2. Check with your Cable or Satellite provider to make sure their supplied box is 3D capable. 3. 3D signal must be connected to the TV via an HDMI cable. 4. Use Panasonic 3D Eyewear supporting Bluetooth wireless technology.
Can I use 3D glasses similar to the kind given at a 3D movie theater to watch 3D content on my 3D TV?	• No. Movie theater's 3D glasses are passive. They use a simple filter 'lens'. Panasonic active shutter 3D Eyewear are actively synchronizing the left/right eye viewing with the display, providing a superior 3D viewing experience.

Questions	Answers
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 or press VIERA TOOLS button on the TV's remote control and select 3D 2. In the 3D format select menu, choose another 3D format such as Side by side or Top and bottom. 3. Remember to switch the 3D format setting back to 2D when you go back to viewing a standard 2D signal.
Why does the left and right Sides of the image seem reversed?	• The 3D format has two different "phases". Try the other phase: 1. In the main menu, select Setup. Highlight 3D settings and press OK. 2. In the 3D settings menu, select Left/Right swap.

Questions	Answers
What is the easiest and best way to connect a High-Definition Cable or Satellite box to the TV?	• Use an HDMI cable. It carries both digital video and audio signal in HD. HDMI cable is the only cable needed to connect an HD device to the TV.
Why does the CC button not display Closed caption?	• When viewing TV via an HDMI connected device, such as a Cable or Satellite box, CC must be enabled on the device. • Closed caption is available only at supported TV programming.
Why does the screen and back cover of the TV get warm?	• The main unit radiates heat and some of the parts may become hot. This is normal operation and does not affect the performance of the set. • Ensure good ventilation. • Do not block the ventilation holes of the TV and do not place the TV on top of other equipment.

Questions	Answers
Why is the ANT/Cable option at the top of the Input select menu grayed-out and unable to be selected?	• During First time setup, you indicated in ANT/Cable setup that you are using Cable or Satellite box and the box is connected to one of the TV's AV inputs. In this case, the Antenna/Cable input is deactivated to prevent unintentional switching into unused tuner. To re-activate, press MENU, select Setup and repeat First time setup.
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. For example, Zoom adjustments are only available when the Screen format is changed to ZOOM mode.

Support / FAQ

FAQ

Reset to default

Questions	Answers
How do I reset my TV to all factory defaults and settings?	• In the main menu, select Setup. Highlight Reset to defaults and press OK. Enter your password (if created earlier) or create a temporary new password. Select Yes to reset the TV.

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.

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.

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.)