Panasonic®

GT50 series

*e*HELP

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 ⓞ

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)

👆 $\boxed{\text{MENU}}$ → 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)

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.

Convenience features

Lock (parental control)

Lock (2)

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.

119

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)

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

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

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

Convenience features
Lock (parental control)
Parental control ratings (2)

■ 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.		

Convenience features
Lock (parental control)
Parental control ratings (3)

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	<u>Off</u>/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	<u>CC1</u>-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)

Settings	Options	Description
Digital	<u>Primary</u>/ 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.

Convenience features

VIERA Link ™ "HDAVI Control ™"
VIERA Link connections (1)

■ 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

Convenience features

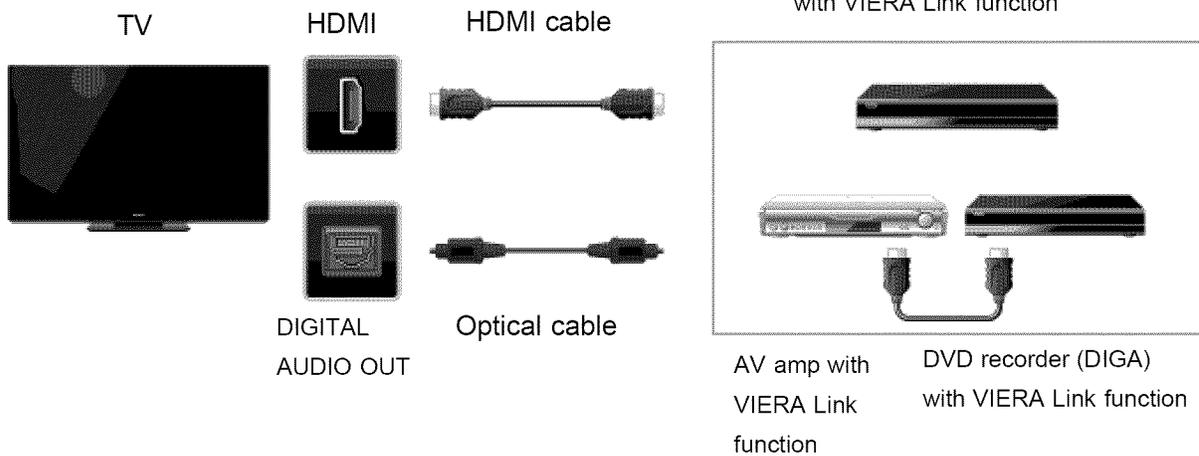## VIERA Link ™ "HDAVI Control ™"

VIERA Link connections (2)

■ <u>Connecting Home theater system/AV amp</u>

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.

TV   HDMI   HDMI cable

Home theater system
with VIERA Link function

DIGITAL   Optical cable
AUDIO OUT

AV amp with   DVD recorder (DIGA)
VIERA Link   with VIERA Link function
function

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 ⊙ then
     select VIERA Link settings with △ / ▽ and press ⊙ 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)

Convenience features
VIERA Link ™ "HDAVI Control ™"
VIERA Link settings feature (1)

■ 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.

Convenience features
VIERA Link ™ "HDAVI Control ™"
VIERA Link settings feature (2)

■ 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.

Convenience features

VIERA Link ™ "HDAVI Control ™"

VIERA Link settings feature (3)

■ 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	O	O
Panel Aspect Ratio (16:9 fixed)	O	O
Closed caption information (Mode/CC type/Digital setting)	O	---

> * 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.

Convenience features
VIERA Link ™ "HDAVI Control ™"
VIERA Link menu (1)

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)

Convenience features
VIERA Link ™ "HDAVI Control ™"
VIERA Link menu (2)

■ **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.

141

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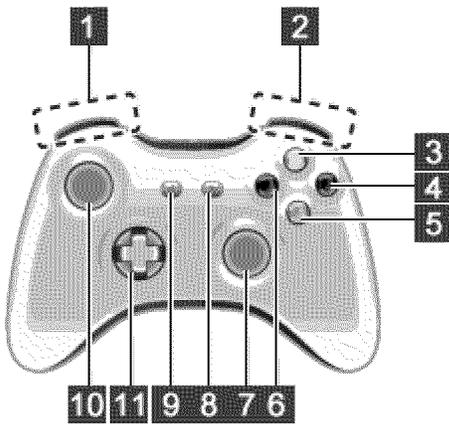
Gamepad	Remote Control
1	Volume up/down
2	Channel up/down
3	MENU
4	OK
5	Back/Return
6	INTERNET
7	VIERA TOOLS
8	EXIT
9	INPUT
10	OPTION
11	Cusor buttons

Convenience features
Using Bluetooth devices
Bluetooth settings

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 ⓞⓚ

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 ⓞⓚ

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 ⓞⓚ

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

 $\mathcal{E}$ [**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.

146

All settings
Picture
Basic settings (1)

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.

148

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/<u>Normal</u>	• 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.

150

All settings

Picture

Aspect adjustments

 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.

All settings
Picture
PC adjustments (2)

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)

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.

All settings
Audio
Basic settings

👉 `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

___

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.

159

All settings

Audio

DTV language and SAP settings

 MENU → Menu **>** Audio **>** DTV language and SAP settings

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

All settings
Audio
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.

All settings
Network
Network settings (3)

👆 **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.

All settings

Network

Network settings (4)

👉 **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**.

All settings

Network

Network settings (5)

✋ [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.

166

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 🆗

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 ⊚

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.

171

All settings

Lock (parental control)
Lock (2)

👆 **[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.

All settings
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.

All settings
Lock (parental control)
Parental control ratings (2)

■ 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.		

175

All settings
Lock (parental control)
Parental control ratings (3)

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

All settings
Setup
Setting menu

Other functions settings

1. Display the menu

   📖 MENU → Menu

2. Select Setup from menu bar

Select desired menu using △ / ▽ from menu bar and press ⓞⓚ

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/<u>Enable</u>	• Enable: Shifts the display image automatically.
4:3 side bars (4:3 mode only)	Off/Dark/Mid/<u>Bright</u>	• 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).

All settings
Setup
Closed caption notice

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

All settings
Setup
VIERA Link settings (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	<u>Stay on</u>/ 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.

All settings
Setup
Advanced setup

👆 **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)

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.

Support / FAQ

FAQ

Picture - Viewing

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 $\boxed{\text{INPUT}}$ 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 $\boxed{\text{INFO}}$ button on the remote to confirm the type of signal being received. HD signal should be 720p, 1080i or 1080p. • Select a High Definition channel from your HD source (Cable, Satellite or fiber optic service). HD channels sometimes broadcast non-HD content. • Ensure that your HD source (HD box, Blu-ray player, etc.) is connected to the TV with an HDMI or Component cable and set to output an HD video signal.

Support / FAQ
FAQ
Picture - Snowy / none

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.

Support / FAQ
FAQ
Picture - Distortion

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.

Support / FAQ
FAQ
Picture - Continue

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.

Support / FAQ

FAQ

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.

Support / FAQ

FAQ

Sound - Unusual

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 $\boxed{\textbf{SAP}}$ button on the remote control. • Check that all connections of external equipment connected to the TV are secure. • When using Cable or Satellite box, check the device's audio settings. (Example: try changing the box's Audio Range to "narrow")
Why is there a clicking, ticking or buzzing sound coming from the TV unit?	• When TV power is turned on or shut off there are electrical components that make a click sound. This is normal operation. • Changes in the temperature and humidity of the room may cause thermal expansion and contraction that can produce sounds. This is not a sign of faulty operation or a malfunction.

Support / FAQ
FAQ
Networking

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.

Support / FAQ

FAQ

Software update

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.

Support / FAQ

FAQ

3D - Viewing

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.

Support / FAQ
FAQ
3D - Format

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 ⊙. 2. In the 3D settings menu, select Left/Right swap.

Support / FAQ
FAQ
Other

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.

Support / FAQ
FAQ
Menu - Gray-out

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 ⊙. Enter your password (if created earlier) or create a temporary new password. Select **Yes** to reset the TV.

Support / FAQ
Care and Cleaning
Display panel

First, unplug the Power cord plug from the wall outlet.

■ **Display panel**

The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.

- If the surface is particularly dirty, after cleaning up the dust, soak a soft, lint-free cloth in diluted mild liquid dish soap (1 part mild liquid dish soap diluted by 100 times the amount of water) and then wring the cloth to remove excess liquid. Use this cloth to wipe the surface of the display panel, then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects. Furthermore, avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the surface may be adversely affected.

Support / FAQ
Care and Cleaning
Cabinet

First, unplug the Power cord plug from the wall outlet.

■ <u>Cabinet</u>

If the cabinet becomes dirty, wipe it with a soft, dry cloth.

* If the cabinet is particularly dirty, soak the cloth in a weak mild liquid dish soap and then wring the cloth dry. Use this cloth to wipe the cabinet and then wipe it dry with a dry cloth.
* Do not allow any mild liquid dish soap to come into direct contact with the surface of the TV. If water droplets get inside the unit, operating problems may result.
* Avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the cabinet surface may be adversely affected or the coating may peel off.
* Do not let articles made from rubber or PVC be in contact with the TV for long periods of time.

Support / FAQ
Care and Cleaning
Pedestal / Power cord

First, unplug the Power cord plug from the wall outlet.

■ Pedestal

- Cleaning
  Wipe the surfaces with a soft, dry cloth. If the unit is particularly dirty, clean it using a cloth soaked with water to which a small amount of mild liquid dish soap has been added and then wipe with a dry cloth. Do not use products such as solvents, thinner, or household wax for cleaning, as they can damage the surface coating. (If using a chemically-treated cloth, follow the instructions supplied with the cloth.)
- Do not attach sticky tape or labels, as they can make the surface of the pedestal dirty. Do not allow long-term contact with rubber, vinyl products, or the like. (Doing so will cause deterioration.)

■ Power cord

- Wipe the plug with a dry cloth at regular intervals. (Moisture and dust can lead to fire or electrical shock.)