Panasonic

TC-65DX700X

TC-40DX650X   **TC-49DX650X**   **TC-55DX650X**

*e*HELP

English

Read first

eHELP

Features

Using Home Screen

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eHELP

How to use

Before using eHELP, check the followings.

■ Meaning of signs

Press the Remote control button

INFO   Letters enclosed in brackets : Remote control button

Menu   Letters in Cyan : Menus on screen display

References in this eHELP

Features

4K resolution

You can watch content in 4K format that has twice the horizontal and vertical resolution of the 1080p signal.

 Watching TV > **4K compatible equipment**

Home Screen

"Home Screen" is a gateway to the TV programs, applications and connected devices.

It provides you an easy way to access all the features.

 Using Home Screen > **Home Screen** > **Information**

Info Frame

Info Frame is a convenient feature to provide you relevant information of the program being watched, recommendations, etc. It is displayed on the edge of screen when you need it.

 Convenience features > **Info Frame** > **Information**

Easy Mirroring

You can watch and display images of other devices (smartphone, etc.) on the TV screen using a mirroring function. You can also start the mirroring function from the other devices without operating the TV.

 Convenience features > **Control by Smartphone, etc.** > **Mirroring**

Ultra Vivid

You can select the suitable picture / sound mode by pressing **ULTRA VIVID**.

 Convenience features > **Ultra Vivid**

Using Home Screen

Home Screen

Information

"Home Screen" is a gateway to the TV programs, applications and connected devices.

Home Screen is displayed by pressing HOME and it provides you an easy way to access all the features as shown below (example).
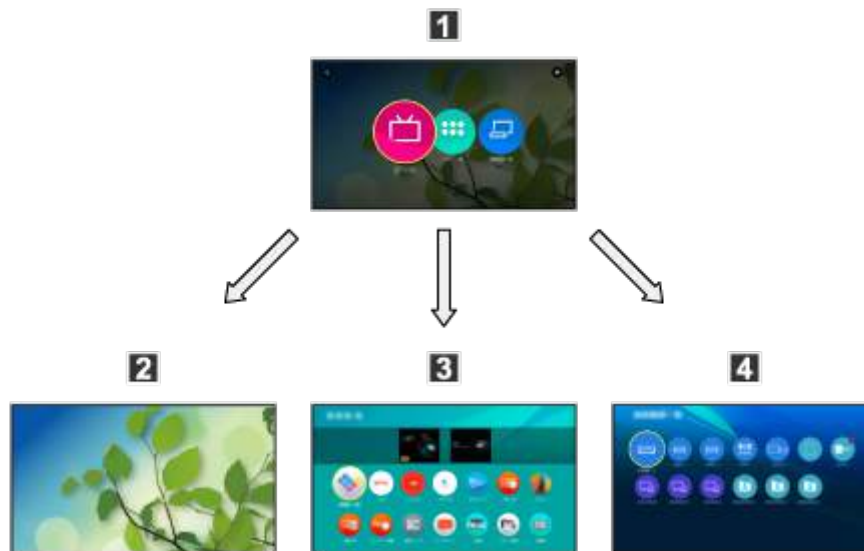
1 Home Screen

2 Live TV

– Gateway to TV programs

📖➡ **Using Home Screen** > **Live TV**

3 Apps

– Gateway to various applications (Internet content, etc.)

📖➡ **Using Home Screen** > **Apps**

4 Devices

– Gateway to connected devices (HDMI equipment, USB device, network device, etc.)

📖➡ **Using Home Screen** > **Devices**

- Be sure to update the software when a software update notice is displayed on the TV screen. If the software is not updated, you may not be able to use Home Screen. You can update the software later manually.

   Network services > **Network settings** > **Software update**

How to use

From Home Screen, you can access all the features such as TV programs, applications and connected devices.

1. Display Home Screen with HOME.

   (Example)

2. Select **Live TV** / **Apps** / **Devices** and press ⊙ to access.

   - To watch full-screen TV, select **Live TV**.

     (Example)

   - Also refer to 🔌 on the top right of Home Screen for the operations.

■ Search

You can search the content from various features.

1. Display Home Screen with HOME.

2. Select 🔍 on the top left of Home Screen and press ⊙ to access.

3. Follow the on-screen instructions.

Pin to HOME

You can add a shortcut for frequently used feature on Home Screen.

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

2. Select **Live TV** / **Apps** / **Devices** and press ⊛ to access.

3. Select a feature (TV program / application / device).

4. Display the option menu with **OPTION**.

5. Select **Pin to HOME** and press ⊛ to set.

- To remove a shortcut from Home Screen, set **Unpin from HOME**.

  🖥️➡ **Using Home Screen** > **Home Screen** > **Option menu**

Option menu

You can customize Home Screen.

1. Display the option menu with **OPTION**.

2. Select one of the following items and press ⊛ to access.

   Unpin from HOME / **Move**

3. Set the item and press ⊛ to store.

Unpin from HOME

Remove a shortcut from Home Screen.

Move

Arranges the position of the icons.

Live TV

How to use

Live TV is a gateway to the TV programs.

1. Display Home Screen with HOME.

2 Select **Live TV**.

   (Example)

3. Press OK to access.

   (Example)

   - For details of watching TV

      Watching TV

   - To add a shortcut icon

      Using Home Screen > **Home Screen** > **Pin to HOME**

Option menu

1. Display the option menu with **OPTION**.

2. Select one of the following items and press 🆗 to access.

    Pin to HOME / **Unpin from HOME** / **Accessibility** / **AV Options**

3. Set the item and press 🆗 to store.

Pin to HOME, Unpin from HOME

Adds / removes a shortcut for a frequently used feature on Home Screen.

 ⬛➡ **Using Home Screen** > **Home Screen** > **Pin to HOME**

- The label (channel position, channel name, etc.) of shortcut is not updated by broadcasters automatically. Remove and add the shortcut again to update the label.

Accessibility

Guidance settings for visually impaired users

 ⬛➡ **Convenience features** > **Using Voice guidance** > **Voice guidance**

AV Options

Easy optional setting for viewing, sound, etc.

 ⬛➡ **Watching TV** > **Antenna / Cable service without a box** > **Other**

- Menu items and selectable options vary depending on the TV mode.

Apps

How to use

Various applications (Internet content, etc.) can be accessed easily from **Apps**.

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

2. Select **Apps** and press 🆗 to access.

   (Example)
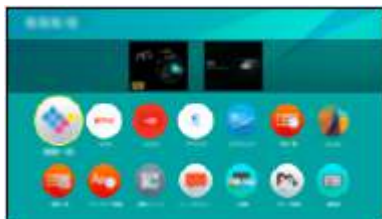
   - To exit **Apps**

     RETURN/**EXIT**

   - To add a shortcut icon

     📖➡ **Using Home Screen** > **Home Screen** > **Pin to HOME**

3. Select an application and press 🆗 to access.

4. Follow the on-screen instructions.

- A broadband network environment is required to be able to use this function fully.

- Design and specifications are subject to change without notice.

Option menu

1. Display the option menu with **OPTION**.

2. Select one of the following items and press 🆗 to access.

   Pin to HOME / **Unpin from HOME** / **Move** / **Lock** / **Unlock** / **Uninstall** / **Show Info.**

3. Set the item and press 🆗 to store.

Pin to HOME, **Unpin from HOME**

Adds / removes a shortcut for a frequently used feature on Home Screen.

📺➡ **Using Home Screen** > **Home Screen** > **Pin to HOME**

Move

Arranges the position of the applications.

Lock, **Unlock**

Locks / unlocks the specific applications to restrict access to them (if available).

- Password is required to access to locked application.

  📺➡ **Convenience features** > **Parental control** > **Password setting**

Uninstall

Deletes an application from **Apps** (if available).

Show Info.

Displays the information about the selected application.

Devices

How to use

Connected devices (HDMI equipment, USB device, network device, etc.) can be accessed easily from **Devices**.

1. Display Home Screen with HOME.

2. Select **Devices** and press OK to access.

    (Example)

    - To exit **Devices**

        RETURN/EXIT

    - To add a shortcut icon

        ⬛️➡ **Using Home Screen** > **Home Screen** > **Pin to HOME**

3. Select a device and press OK to access.

    - For external equipment

        ⬛️➡ **Watching TV** > **Blu-ray, DVD, Game Console, etc.**

    - For devices for Media Player

        ⬛️➡ **Media player**

    - For network equipment for DLNA

        ⬛️➡ **Home network "DLNA"**

    - For mirroring function

        ⬛️➡ **Convenience features** > **Control by Smartphone, etc.** > **Mirroring**

    - Design and specifications are subject to change without notice.

Option menu

1. Display the option menu with **OPTION**.

2. Select one of the following items and press ⓞⓚ to access.

    Pin to HOME / **Unpin from HOME** / **Accessibility** / **Show Info.**

3. Set the item and press ⓞⓚ to store.

Pin to HOME, **Unpin from HOME**

Adds / removes a shortcut for a frequently used feature on Home Screen.

   📺➡ **Using Home Screen** > **Home Screen** > **Pin to HOME**

Accessibility

Guidance settings for visually impaired users

   📺➡ **Convenience features** > **Using Voice guidance** > **Voice guidance**

Show Info.

Displays the information about the selected device.

Watching TV

Cable / Satellite / Fiber Optic box

Initial setting

1. **Connecting**

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

   > Note:
   > - HDMI will provide the best HD picture

2. **Change INPUT**

   ☞ INPUT

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

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

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

   Use the box's remote control to change channels.

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

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

Antenna / Cable service without a box

Initial setting

1. **Connect coax**

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

   1 TV (ANTENNA/CABLE IN)

   2 Antenna

2. **Scan the channel**

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

   1) Select either **Cable** or **Antenna** programming source in **ANTENNA/ Cable signal**.

   2) Select **Auto program** and then the appropriate scan mode:

      (**All channels** / **Analog only** / **Digital only**)

   3) Start scanning.

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

   - If no channels are found by the end of the scan, then check the following:

     – Antenna's position - or availability of Cable service.

     – Cable, Satellite or Fiber Optic services with a box are typically connected to the TV's A/V inputs, preferably HDMI, for best HD picture. In such case, the channel scanning is not needed.

Select channels

■ Select desired channel
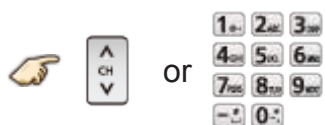
• CH buttons are also available on the TV.

■ Select desired digital channel

To directly enter a digital channel number use ⊟ button to enter the dash.

(e.g. CH15-1 → 1 5 ⊟ 1)

Favorite channels

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

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

■ Set the Favorite channel

👆 **OPTION** ➡ **AV Options** > **Set favorite**

Select the list number using △ / ▽ and 🆗 or **0** - **9** / **—** directly to save the displayed channel.

■ Delete a Favorite channel

👆 **OPTION** ➡ **AV Options** > **Set favorite**

Select the list number using △ / ▽ and 🆗 to delete.

• To change the page in **Set favorite** 👆 **FAVORITE** or ◁ / ▷ repeatedly

■ Display a Favorite channel

👆 **FAVORITE** ➡ **Favorite channels**

Select the list number using △ / ▽ and 🆗 or **0** - **9** / **—** directly.

• To change the page in **Favorite channels** 👆 **FAVORITE** or ◁ / ▷ repeatedly

Closed Caption

■ Viewing with Closed Caption

☞ CC

Switches the Closed Caption mode.

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

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

- Contact your Cable or Satellite operator for instructions on enabling CC with their box.

- The TV's CC button does not operate the Satellite or Cable box's CC function.

- For viewing the CC of digital broadcasting, set the aspect to Full (If viewing with JUST, ZOOM or 4:3, characters might be cut off).

- If the CC is set to On on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.

- If a digital program is being output in analog format, the CC data will also be output in analog format.

- If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

SAP

■ Listen with SAP (Secondary Audio Programming)

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

- Contact your Cable or Satellite operator for instructions on enabling SAP with their box.

- The TV's `SAP` button does not operate the Satellite or Cable box's `SAP` function.

Select the Audio mode for watching TV.

☞ `SAP`

Digital mode:

Select available audio service when receiving a digital channel.

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

(**Menu** > **Sound** > **Preferred audio type**)

(**Menu** > **Setup** > **Language** > **Preferred SAP language**)

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

(Example)

```
Audio track 1 of 7    — 1
English (Main audio)  — 2
English audio         — 3
```
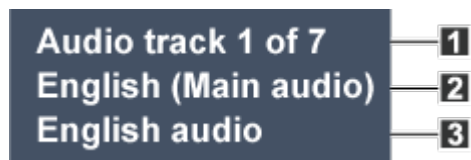
1 Track number / Number of tracks

2 Current audio track information

3 Audio service information

Analog mode:

Select the desired Audio mode.

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

Other

1. Information banner

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

☞ `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.

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

☞ `OPTION` ⇒ **AV Options**

Channel surf mode:

Specifies favorites or type of channels to view when pressing the channel up/down button.

Set favorite:

Sets favorite channel.

Edit CH caption:

Edits the channel identifier.

Signal meter:

Checks the antenna's signal strength.

☞ `OPTION` ⇒ **Accessibility**

Voice guidance settings:

Guidance settings for visually impaired users.

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

4K compatible equipment

Connecting and viewing

You can watch content in the 4K format that has twice the horizontal and vertical resolution of the 1080p signal.

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

1. **Connect device**

   To watch 4K content, connect the 4K compatible equipment to the HDMI 1/2 input with a 4K compatible HDMI cable respectively.

   Connections for 4K contents

   1 HDMI IN

   2 HDMI cable (4K compatible cable)

   3 HDMI OUT

   4 4K compatible equipment

2. **Select input and display**

   1) Display **Input select** menu (with the connected equipment turned On)

      ☞ INPUT

   2) Select **HDMI 1/2** input using △ / ▽ and press ⊛.

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

   For HDMI 1/2:

   HDMI auto setting (**Mode1**/**Mode2**)

   ☞ MENU ➡ **Menu** > **Setup** > **HDMI auto setting**

   • Reproduces the image more precisely with the expanded color gamut when connecting the 4K compatible equipment. Select the mode depending on the equipment.

   🖳➡ **All settings** > **Setup** > **Useful settings**

About 4K format

4K format refers to approximately 4,000 pixels of horizontal resolution which has several different digital formats.

- This TV supports 4K UHD and DCI 4K (4,096 x 2,160).

■ 4K format of HDMI

- 4K UHD

  3,840 x 2,160 (60p, 30p, 24p)

  – Aspect is fixed to **FULL**.

- DCI 4K

  4,096 x 2,160 (60p, 30p, 24p)

  – Actual resolution is 3,840 x 2,160p.

  – Aspect is fixed to **V Full**.

- Connect to HDMI1 or HDMI2 for the following formats.

  – 4K UHD

    30p, 24p / 4:4:4 (10 bit, 12 bit)

    60p

  – DCI 4K

    24p / 4:4:4 (10 bit, 12 bit)

    60p, 30p

- The above signals are reformatted for optimal viewing on your display.

- Aspect is fixed to **FULL** when watching the content of 4K format except DCI 4K.

- For more information about Aspect

   Watching TV > **For best picture** > **Screen mode for 4K format**

Input signal (AV)

- Signals other than below may not be displayed properly.

- The signals are reformatted for optimal viewing on your display.

■ Component/HDMI

Input signal	Component	HDMI
480/60i	○	○
480/60p	○	○
720/60p	○	○
1,080/60i	○	○
1,080/60p	○	○
1,080/24p		○
2,160/60p		○
2,160/30p		○
2,160/24p		○

○ : Applicable input signal

Blu-ray, DVD, Game Console, etc.

Connecting and viewing

1. **Connect device**

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

   Component and Composite (Video) in terminals are shared.

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

   - For Example of AV connections

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

2. **Select Input**

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

      ☞ INPUT

   2) Select the input used in step 1

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

      ┌───┐
      │ When you connect to Component or Video input, you need to select **Video** or **Component**.
      │
      │ - Press INPUT and select **AV**: **Video** ↔ **Component**.
      │
      │ - Press ◁ / ▷ to choose Video or Component.
      │
      │   Input select
      │   ANTENNA/Cable In
      │   HDMI1
      │   HDMI2
      │   AV   < Video ⟷ Component >
      └───┘
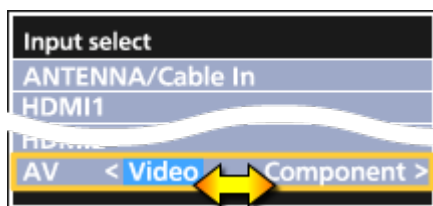
      - To edit and customize the TV's input label

        🖥➔ **All settings** > **Setup** > **Display customization**

   3) Operate using your device's remote control

      ┌───┐
      │ - The menu choices vary depending on which input is selected.
      └───┘

Example of AV connections

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

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

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

1 HDMI IN

2 HDMI cable

3 HDMI OUT

4 AV Equipment (e.g. Blu-ray Disc player)

For devices with DVI output

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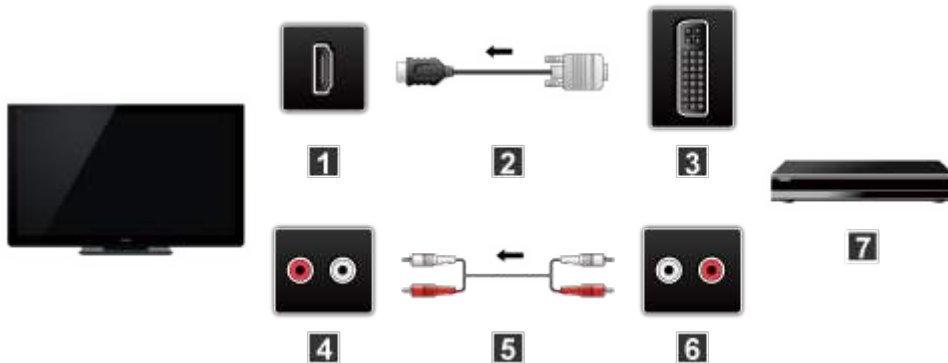
1 HDMI IN

2 HDMI-DVI Conversion cable

3 DVI OUT

4 AUDIO IN

5 Audio cable

6 AUDIO OUT

7 AV Equipment (e.g. Blu-ray Disc player)

B. Connecting to the COMPONENT input

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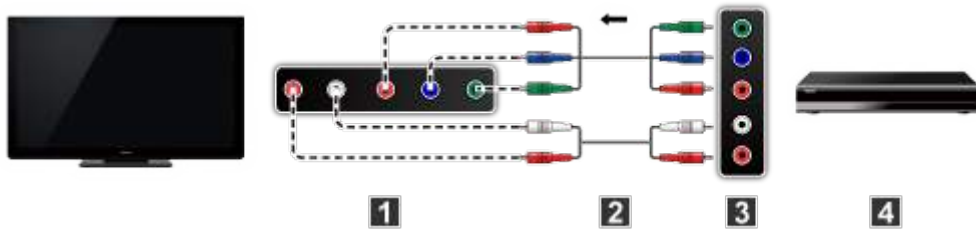
1 COMPONENT IN

2 Component cable

3 COMPONENT OUT

4 AV Equipment (e.g. Blu-ray Disc player)

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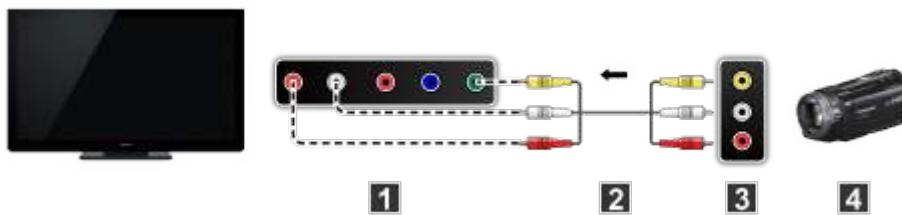
1 COMPOSITE IN

2 VIDEO cable

3 COMPOSITE OUT

4 AV Equipment (e.g. Camcorder)

HDMI HDR setting [This feature is available depending on your model.]

[Available menu items are displayed on your TV screen.]

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

   ☞ MENU ➡ **Menu** > **Setup**

2. **Select HDMI HDR setting and press** (OK)**.**

3. **Set the item and press** (OK)**.**

   ➡ **All settings** > **Setup** > **Useful settings**

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

  All settings > **Sound** > **Advanced settings**

[*1] : The HDMI logo is displayed on an HDMI-compliant device.

[*2] : Inquire at your local digital equipment retailer shop.

HDMI connection caution

Caution

- Audio settings can be made on **HDMI audio format** / **HDMI input** in the Sound menu.

  ⬛➡ **All settings** > **Sound**

- 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.

Input signal

- Signals other than those listed below may not be displayed properly.

- The signals are reformatted for optimal viewing on your display.

■ Component/HDMI

Input signal	Component	HDMI
480/60i	○	○
480/60p	○	○
720/60p	○	○
1,080/60i	○	○
1,080/60p	○	○
1,080/24p		○
2,160/60p		○
2,160/30p		○
2,160/24p		○

○ : Applicable input signal

- For more information about viewing 4K content, refer to **Watching TV** > **4K compatible equipment**.

For best picture

Picture mode

1. **Change picture mode to suit your settings and preferences.**

    1) Select **Picture mode**

        ☞ `MENU` ➡ **Menu** > **Picture** > **Picture mode**

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

    2) Adjust using △ / ▽

    > Note:
    > - HDMI will provide the best HD picture

2. **Picture mode type**

    Vivid

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

    Standard

    Recommended for normal viewing conditions with subdued room lighting.

    Home theater

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

    Cinema

    Reproduces the original image quality precisely without any revision.

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

● **Use the mode below to adjust the picture mode in more detail.**

Custom

Customizes each item according to your preference.

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

- Adjust the Picture mode in more detail.

    🖼️➡ **All settings** > **Picture** > **Pro settings**

Auto brightness (ECO)

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

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

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

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

Or

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

Aspect setting

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

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

☞ **FORMAT** (to cycle through the aspect modes)

480i, 480p, 1080p, 1080i, 720p:	Full/JUST/4:3/ZOOM
4K format:	Full/V Full

> - 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.
>
> - Aspect is fixed to **FULL** in the following conditions:
>
>   – 4K content except DCI 4K
>
>   – **1080p pixel by 4pixels** is set to **On**.
>
>   – **Game mode** is set to **On**.
>
>   – Pure direct menu is set to **On**.

- For screen format settings

  🖥➡ **All settings** > **Picture** > **Screen settings**

Screen mode

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

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

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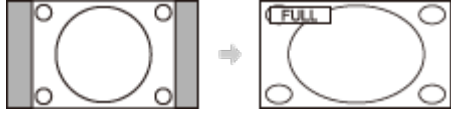
Enlarges the image horizontally to the screen's edges.

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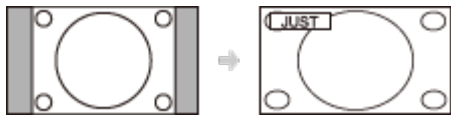
Justifies the image by stretching it to the four corners on the screen.

(Recommended for normal TV broadcast)

4:3
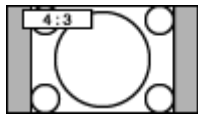
Displays the image as original size.

ZOOM
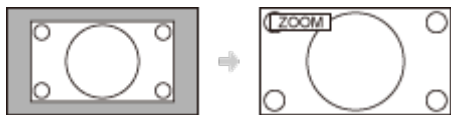
Enlarges the image to the entire screen.

(Recommended for Letterboxed content)

Screen mode for 4K format

FULL
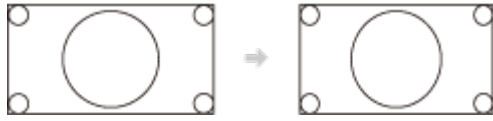
Reduces the images to fit to entire screen.

V Full (only for DCI 4K format)
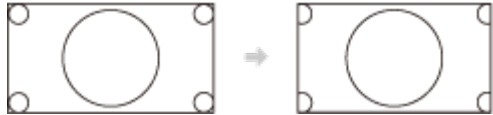
Reduces the images to fit to the top and bottoms of the screen without changing the aspect ratio.

The side edges of the image are cut off.

Zoom adjustments

If there is a problem with the image position on the screen, vertical image position and size can be adjusted in "ZOOM"

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

   ☞ MENU ⇒ **Menu** > **Picture** > **Screen settings** > **Zoom adjustments**

2. **Adjust the V-position or V-size.**

   V-position:

   Vertical position adjustment

   Adjust using △ / ▽ to desired position.

   V-size:

   Vertical size adjustment

   Adjust using ◁ / ▷ to desired size.

   • Press ⓞⓚ to reset

Copy adjustments

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

Settings are basic picture settings and Pro settings.

1. **Select Copy adjustments**

   ☞ MENU ⇒ **Menu** > **Picture** > **Copy adjustments**

   Select the desired menu using △ / ▽ and press ⊙

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

   Select the menu using △ / ▽ and press ⊙

   Then, select the destination using △ / ▽ and press ⊙ to set.

3. **Select Copy start to copy**

   Select the menu using △ / ▽ and press ⊙

4. **Select Yes to set**

   Select the item using ◁ / ▷ and press ⊙ to set

For best audio

Sound mode

Selects your favorite sound mode.

- The selected mode affects all input signals.

  👉 MENU ➡ **Menu** > **Sound** > **Sound mode**

  Standard:

  Provides the suitable sound quality for all types of scenes.

  Music:

  Improves sound quality for watching music videos, etc.

  Ambience:

  Improves spatial effects and provides clear sounds.

  User:

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

  – For the **User** mode, **Equalizer** will appear on the Sound Menu instead of **Bass** and **Treble**. Select **Equalizer** and adjust the frequency.

- Gray-out when using Home Theater.

- Adjusts the Sound mode in more detail.

  📺➡ **All settings** > **Sound**

DIGITAL AUDIO OUT terminal

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

- Depending on your DVD player and DVD-Audio software the copyright protection function may operate and disable optical output.

- When an ATSC channel is selected, the output from the DIGITAL AUDIO OUT jack will be Dolby Digital. When an NTSC channel is selected, the output will be PCM.

- When playing the movie on Movie player, when the sound has been recorded in Dolby Digital, then 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.

Network services

Connect to network

Network connections

1. **Contact your broadband Internet service provider**

   To obtain broadband Internet service:

   • Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.

   • Dial-up Internet Access cannot be used.

2. **Select wired or wireless connection**

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

   • Wired LAN connection

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

   • Wireless LAN connection

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

3. **Connecting to the network**

   There are some connection type.

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

Network connection types

A. Wireless connection

1 TV (Built-in Wireless LAN)

2 Home network (Modem/Wireless router)

3 Computer/DLNA Certified media server

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

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

B. Wired connection (Using Router)

1 TV (Ethernet port)

2 LAN (Ethernet) cable

3 Home network (Modem/Router)

4 Computer/DLNA Certified media server

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

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

C. Wired connection (Directly connected)

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

1 TV (Ethernet port)

2 LAN (Ethernet) cable

3 Modem

Network settings

Setting the menu

This menu is used for connecting to a broadband service.

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

   ☞ **MENU** ➡ **Menu** > **Network**

   Select **Network** using △ / ▽ from menu bar and press ⊙

2. **Select the options and set**

   (**Network connection**/**Network status**/**my Home Cloud settings**/**VIERA network name**/**TV Remote App settings**/**Network link**/**File sharing settings**/**Mirroring settings**/**Do Not Track setting**/**Software update**/**New software notice**)

Network connection/Network status

1. **Select Network connection using △ / ▽ and press ⊙**

2. **Select Quick setup to launch Network connection setup wizard.**

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

   - Manual settings are also available.

     Select **Custom** and select your connection type.

     Displays setting menu according to selected connection type.

     Set the desired menu and complete the network connection.

3. **Displays Network status**

   Select **Try again** and press ⊙ to start connection test.

   Success

   ⇒ Completion message is displayed.

   Error

   ⇒ Select **Status details**/**Help** and press ⊙ to display solution of the connection error.

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

   - You can also display **Network status** from **Network** menu.

     (**Network** > **Network status**)

4. **Exit the screen**

   Select **Done** and press ⊙ to exit from this screen.

my Home Cloud settings

Sets an account to enjoy the cloud services.

1. **Select my Home Cloud settings using △ / ▽ and press ⊙.**

2. **Select Notices.**

3. **Follow directions on the screen.**

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

VIERA network name

Set your favorite name for this TV.

1. **Select VIERA network name using △ / ▽ and press ⓞⓚ**

2. **Enter favorite name with screen keyboard**

TV remote App settings

1. **Select TV Remote App settings using △ / ▽ and press ⓞ**

2. **Select the item and set**

■ TV remote (App)

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

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

  1. Select **TV Remote** using △ / ▽ and press ⓞ

  2. Switch **On** or **Off** with △ / ▽

■ Wake on LAN / Wireless LAN

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

  1. Select Wake on LAN / Wireless LAN using △ / ▽ and press ⓞ

  2. Switch **Off** or **On** with △ / ▽

■ Device to upload contents

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

  1. Select **Device to upload contents** using △ / ▽ and press ⓞ

  2. Select device and press ⓞ

Network link

Setting for DLNA server.

■ DLNA server

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

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

  1. Select **DLNA server** using △ / ▽ and press ⊛
  2. Switch **On** or **Off** with △ / ▽

■ Registration type

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

  1. Select **Registration type** using △ / ▽ and press ⊛
  2. Switch **Auto** or **Manual** with △ / ▽

Auto:

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

Manual:

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

■ Remote device list

Lists the available device on the home network.

  1. Select **Remote device list** using △ / ▽ and press ⊛
  2. Select the desired device with △ / ▽ and set access limitation.

File sharing settings

■ File sharing server

You can use your computer to exchange files, such as photos, videos, and music between the computer and devices connected to this TV.

Then, you can enjoy playing them with Media player.

- PC connection by a network is required to use this function.

1. **Select File sharing settings**

2. **Set File sharing server to On**

   Switch to **On** using △ / ▽

3. **Configure your PC for File sharing**

- The name set in VIERA network name is used for this PC setting.

4. **Playing the contents with Media player**

- Regarding performance, not all PCs are guaranteed.

- This function is not available when the TV is in standby mode or turned off.

- Do not turn the TV off, pull out the power plug or remove the device during operation (reading, etc.). Doing so may cause device or file corruption.

■ Network device list

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

1. **Select File sharing settings**

2. **Select Network device list**

   Display connected network devices.

3. **Select desired network device and press ⓞⓚ.**

4. **Registration screen is displayed.**

   Enter the necessary information to register.

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

5. **Press ⓞⓚ to register**

- Regarding performance, not all servers are guaranteed.

- Up to 48 devices can be registered.

Mirroring settings

1. **Select Mirroring settings using △ / ▽ and press ㋨.**

2. **Select the item and set.**

■ Easy Mirroring

Enables starting the mirroring function from the other devices (smartphone, etc.) without operating the TV.

1. Select **Easy Mirroring** using △ / ▽ and press ㋨.

2. Switch **On** or **Off** with △ / ▽.

    • Not available when the TV is set to **TV as Access Point**.

■ Delete All Pairings

Delete the pairing information for all paired devices.

Select **Delete All Pairings** using △ / ▽ and press ㋨.

Do Not Track setting

Sets to notify websites and some applications about tracking your browsing activities.

1. **Select Do Not Track setting using △ / ▽ and press ⓞⓚ.**

2. **Select the item and set.**

   (**Tracking Mode**/**About Do Not Track**)

■ Tracking Mode

Select tracking status.

1. Select **Tracking Mode** using △ / ▽ and press ⓞⓚ.

2. Select the item and press ⓞⓚ.

   Mode1:

   Notifies websites that you want to be tracked.

   Mode2:

   Notifies websites that you do not want to be tracked.

   Mode3:

   Sends no configuration information about tracking.

■ About Do Not Track

Displays the information about tracking.

   Select **About Do Not Track** using △ / ▽ and press ⓞⓚ.

- A broadband network environment is required to be able to display the detailed information.

Software update

1. **Select Software update using △ / ▽ and press ⊛**

2. **Press OK to start the Software update screen**

   ☞ ⊛ ➔ **Software update**

3. **Follow directions on the screen**

   - Make sure to set this TV's **Clock** before the update starts.

New software notice

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

1. **Select New software notice using △ / ▽**

2. **Switch On or Off with △ / ▽**

How to use

Operate

Now, you can access some specific websites supported by Panasonic, and enjoy Internet content / Network services such as videos, games, communication tools, etc. from **Apps**.

1. **Display Apps.**

   👉 `APPS` ➡ **Apps**

2. **Select the desired content and press ㏇.**

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

     👉 `MENU` ➡ **Menu** > **Setup** > **System** > **Keyboard type**

---

* You need a broadband environment to use this service.

* Please confirm Network connections and Network settings before using this function.

* Depending on the usage conditions, it may take a while to download all the data.

* Internet services available for this TV are subject to change without notice.

* Not all content is available depending on the country and area.

Home network "DLNA"

Get started

Information

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

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

     Network services > **Connect to network**

This TV is a DLNA Certified™ product.

DLNA (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, vis It allows you to share photos,

videos and music stored in the DLNA Certified media server (for example, PC) 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.

- For data information

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

Photos

Viewing Photos

1. **Display Devices from Home Screen.**

   ☞ **HOME** ➡ **Home Screen** > **Devices**

2. **Display DLNA player by selecting the server.**

   Select desired server using △ / ▽ / ◁ / ▷ and press ⊙.

3. **Select photo** (Thumbnails and contents are displayed)

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

4. **View**

   Follow the Navigation and guide to operate.

   - Displayed Navigation and guide will be different depending on data type.

Photo view

■ **Thumbnail view**

☞ 🔴^R ➡ Display **Slideshow settings**

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

- Information differs depending on selected data.

■ **Playback screen**

☞ INFO ➡ Display/hide Guide and Banner

Photo status:

Displays current photo status (Slideshow/Single view)

Navigation Guide:

Displays available functions.

- In DMR mode, Slideshow is not available.

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

Options menu

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

1. **Display Options menu**

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

   ☞ `OPTION` ⇨ **Options menu**

2. **Select the item**

   Select the desired menu using △ / ▽ and press ⓞⓚ

   (**Slideshow settings**)

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

Using slideshow

1. **Display Slideshow settings**

   👉 🔴ᴿ ➡ **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

Slideshow settings

Display interval

(**Long**/**Normal**/**Short**)

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

Repeat playback

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

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

Soundtrack settings

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

Select the music.

Videos

Viewing Videos

1. **Display Devices from Home Screen.**

    👉 **HOME** ➡ **Home Screen** > **Devices**

2. **Display DLNA player by selecting the server.**

    Select desired server using △ / ▽ / ◁ / ▷ and press ⒪ⓚ.

3. **Select video** (Thumbnails and contents are displayed)

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

4. **Play**

    Follow the Navigation and guide to operate.

    • Displayed Navigation and guide will be different depending on data type.

    • 4K video contents may not be played correctly.

Video view

■ Thumbnail view

☞   `INFO` ➡   Information panel (File name, Date, Size, etc.)

       • Information differs depending on selected data.

■ Playback screen

☞   `INFO` ➡   Display/hide Guide and Banner

Movie banner:

    Displays current Video status

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

Navigation Guide:

    Displays available functions.

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

Forward/Reverse:

    Five levels of speed from 1 to 5 are available.

    Slow playback is also available.

     • Press and hold ⓞⓚ for 5 seconds to turn to slow playback mode.

• In DMR mode, Resume playback is not available

• Subtitles are not supported in MKV format.

Options menu

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

1. **Display Options menu**

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

   ☞ `OPTION` ➾ **Options menu**

2. **Select the item**

   Select the desired menu using △ / ▽ and press ⓞⓚ

   (**Video options**)

● **Multi audio, Dual Mono**

   Selects for selectable sound tracks (if available).

   • It may take several seconds to change the sound.

   • This function is available during playback.

● **Subtitle settings**

   Sets the subtitle setting.

   • This function is available during playback.

   Subtitle:

   Display / hide subtitles (if available).

   Subtitle Text:

   Selects the font type to display subtitles correctly (if available).

   Subtitle text size:

   Selects the font size of subtitles.

   Subtitle text color:

   Selects the color of subtitles.

   Subtitle text position:

   Adjusts the position of subtitles on the screen.

   Subtitle text delay:

   Adjusts the delay time for the subtitles.

● **Repeat playback**

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

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

Music

Playing Music

1. **Display Devices from Home Screen.**

   👆 `HOME` ➡ **Home Screen** > **Devices**

2. **Display DLNA player by selecting the server.**

   Select desired server using △ / ▽ / ◁ / ▷ and press ⊙.

3. **Select music** (Thumbnails and contents are displayed)

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

4. **Play**

   Follow the Navigation and guide to operate.

   • Displayed Navigation and guide will be different depending on the data type.

Music view

■ Thumbnail view

☞   **INFO** ⇒   Information panel (File name, Date, Size, etc.)

       • Information differs depending on selected data.

■ Playback screen

☞   **INFO** ⇒   Display/hide Guide and Banner

Music Guide:

     Displays current Music status

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

Navigation Guide:

     Displays available functions.

Forward/Reverse:

     Five levels of speed from 1 to 5 are available.

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

Options menu

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

1. **Display Options menu**

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

   👉 `OPTION` ➡ **Options menu**

2. **Select the item**

   Select the desired menu using △ / ▽ and press ⓞⓚ

   (**Music options**)

● **Repeat playback**

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

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

Media player

Get started

Information

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

■ **USB flash memory**

- When you use a USB device, insert straight in and pull straight out.

- Media player only supports USB Mass storage class devices.

- Remove USB device safely with **USB device setup**.

    (**Setup** > **USB device setup**)

Media warning messages

Message	Meaning
No media. Please insert a 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.

File sharing

■ File sharing with server

You can use your computer to exchange files, such as photos, videos, and music between the computer and devices connected to this TV.

Then, you can enjoy playing them with Media player.

- PC connection by a network is required to use this function.

■ Viewing from Network device

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

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

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

Notice

- The picture may not appear correctly on this TV depending on the recording equipment used.

- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.

- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.

- Partly degraded files might be displayed at a reduced resolution.

- The folder and file names may be different depending on the digital camera used.

- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).

- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.

Photos

Viewing Photos

1. **Insert Media / Prepare Network devices or PC to share the files.**

2. **Display Devices.**

   👉 `MEDIA PLAYER` ➡ **Devices**

   - You can also access from Home Screen.

     – Display **Devices** from Home Screen.

       👉 `HOME` ➡ **Home Screen** > **Devices**

3. **Display Media player by selecting the device.**

   Select the device using △ / ▽ / ◁ / ▷ and press ⊙.

   - When a confirmation screen about the network device is displayed, enter User ID / Password to access.

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

   Select the media using ◁ / ▷ and press ⊙

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

   Select the data using △ / ▽ / ◁ / ▷ and press ⊙

   - How data is displayed depends on data storage conditions.

6. **View.**

   Follow the Navigation and guide to operate.

   - Displayed Navigation and guide may differ depending on data type.

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

     ▣▬➡ **Network services** > **Network settings** > **File sharing settings**

Photo View

■ Thumbnail view

☞   🔴(R)   ⇒   Display **Slideshow settings**

     🟢(G)   ⇒   Display **Sort**

     🔵(B)   ⇒   Display **Media select**

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

        • Information differs depending on selected data.

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

■ Playback screen

☞ INFO ⇒ Display/Hide Guide and Banner

Photo status:

    Displays current photo status (Slideshow/Single view)

Navigation Guide:

    Displays available functions.

Sort the photos

1. Display Sort select menu

☞ 🔲 ➡ Sort select menu (**Folders**/**Sort by date**/**Sort by month**)

2. Select the sort type

Select the type using △ / ▽ and press 🆗

3. Displayed each screen

Folders:

Ascending order of numeric/alphabetical

Sort by month:

Ascending order of the month

Sort by date:

Ascending order of the day

Options menu

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

1. **Display Options menu**

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

   ☞ `OPTION` ➡ **Options menu**

2. **Select the item**

   Select the desired menu using △ / ▽ and press ⊛

   (**Slideshow settings**/**Thumbnails size**)

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

Thumbnails size

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

Using slideshow

1. **Display Slideshow settings**

   ☞ 🔴 ➡ **Slideshow settings**

2. **Adjust items**

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

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

3. **Start Slideshow**

   After adjusting each setting, select **Start slideshow** with △ / ▽ and press ⓞⓚ

   ☞ **RETURN** ➡ Stop in mid-cycle

Slideshow settings

Photo size

(**Normal**/**ZOOM**)

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

Display interval

(**Long**/**Normal**/**Short**)

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

Repeat playback

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

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

Soundtrack settings

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

Select the music.

>   **User selected**:
>
>>   Plays the soundtrack registered in the **Soundtrack settings** menu.
>
>   **Auto**:
>
>>   Plays the songs on the USB flash memory.

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 ⊛ to register

   This song:

   Registers current music.

   All songs in folder:

   Registers the music in a folder.

• Picture settings may not work depending on the slideshow settings.

Videos

Viewing Videos

1. **Insert Media / Prepare Network devices or PC to share the files**

2. **Display Devices.**

   ☞ `MEDIA PLAYER` ➡ **Devices**

   - You can also access from Home Screen.

     – Display **Devices** from Home Screen.

       ☞ `HOME` ➡ **Home Screen** > **Devices**

3. **Display Media player by selecting the device.**

   Select the device using △ / ▽ / ◁ / ▷ and press ⊛.

   - When a confirmation screen about the network device is displayed, enter User ID / Password to access.

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

   Select the media using ◁ / ▷ and press ⊛

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

   Select the data using △ / ▽ / ◁ / ▷ and press ⊛

   - How data is displayed depends on data storage conditions.

6. **Play.**

   Follow the Navigation and guide to operate.

   - Displayed Navigation and guide will be different depending on data type.

- 4K video contents may not be played correctly and some functions may not be available.

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

  🖼➡ **Network services** > **Network settings** > **File sharing settings**

Video view

■ Thumbnail view

☞ 🔴 ➡ Play the video

🔵 ➡ Display **Media select**

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

- Information differs depending on selected data.

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

■ Playback screen

☞ INFO ➡ Display/Hide Guide and Banner

Movie banner:

Displays current Video status

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

Navigation Guide:

Displays available functions.

Forward/Reverse:

Five levels of speed from 1 to 5 are available.

• Subtitles are not supported in MKV format.

Options menu

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

1. **Display Options menu**

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

   ☞ `OPTION` ➡ **Options menu**

2. **Select the item**

   Select the desired menu using △ / ▽ and press ⓞⓚ

   (**Video options**)

● **Multi audio, Dual Mono**

   Selects for selectable sound tracks (if available).

   • It may take several seconds to change the sound.

   • This function is available during playback.

● **Subtitle settings**

   Sets the subtitle setting.

   • This function is available during playback.

   Subtitle:

   Display / hide subtitles (if available).

   Subtitle Text:

   Selects the font type to display subtitles correctly (if available).

   Subtitle text size:

   Selects the font size of subtitles.

   Subtitle text color:

   Selects the color of subtitles.

   Subtitle text position:

   Adjusts the position of subtitles on the screen.

   Subtitle text delay:

   Adjusts the delay time for the subtitles.

● **Repeat playback**

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

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

Music

Playing Music

1. **Insert Media / Prepare Network devices or PC to share the files**

2. **Display Devices.**

   ☞ **MEDIA PLAYER** ➡ **Devices**

   - You can also access from Home Screen.

     – Display **Devices** from Home Screen.

       ☞ **HOME** ➡ **Home Screen** > **Devices**

3. **Display Media player by selecting the device.**

   Select the device using △ / ▽ / ◁ / ▷ and press ⓞⓚ.

   - When a confirmation screen about the network device is displayed, enter User ID / Password to access.

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

   Select the media using ◁ / ▷ and press ⓞⓚ

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

   Select the data using △ / ▽ / ◁ / ▷ and press ⓞⓚ

   - How data is displayed depends on data storage conditions.

6. **Play.**

   Follow the Navigation and guide to operate.

   - Displayed Navigation and guide will be different depending on data type.

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

     ▣➡ **Network services** > **Network settings** > **File sharing settings**

Music view

■ Thumbnail view

☞ 🔴^R ➡ Play folder

    🔵^B ➡ Display **Media select**

    `INFO` ➡ Information panel (File name, Date, Size, etc.)

        • Information differs depending on selected data.

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

■ Playback screen

☞ `INFO` ➡ Display/Hide Guide

Music Guide:

    Displays current Music status

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

Navigation Guide:

    Displays available functions.

Forward/Reverse:

    Five levels of speed from 1 to 5 are available.

Options menu

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

1. **Display Options menu**

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

   ☞ `OPTION` ➡ **Options menu**

2. **Select the item**

   Select the desired menu using △ / ▽ and press ⊛

   (**Music options**)

● **Repeat playback**

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

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

Convenience features

Eco navigation

Eco navigation

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

1. **Select Eco navigation**

   ☞ `MENU` ⇒ **Menu** > **Setup** > **Eco navigation**

2. **Press Set to ECO**

Optimizes the TV's various modes to save energy.

Note:

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

Timer

Setting the menu

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

1. **Display the menu**

    ☞ **MENU** ➡ **Menu**

2. **Select Timer**

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

3. **Select the item and adjust**

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

    - Set On/Off timer.

        🖼️➡ **All settings** > **Timer** > **Timer (On/Off timer)**

    - Set Sleep timer.

        🖼️➡ **All settings** > **Timer** > **Sleep (Off timer)**

Parental control

Setting the menu

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

You will be asked to enter your password each time you display the Lock menu.

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

1. **Display the menu**

   ☞ MENU ➡ **Menu**

2. **Select Setup from menu bar**

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

3. **Select Parental control**

   Select the menu using △ / ▽ and press ⊛

4. **Select the item and adjust**

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

- The Off rating is independent of other ratings.

- When placing a lock on a specific-age-based-rating level, the Off rating and any other more restrictive ratings will also be blocked.

- The channels will be blocked regardless of the program rating.

- For Parental control settings

  ▱➡ **All settings** > **Setup** > **Parental control**

Password setting

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

 (Input your 4-digit password)

- If it is your first time entering the password, enter the password twice in order to register it.

- Make a note of your password. Do not forget it. (If you have forgotten your password, consult your local dealer.)

- When you select a locked channel, a message will be displayed that allows you to view the channel after you input your password.

Parental control ratings

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

■ U.S. MOVIE RATINGS (MPAA)

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

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

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

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

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

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

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

◼ Contents-Based Ratings

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

Caution

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

Closed Caption

Setting the menu

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

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

1. **Display the menu**

   ☞ MENU ➡ **Menu**

2. **Select Setup from menu bar**

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

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

   Select the menu using △ / ▽ and press ⓞⓚ

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.

- For Closed Caption settings

   ➡ **All settings** > **Setup** > **Closed Caption**

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

   "IPTV-CC settings" App is available on the **Apps**.

   – Some Internet services have their own separate CC settings.

Closed Caption notices

- For viewing the CC of digital broadcasting, set the aspect to Full (If viewing with JUST, ZOOM or 4:3, characters might be cut off).

- The CC can be displayed on the TV only when the receiver (such as a Cable box or satellite receiver) has the CC set to ON within the device itself. Check with your Cable or Satellite provider for instructions. The TV's CC button does not operate the Satellite or Cable box's CC function.

- If the CC is set to On on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.

- If a digital program is being output in analog format, the CC data will also be output in analog format.

- If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

VIERA Link ™ "HDAVI Control ™"

Basic feature

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

■ Available HDAVI Control functions

Version	Operations
HDAVI Control or later	• Automatic Input Switching • Power on link • Power off link • Speaker control
HDAVI Control 2 or later	• VIERA Link control only with the TV's remote control • Unselected device auto off (for available equipment only)
HDAVI Control 3 or later	• 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.

Connecting note

■ When adding new equipment...

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

VIERA Link "HDAVI Control", is based on the control functions provided by HDMI and industry standard known as HDMI CEC (Consumer Electronics Control), with unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed. Please refer to the individual manuals for other manufacturers' equipment supporting the VIERA Link function.

■ HDMI cable

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

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

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

- This function may not work normally depending on the equipment condition.

- The equipment can be operated by other remote controls with this function on, even if the TV is in Standby mode.

- Image or sound may not be available for the first few seconds when playback starts.

- Image or sound may not be available for the first few seconds when input mode is switched.

- Volume function will be displayed when adjusting the volume of the equipment.

- If you connect equipment that has "HDAVI Control 2" or later function to the TV with an HDMI cable, the sound from the DIGITAL AUDIO OUT terminal can be output as multi-channel surround.

- "HDAVI Control 5" is the newest standard for the HDAVI Control compatible equipment.

  This standard is compatible with the conventional HDAVI equipment.

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

VIERA Link connections

■ Connecting Blu-ray Disc player/DVD Recorder

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

- You can use any HDMI terminal on this TV.

1 TV (HDMI)

2 HDMI cable

3 DVD recorder with VIERA Link function

■ Connecting Home theater system/AV amp

HDMI and Audio connection.

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

- HDMI 2 is recommended.

- No optical cable is necessary when connecting a Home Theater supporting "HDAVI control 5" with an HDMI cable.

  Audio will be supported via ARC (Audio Return Channel)

- One AV amp and one Blu-ray Disc player/DVD recorder can be operated with this unit by connecting with an HDMI cable.
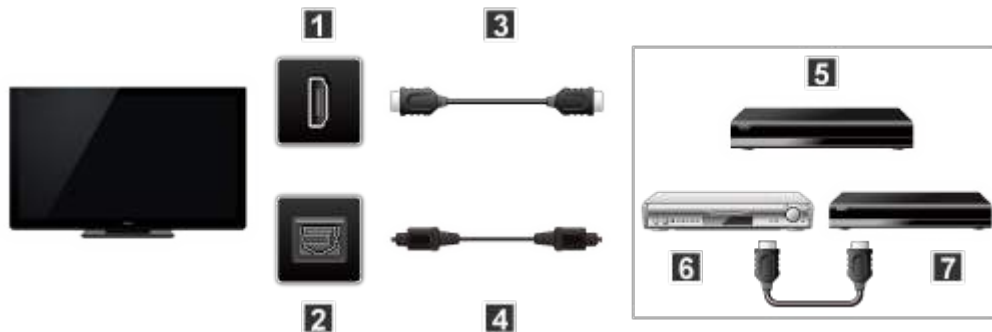
1 TV (HDMI)

2 TV (DIGITAL AUDIO OUT)

3 HDMI cable

4 Optical cable

5 Home theater system with VIERA Link function

6 AV amp with VIERA Link function

7 DVD recorder with VIERA Link function

■ Connecting an HD Camcorder/Digital camera

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

1 TV (HDMI)

2 HDMI / mini HDMI cable

3 HD Camcorder with VIERA Link function

4 LUMIX with VIERA Link function

- Individual HDMI equipment may require additional menu settings specific to each model. Please refer to their respective manuals.

- When audio from other equipment connected to this unit via the HDMI is output using "DIGITAL AUDIO OUT" of this unit, the system switches to 2CH audio.

  (When connecting to an AV amp via HDMI, you can enjoy higher sound quality.)

- Some devices use Mini-HDMI terminal. HDMI (type A) to Mini-HDMI (type C) cable or adapter should be used.

VIERA Link settings

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

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

1. **Display the menu**

   ☞ MENU ⇒ **Menu** > **Setup**

2. **Select VIERA Link settings**

   Select **VIERA Link settings** with △ / ▽ and press ⊛.

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

   Select **VIERA Link** and press ⊛ then select **On** with △ / ▽

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

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

VIERA Link settings feature

■ Automatic Input Switching

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

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

■ Power on link

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

■ Power off link

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

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

■ Energy saving mode

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

- **Power off link**: (**Yes**). The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)"

＊: Minimum power consumption of Standby condition for the equipment.

■ Unselected device auto off

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

- The connected equipment has "HDAVI Control 2 or later" (for available equipment only)

  [Example of timing for operation]

  – When the input is switched from HDMI.

■ Automatic lip-sync function

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

VIERA Link

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

1. **Display the VIERA Link menu**

   ☞ `APPS` ⇒ **Apps**

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.

VIERA Link menu

■ Speaker control

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

1. Select **Speaker output** using △ / ▽

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.

■ 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/Other**)

   - If there is more than one equipment item, a number after the name indicates the number of items. (e.g. Recorder 1/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 depends on the connected equipment.

■ **Back to TV**

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

1. Select **Back to TV** using △ / ▽ and press ⓞⓚ

Info Frame

Information

Info Frame is a convenient feature to provide you relevant information of the program being watched, recommendations, etc. It is displayed on the edge of screen when you need it.

(Example)

- A broadband network environment is required to fully use this function.

- Design and specifications are subject to change without notice.

How to use

You can check useful information using Info Frame while watching TV.

1. Press and hold **HOME**.

   • Info Frame is displayed on the edge of screen.

     (Example)
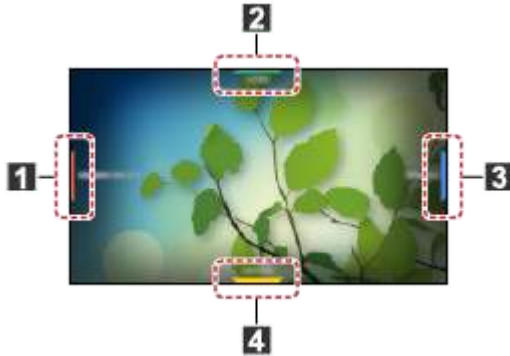
   1 Current program information, etc.

   2 Relevant information (weather forecast, etc.)

   3 Notification message

   4 Recommended content (TV program, Internet content, etc.)

   • To exit Info Frame

     RETURN

2. Select one side of Info Frame with △ / ▽ / ◁ / ▷ or 🔴 🟢 🟡 🔵 (colored buttons) while Info Frame is displayed.

3. Follow the on-screen instructions.

• Info Frame is displayed for several seconds each time the TV is turned on.

   🖼️➡ **Convenience features** > **Info Frame** > **Setting the menu**

Setting the menu

You can set items for Info Frame.

1. **Select Display customization from Setup.**

    ☞ **MENU** ➡ **Menu** > **Setup** > **Display customization**

2. **Select Info Frame at power on and press** OK.

3. **Set the item and press** OK.

 • For the settings

    ➡ **All settings** > **Setup** > **Display customization**

Using Voice guidance

Voice guidance

This function provides a useful audio readout of basic features.

1. **Set Voice guidance to On**

   ☞ MENU ➡ **Menu** > **Sound** > **Voice guidance settings** > **Voice guidance**

   Select the menu using △ / ▽ and press ⑯

   Then, switch to **On** using △ / ▽ and press ⑯

2. **Set other items**

   Select the desired menu using △ / ▽ and press ⑯

   Then, change or adjust the item using △ / ▽ and press ⑯

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

   ┌───┐
   • Voice guidance function may not correspond exactly.
   └───┘

• For Voice guidance settings

   ➡ **All settings** > **Sound** > **Voice guidance settings**

Using Voice control

Information

Voice control function allows you to operate the TV (e.g. selecting a channel), search the content from various features, etc. by your speech with your smartphone.

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

- To use this function, you need to install the application for controlling VIERA on your smartphone.

  ◻◼⇒ **Support / FAQ** > **Information** > **Detailed information**

For the operations, refer to the support information of the application.

You can set the voice control settings.

1. **Select voice control settings**

   ☞ MENU ⇨ **Menu** > **Setup** > **Voice control settings**

2. **Select item and set**

   Select desired item using △ / ▽ and adjust the settings with △ / ▽

   (**Language**/**Speech detection level**/**Terms of service**/**Instructions for Voice Control**)

- A broadband network environment is required to fully use this function, because this function accesses the speech recognition server with the Internet connection. Even if you have the Internet environment, this function may not be available depending on the proxy settings.

  Please connect the Internet without proxy settings. (Proxy settings are not required for normal household use. For details of Internet environment, consult your Internet Service Provider (ISP) or telecommunications company.)

◻◼⇒ **All settings** > **Setup** > **Voice control settings**

How to use

1. **Press ⬤ on the screen of your smartphone to display the operation guide.**

   - When a confirmation screen is displayed, read carefully and start Voice control function.

   (Example)

2. **Say a key word (e.g. my Home Screen) to the microphone while the operation guide is displayed.**

   (Example)

   - The operation guide turns to blue during processing.

   - The operation guide automatically disappears after a certain period of time. Press ⬤ again to start the Voice control function.

     ☞ ▤ ➡ Voice command list

     ☞ ↰ ➡ Exit Voice control function

Notice

■ Voice control

- When you start Voice control function, sound level of the TV becomes low.

- Voice control function may not work properly in the following conditions:

  - Not pronouncing words clearly and correctly

  - Speaking too loudly or too quietly

  - Surrounded by loud background noise

- Phrases other than voice command may not be recognized.

- Voice control function may not work properly depending on the microphone of the smartphone.

- Design and specifications are subject to change without notice.

Control by Smartphone, etc.

Smartphone remote

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

1. **Select Network**

   ☞ `MENU` ➡ **Menu** > **Network**

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

   Select desired menu using △ / ▽

3. **Set the item**

   Switch to **On** using △ / ▽

> - This function is subject to change without notice.
>
>   For more information
>
>   🖼➡ **Support / FAQ** > **Information** > **Detailed information**

Turn on the TV via IP

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

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

  ☞ **MENU** ➡ **Menu** > **Network** > **TV Remote App settings** > **Wake on LAN / Wireless LAN**

Mirroring

You can watch and display images of other devices (smartphone, etc.) on the TV screen using a mirroring function.

1 Smartphone, etc.

2 TV

1. **Display Devices from Home Screen.**

   ☞ **HOME** ⇨ **Home Screen** > **Devices**

2. **Select Mirroring and press ⊙.**

3. **Follow the on-screen instructions.**

 • Pairing information of the device (smartphone, etc.) is registered once you use this function.

■ Easy Mirroring

You can also start the mirroring function from the other devices (smartphone, etc.) when **Easy Mirroring** is set to **On**.

   ⬛⇨ **All settings** > **Network** > **Network settings**

 • You cannot use Easy mirroring function while the TV is set to **TV as Access Point**.

 • This function may be available with the other devices (smartphone, etc.) supporting the mirroring function. For details, refer to the operating instructions of the device.

Ultra Vivid

Ultra Vivid

[Some features are not available on all models.]

You can select the suitable picture / sound mode by pressing **ULTRA VIVID**.

☞ **ULTRA VIVID**

Football

Improves picture / sound quality for watching sports, etc.

Drama

Improves picture / sound quality for watching drama, etc.

Anime

Improves picture / sound quality for watching animations, etc.

- Display the full-screen TV to use this function.

- Not valid in the following conditions:

    – HDR signal

- Ultra Vivid is cancelled when selecting another channel / input or turning the TV off.

- Most of the picture / sound menu are fixed when Ultra Vivid is available.

Using USB Keyboard

Keyboard

Keyboards requiring the drivers are not supported.

■ To select the language type for the keyboard

☞ MENU ➡ **Menu** > **Setup** > **System** > **Keyboard type**

■ Key map

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

Keyboard	Remote Control
↑ / ↓ / ← / →	△ / ▽ / ◁ / ▷
Enter	OK
Back Space	RETURN
ESC	EXIT
0 - 9	Numeric buttons
F1	HOME
F2	APPS
F3	MENU
F4	INPUT
F5 / F6	Channel down/Channel up
F7 / F8	Volume down/Volume up
F9 / F10 / F11 / F12	Colored buttons

All settings

How to use

Setting the menu

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

- Some menus are grayed out depending on the input signal or condition.

  (e.g. **Zoom adjustments** will be grayed out if the aspect is not set to **ZOOM**.)

1. **Display the menu**

   ☞ **MENU** ➡ **Menu**

2. **Select the menu from menu bar**

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

3. **Select the item and adjust**

   Select desired item using △ / ▽

- You can also access to desired menu using ◁ / ▷

  – Adjust the item: Using ◁ / ▷

  – Set/change the item: Using △ / ▽

- Displays the functions that can be adjusted.

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

- Some settings in Picture menu may also affect the menu screen when watching the 4K contents.

- 4K 3D format is not supported.

Picture

Basic settings

[Some features are not available on all models. Available menu items are displayed on your TV screen.]

Adjust the image or picture quality.

☞ MENU ⇒ **Menu** > **Picture**

Picture mode

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

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

Back light

Adjusts backlight's luminance (light intensity).

Contrast, Brightness, Color, Tint, Sharpness

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

- Display range
  - Contrast/Color/Sharpness: 0 - 100
  - Brightness/Tint: -50 - +50

Color temp.

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

Vivid color

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

Enhances green and blue color reproduction, especially outdoor scenes.

Color remaster/Rec.2020 color remaster

(**Max/Min/Off**)

Reproduces vivid images with the appropriate process for the panel color gamut and input signal.

- For HDMI input or video contents of Media Player.
- **Rec.2020 color remaster** is only available when Rec. 2020 signal is received.

Photo enhancement

(**Max/Min/Off**)

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

- For HDMI input or photo contents of Media Player.

Adaptive backlight control

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

C.A.T.S.

(**On/Off**)

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

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

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

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

Or

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

Video NR

(**Auto/High/Mid/Low/Off**)

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

- Gray-out conditions:
  - **Game mode** is set to **On**.
  - Pure direct menu is set to **On**.
  - 4K content

MPEG remaster

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

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

- Gray-out conditions:
  - **Game mode** is set to **On**.
  - Pure direct menu is set to **On**.
  - 4K content

Resolution remaster

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

Enhances the picture resolution to make the image more clear.

- Gray-out if **1080p pixel by 4pixels** is set to **On**.

Dynamic range remaster

(**On/Off**)

Reproduces bright areas of the image to be closer to the original luminance and contrast, and improves the picture impact.

- This menu is available only for full screen mode.
- Gray-out conditions:
  - **Adaptive backlight control** is **Off**.
  - **Contrast A.I.** in **Pro settings** is **Off**.
  - 3D mode

Motion picture setting

(**Custom/Strong/Mid/Weak/Off**)

Improves motion picture quality by reducing motion blur. If **Motion picture setting** is set to **Custom**, these menus are enabled.

Blur reduction

(**0**-**10**)

Adjusts the smoothness of camera content to minimise blur.

Film smooth

(**0**-**10**)

Adjust the smoothness of film content.

Clear motion

(**On/Off**)

Makes the moving pictures more clear by controlling the level of backlight.

Reset to defaults

Reset to default for **Custom** setting.

- Gray-out conditions:
  - Game mode
  - Photo content
  - Pure direct menu is set to **On**.

Clear motion

(**On/Off**)

Makes the moving pictures more clear by controlling the level of backlight.

Pro settings

Adjusts the picture mode in more detail.

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

☞ MENU ⇒ **Menu** > **Picture** > **Pro settings**

Contrast A.I.

(**Custom/Auto/Off**)

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

Contrast A.I. setting

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

AGC

(**0**-**15**)

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

Black extension

(**0**-**15**)

Adjusts the gradations in dark shades of the image.

Cool white effect

(**0**-**15**)

Adjusts the white temperature point toward cool.

Reset to defaults

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

Color gamut

(**Native/Rec. 709/SMPTE-C/EBU/Rec. 2020/Auto/Normal**)

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

W/B detail adjustment

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

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

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

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

More detail adjustment

Adjusts more detailed White Balance items.

Input signal level

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

Red, Green, Blue gain

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

Reset to defaults

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

Reset to defaults

Resets **W/B detail adjustment** to factory defaults settings.

Color detail adjustment

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

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

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

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

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

Adjusts the luminance of red/green/blue areas.

More detail adjustment

Adjusts more detailed Color management items.

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

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

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

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

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

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

Reset to defaults

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

Reset to defaults

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

Gamma detail adjustment

Gamma

Gamma correction. Adjusts the intermediate brightness of the image.

More detail adjustment

Adjusts more detailed Gamma items.

Input signal level

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

Gain

Adjusts the gain value of each Input signal level.

Reset to defaults

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

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Reset to defaults

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

Reset to defaults

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

Advanced picture

Game mode

(**On/Off**)

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

- Not available in TV mode.

3:2 pulldown

(**On/Off/Auto**)

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

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

1080p pure direct

(**On/Off**)

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

Note:

- This function is available only for HDMI 1080p input.
- Gray-out if **1080p pixel by 4pixels** is set to **On**.

4K pure direct

(**On/Off**)

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

- Gray-out if signal is not 4K 4:4:4.

1080p pixel by 4pixels

(**On/Off**)

Displays like pixel by pixel on FHD resolution display for 1080p signal.

- Not all image may be displayed as dot by dot precisely.
- Gray-out in 3D mode.

HDMI content type

(**Off**/**Auto**/**Photos**/**Graphics**)

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

Auto:

Switches content type automatically depending on the HDMI signal information.

Photos:

Best setting for JPEG viewing.

Graphics:

Best setting for On-Screen display of connected equipment.

Auto detail setting

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

HDMI/DVI RGB range

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

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

Auto:

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

Black level

(**Light**/**Dark**)

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

• Available when input is set to external source.

3D Y/C filter

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

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

Screen settings

Screen format

    SD signal/HD signal:

        Full / JUST / 4:3 / ZOOM

    4K format:

        Full / V Full

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

Overscan

(**On/Off**)

Selects the screen area displaying the image for FULL aspect.

    On:

        Enlarges the image to hide the edge of the image.

    Off:

        Displays the image in the original size.

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

- Gray-out if input signal is 4K.

H size

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

Zoom adjustments

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

    JUST:

        V-size max is 3

    ZOOM:

        V-size max is 15

- Gray-out if input signal is 4K.

Screen display

(**On/Off**)

Turns the screen off when you select.

- The sound is active even if the screen turns off.

- Press any buttons to turn the screen on.

- This feature is effective in reducing power consumption when listening to the sounds without watching the TV screen.

Other settings

Copy adjustments

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

Settings are basic picture settings and Pro settings.

Reset to defaults

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

Sound

Basic settings

Adjusts audio quality.

👉 MENU ➡ **Menu** > **Sound**

Sound mode

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

Selects your favorite sound mode.

- The selected mode affects all input signals.

  Standard:

  Provides the suitable sound quality for all types of scenes.

  Music:

  Improves sound quality for watching music videos, etc.

  Ambience:

  Improves spatial effects and provides clear sounds.

  User:

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

  – For the **User** mode, **Equalizer** will appear on the Sound Menu instead of **Bass** and **Treble**. Select **Equalizer** and adjust the frequency.

- Gray-out when using the Home Theater.

Bass

Increases or decreases the bass response.

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

Treble

Increases or decreases the treble response.

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

Equalizer

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

Adjusts the frequency level to suit your favorite sound quality.

- This function is available when **Sound mode** is set to **User.**

- Select the frequency and change the frequency level by using the cursor button.

- To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency.

- To reset the levels of each frequency to the default settings, select **Reset to defaults** by using the cursor button, and then press the ⊙ button.

- Gray-out when using Home Theater.

Balance

Emphasizes the left/right speaker volume.

- Gray-out when using Home Theater.

Advanced settings

Surround

(**Virtual surround/Off**)

Enhances audio L/R response when listening to stereo.

Ideal for music and action movies.

- Gray-out when using Home Theater.

Bass boost

(**On/Off**)

Enhances bass sound and provides powerful sound.

- Gray-out when using Home Theater.

TV speakers

(**On/Off**)

Enables the TV's built-in speakers.

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

Speaker output

(**TV/Home theater**)

Select the Home theater or TV speakers for audio output.

TV:

The TV speakers are on.

Home theater:

Selecting **Home theater** turns the equipment on automatically if it is in Standby mode.

- The sound of TV speakers is mute. When the equipment is turned off, TV speakers will be activated.
- You can use VOL(+/-) and MUTE.

- This function is available when the theater speakers supporting VIERA Link function is connected to this TV.

A.I. sound

(On/Off)

Equalizes overall volume levels across all channels and external inputs.

- Gray-out when using Home Theater.

Volume leveler

(+/-6)

Minimizes volume disparity after switching to external inputs.

- Gray-out when using Home Theater.

Distance to wall

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

Setting for wall mounted TV.

Over 1ft (30cm):

TV is on a stand. Keeps current setup.

Up to 1ft (30cm):

TV is mounted. Reduces low frequency level to prevent resonance.

- Gray-out when using Home Theater.

Preferred audio type

(**Main Audio/Hearing Impaired/Visually Impaired**)

Allows setting of the accessible audio format when its broadcast and the language setting matches.

Digital audio out selection

(**Auto/PCM**)

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

Auto:

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

PCM:

Digital output signal is fixed to PCM.

- For video content of Media Player / Network services.

- ARC (Audio Return Channel):

    A function of digital audio output using HDMI cable.

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HDMI audio format

(**Auto/Bitstream/PCM**)

Selects valid audio format when HDMI viewing.

Auto:

When the TV speakers are active, audio format is fixed to PCM. When the sound is delivered from theater speakers, audio format is fixed to Bitstream.

Bitstream:

Dolby Digital Plus and Dolby Digital are output as Dolby Digital Bitstream. Other digital audio output signals are output as PCM.

PCM:

Digital audio signal is output as PCM.

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HDMI input (HDMIx ∗ in)

(**Digital/Analog**)

The default setting is **Digital** for the HDMI connection. (Digital input signal)

Select audio input terminal when a DVI cable is connected along with an analog audio input signal.

∗ : indicates the number of terminals

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Reset to defaults

Resets all Audio adjustments to factory default settings.

- Gray-out when using Home Theater.

Voice guidance settings

Settings for using voice guidance.

☞ `MENU` ➡ **Menu** > **Sound** > **Voice guidance settings**

Voice guidance

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

On:

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

Speed

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

Adjusts the readout speed of the voice guidance.

Volume

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

Selects the volume for voice guidance.

Language

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

Selects the language for voice guidance.

User level

(**Beginner**/**Expert**)

Selects the level of complexity for voice guidance.

Web Browser

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

Enables voice guidance on web page.

Network

Network settings

☞ `MENU` ➡ **Menu** > **Network**

Network connection

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

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

Network status

Tests the connection between the TV to the local router and the Internet.

Displays Current settings and status screen. (Network type/Wireless settings/MAC address/IP Address, etc.)

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

my Home Cloud settings

Sets for an account to enjoy the cloud services.

Notices

Displays the terms of service.

VIERA network name

Set your favorite name for this TV.

TV Remote App settings

Sets a network-based remote control.

TV Remote

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

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

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

Wake on LAN / Wireless LAN

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

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

Device to upload contents

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

Network link

Settings for DLNA Server.

DLNA server

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

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

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

Registration type

(**Auto**/**Manual**)

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

Auto:

All the available devices on the home network are accessible. (maximum 16 equipment)

Manual:

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

Remote device list

Lists the available device on the home network.

File sharing settings

File sharing server

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

Set to **On** to enable File sharing function.

Network device list

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

Mirroring settings

You can set the items for mirroring function.

Easy Mirroring

(**On/Off**)

Enables starting the mirroring function from the other devices (smartphone, etc.) without operating the TV.

- To deactivate wireless, set **Easy Mirroring** to **Off** and confirm the network connection type is set to **Wired**.

  🖥️⮕ **Network services** > **Network settings** > **Network connection/ Network status**

- Not available when the TV is set to **TV as Access Point**.

Delete All Pairings

Delete the pairing information for all paired devices.

Do Not Track setting

Sets to notify websites about tracking your browsing activities.

Tracking Mode

(**Mode1/Mode2/Mode3**)

Select tracking status.

Mode1:

Notifies websites that you want to be tracked.

Mode2:

Notifies websites that you do not want to be tracked.

Mode3:

Sends no configuration information about tracking.

About Do Not Track

Displays the information about tracking.

Software update

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

Press OK to start the Software update screen. Follow directions on the screen.

- Set **Clock** first.

New software notice

(**On/Off**)

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

Timer

Sleep (Off timer)

☞ `MENU` ➡ **Menu** > **Timer** > **Sleep**

Sleep (**minutes**)

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

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

Timer (On/Off timer)

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Timer set

(**On/Off**)

Enables or disables the Timer.

Inputs

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

Channel

Sets the channel to display when the TV turns on.

Day

Sets the day when the TV turns on.

On time

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

Off time

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

Clock settings

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Mode

(**Auto/Manual**)

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

Date, **Time**

(**Year/Month/Day/Hour/Minute**)

Sets current date or time.

Time zone

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

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

DST

(**On/Off**)

Selects if Daylight Saving Time is currently observed.

Auto turn off settings

No activity for 4 hours

(**Power TV off/Stay on**)

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

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

- Changing the default configuration may increase Annual Power Consumption.

No signal for 10 minutes

(**Power TV off/Stay on**)

To conserve energy, the TV automatically turns off when NO SIGNAL and NO OPERATION continue for more than 10 minutes.

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

Setup

Eco navigation

👉 `MENU` ➡ **Menu** > **Setup** > **Eco navigation**

Set to ECO

Sets the TV to the most suitable energy-saving mode automatically.

Optimizes the TV's various modes to save energy.

Note:

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

Voice control settings

Settings for using Voice control function.

☞ [MENU] ➔ **Menu** > **Setup** > **Voice control settings**

Language

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

Selects the language for voice control.

Speech detection level

(**High**/**Standard**)

Sets sensitivity level for voice control.

Terms of service

Displays the terms of service of voice control.

Instructions for Voice Control

Displays details of the Voice control function in eHELP.

USB device setup

👉 MENU ⟹ **Menu** > **Setup** > **USB device setup**

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

Parental control

☞ **MENU** ➡ **Menu** > **Setup** > **Parental control**

Change password

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

(**Convenience features** > **Parental control** > **Password setting**)

Show adult app

(**On/Off**)

Set to **Off** to lock specific applications to restrict access to them (if available).

- For Internet content

Mode

(**Off/All/Custom**)

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

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

Channel

These channels will be blocked regardless of the program ratings.

Mode

(**Off/All/Custom**)

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

Channel 1-7

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

Game

(**On/Off**)

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

Program

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

Mode

(**On/Off**)

Sets program lock status. "V-chip" technology enables restricted shows to lock according to TV ratings.

On:

  Sets each rating level (MPAA, U.S.TV, C.E.L.R., C.F.L.R.).

MPAA

Selects U.S. movie ratings to lock.

U.S.TV

U.S. TV program ratings.

C.E.L.R.

Canadian English ratings.

C.F.L.R.

Canadian French ratings.

DRRT

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

ANTENNA/Cable setup

ANTENNA/Cable signal

(**Cable**/**Antenna**)

Selects signal source connected directly to the ANTENNA/Cable In terminal.

Note:

- When using a Cable or Satellite box, it is recommended to connect the box to an AV IN terminal and skip this setting.

Channel surf mode

(**All**/**Favorite**/**Digital only**/**Analog only**)

Sets the mode to select the channel with the Channel up/down button.

> Favorite:
>
> > Only channels registered as FAVORITE.

Auto program

(**All channels**/**Digital only**/**Analog only**)

- Select scan type and press ⊛ to start scanning automatically.

  After the scanning is completed, select **Apply**.

- All previously saved channels are erased.

Manual program

Changes the channel setting or channel display.

Edit:

> Edits these items.
>
> > Caption:
> >
> > > Changes the station identifier. (maximum 7 characters available)
> >
> > Favorite:
> >
> > > Registers channels to the Favorite List from **Set favorite**.
> >
> > Add:
> >
> > > Adds (Yes) or skips (No) channels

Apply:

> After the editing is completed, press ⊛ to save the settings.

Cancel:

Cancels the changes.

Signal meter

Check the signal strength if interference is found or freezing occurs on a digital image.

- If the signal is weak, check the antenna.

- If you cannot figure out the problem, consult your local dealer.

- Not available if **Cable** is selected in **ANTENNA/Cable signal**.

- Available only for digital antenna channels.

Language settings

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Menus language

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

Selects the screen menu language.

Preferred SAP language

(**English**/**Spanish**/**French**)

Selects the preferred language for hearing or visually impaired, if offered during digital broadcast

Note:

- Preferred language takes precedence over the preferred audio type. (Available only in the U.S.)

Display customization

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Smart Banner

(**On/Off**)

Sets the banner display status.

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.

- When the INPUT is labeled as **Not used**, then it will not appear in the Input select menu.

- Select **Customize** to enter your own labels for the input (ex. "Computer").

Info Frame at power on

(**On/Off**)

Enables Info Frame function.

Notification

(**On/Off**)

Enables to display Notification.

Closed Caption

Mode

(**CC on mute/On/Off**)

　On:

　　Displays Closed Captions.

　CC on mute:

　　Displays Closed Captions when the audio is muted. (When not using, select **Off**.)

Analog

(**CC1-4/T1-4**)

Choose the Closed Caption service of Analog broadcasting.

　CC1-4:

　　Information related to pictures (Appears at the bottom of the screen)

　T1-4:

　　Textual information (Appears over the entire screen)

Digital

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

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

Digital setting

Sets display settings in digital programs.

　Size

　Selects the text size.

　Font

　Selects the text font.

　Style

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

　Foreground

　Selects the color of text.

Foreground opacity

Selects the opacity of text.

Background

Selects the color of text box.

Background opacity

Selects the opacity of text box.

Outline

Selects the outline color of text (Identifies the settings options on the screen).

Reset to defaults

Resets all Closed Caption settings to factory default settings.

VIERA Link settings

☞ MENU ➡ **Menu** > **Setup** > **VIERA Link settings**

VIERA Link

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

To use all VIERA Link functions, set to **On** after everything is connected.

Power on link

(**Yes**/**No**)

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

Power off link

(**Yes**/**No**)

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

Energy saving mode

(**Save**/**Quick start**)

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

- **Power off link**: (**Yes**). The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)"

＊: Minimum power consumption of Standby condition for the equipment.

Unselected device auto off

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

On: The connected VIERA Link compatible equipment will be turned off automatically when not in use under these conditions. The connected equipment has "HDAVI Control 2 or later" (for available equipment only)

System settings

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Keyboard type

(**U.S.**/**Canadian French/Canadian multilingual std./Spanish(Latin America)/Spanish (Spain)**)

Selects the country/region of the keyboard connected to this TV.

Factory defaults

Clears all TV settings and memory to factory defaults.

License

Displays the software license information.

Other settings

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Power save

(**Saving**/**Standard**)

Reduces screen brightness to lower power consumption. Eye-friendly for viewing in a dark room.

Useful settings

☞ MENU ➡ **Menu** > **Setup**

HDMI auto setting

(**Mode1/Mode2**)

Reproduces the image more precisely with the expanded color gamut when connecting the 4K compatible equipment. Select the mode depending on the equipment.

>   **Mode1**:
>
>   For better compatibility. Set to **Mode1** when the image or sound in HDMI input is not played properly.
>
>   **Mode2**:
>
>   For the 4K compatible equipment that has the function to output the image precisely with the expanded color gamut.

- The setting can be stored for each HDMI input.

- For HDMI1/2

- Valid format (4K)

    - **Mode1**: 4:4:4 / 4:2:2 (30p, 25p, 24p), 4:2:0 (60p, 50p)

    - **Mode2**: 4:4:4 / 4:2:2 (30p, 25p, 24p), 4:4:4 / 4:2:2 / 4:2:0 (60p, 50p)

HDMI HDR setting

(**On/Off**)

Set to **On** when the HDR device is connected to the TV.

- Please turn **Off** this function if the image looks unnatural. This may occur in some cases such as compatibility with the connected device or source images.

- Image may disappear for a few second when the setting is changed.

- For HDMI1/2

Support / FAQ

Help menu

Using Help menu

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

1. **Display the menu**

   ☞ MENU ➡ **Menu**

2. **Select Help from menu bar**

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

3. **Select the Help menu**

   Select desired menu using △ / ▽ and press 🆗

   (**About Firefox OS**/**eHELP**/**TV Self-test**/**Version**/**Device information**)

   About Firefox OS:

       Displays the information about Firefox OS.

   eHELP:

       This screen

   TV Self-test:

       Verifies proper function of the TV for picture and sound.

       • Follow the instructions on the screen to complete the self test.

   Version:

       Displays TV's software (firmware) version.

   Device information:

       Displays the device information of this TV.

FAQ

Picture - Viewing

■ Frequently Asked Questions

For updated information, please visit Panasonic web site.

How do I view the picture from devices such as: Cable/Satellite box, game console, Blu-ray or DVD player?

- Press the `INPUT` button on the remote to select the correct input source.

  ☞ `INPUT` ➡ **Input select**

- Check that the device is turned on and functioning correctly.

Why doesn't the picture look like it is in High Definition?

- Press the `INFO` button on the remote to confirm the type of signal being received. HD signal should be 720p, 1080i or 1080p.

  ☞ `INFO` ➡ Information banner

- Select a High Definition channel from your HD source (Cable, Satellite or fiber optic service). HD channels sometimes broadcast non-HD content.

- Ensure that your HD source (HD box, Blu-ray player, etc.) is connected to the TV with an HDMI or Component cable and set to output an HD video signal.

Picture - Snowy / none

Why is there no picture or just a blue, black or snowy screen being displayed?

- Press `MENU` and select **Help**. Then select **TV Self-test**. If the test picture displays correctly, then the problem is with the external device (ex. Cable box, DVD player, etc.) or its connection to the TV.

  ☞ `MENU` ➡ **Menu** > **Help** > **TV Self-test**

- Check if the power cord is plugged in and the TV is turned on (front red LED light should be on; not blinking)

- Press the `INPUT` button on the remote to select the correct input source.

  ☞ `INPUT` ➡ **Input select**

- Ensure all connections are correct and secure. Especially check for Component and VIDEO connection since these terminals are shared.

- When using an external video source, such as a Cable/Satellite box or DVD player, check that the device is on and functioning correctly.

- Press `MENU` on the TV's remote control. If the menu is displayed, then the TV is working; recheck above steps.

Why is the picture snowy when ANTENNA/Cable setup is selected?

- When using a cable service (without a box), check that all connections are secure.

- When using a cable or satellite box, change the connection (wiring) to Composite, Component or HDMI.

- If you're using an antenna, then check that connections are secure. Change the position or direction of the antenna and check the **Signal meter**.

  ☞ `MENU` ➡ **Menu** > **Setup** > **ANTENNA/Cable setup** > **Signal meter**

Picture - Distortion

The picture is distorted after selecting the "AV" input. What should I do?

- Ensure that the device is connected correctly to the TV's Video/ Component green connector.

- If using VIDEO or COMPONENT:

  Press INPUT, scroll to AV, press ◁ / ▷ to select Video or Component.

  AV   < Video   Component >

Why do black bars appear on the top and bottom and/or sides of the screen?

- Change the format (aspect ratio) of the picture by pressing the FORMAT button on the remote control.

- Check the aspect settings on your external video source, such as Cable/ Satellite box, DVD/Blu-ray Disc player, etc.

Note:

- Some content, such as film-based movies, are available in extra-wide format. Top and bottom bars are unavoidable.

Why is the picture chaotic and/or torn and/or with a buzz in the speakers?

- Check if electrical products such as kitchen appliances, fluorescent lights or light dimmers are nearby. They may interfere with the TV's picture.

- Try viewing a picture from another device, such as a DVD player or a game console, to narrow down the source of the problem.

Picture - Unusual

Why the pictures from external equipment are unusual when the equipment is connected via HDMI?

- Check the HDMI cable is connected properly.

  🖥️➡️ **Watching TV** > **Blu-ray, DVD, Game Console, etc.** > **Connecting and viewing**

- Turn the TV and equipment off, then turn them on again.

- Check an input signal from the equipment.

  🖥️➡️ **Watching TV** > **Blu-ray, DVD, Game Console, etc.** > **Input signal**

- Use equipment compliant with EIA/CEA-861/861D.

- Set **HDMI auto setting** in the **Setup** Menu to **Mode1**.

  🖥️➡️ **Watching TV** > **4K compatible equipment**

Picture - Continue

Why is there a black box on the screen?

- Check the settings of Closed Caption (CC).

Why do some small spots on the screen remain bright or dark?

- The panel is made up of a few million pixels and is produced with advanced technology through an intricate process. Sometimes, a few pixels may be bright or dark.

- These pixels do not indicate a defective panel and will have no impact on the performance of the TV.

Why is the picture brightness changing?

- Turn the C.A.T.S. feature off.

  ☞ **MENU** ➡ **Menu** > **Picture** > **C.A.T.S.**

Why does the screen turn off?

- Check if the TV is in energy saving mode.

  ➡ **Convenience features** > **Eco navigation** > **Eco navigation**

Sound - None

Why is there no sound coming from the TV?

- Make sure the volume is up and mute is off.

- Check that the correct **SAP** (Secondary Audio Program) is selected by pressing the `SAP` button on the remote control.

- If the TV is connected to a Panasonic Home Theater via HDMI cable, then check VIERA Link controls.

- If the TV is connected to a Home Theater via optical cable, then: Check the connection, the audio system is on, the correct input is selected.

- Check **HDMI in** analog/digital audio settings.

  ☞ `MENU` ⇒ **Menu** > **Sound** > **HDMI input**

Sound - Unusual

Why is the sound unusual, distorted, low volume or in another language?

- Check that the correct **SAP** (Secondary Audio Program) is selected by pressing the SAP button on the remote control.

- Check that all connections of external equipment connected to the TV are secure.

- When using Cable or Satellite box, check the device's audio settings.

  (Example: try changing the box's Audio Range to "narrow")

- Set **HDMI auto setting** in the **Setup** Menu to **Mode1**.

  Watching TV > **4K compatible equipment**

Why is there a clicking, ticking or buzzing sound coming from the TV unit?

- When TV power is turned on or shut off there are electrical components that make a click sound. This is normal operation.

- Changes in the temperature and humidity of the room may cause thermal expansion and contraction that can produce sounds. This is not a sign of faulty operation or a malfunction.

Networking

How do I get Internet services to work on my TV?

1. You need a broadband (High-Speed) Internet service with a speed of no less than 1.5 Mbps.

2. Connect the TV to the Internet through your router by an Ethernet cable or a Panasonic Wireless LAN (built-in).

3. Start **Network connection** wizard, then follow the directions on the screen to connect. If the connections still fails, then check with your Internet service provider or router/modem manufacturer if there are firewall, content filter or proxy settings that may block the TV from accessing the Internet.

Can I download new apps (content/services) onto my TV?

• Yes. Display **Apps** by pressing the APPS button, then select **Market** icon. **Market** allows you to find and install the applications to **Apps**.

Software update

How do I check for the latest software (firmware) version for my TV?

- In the main menu, select **Network**. Select **Software update**. The current version and latest version software will be displayed. If software update is grayed out, the TV is not connected to the Internet. If a newer version is available, update your TV. Follow the on screen instructions, do not power off the TV until the update is complete. Be patient; firmware update may take a while.

  ☞ MENU ➡ **Menu** > **Network** > **Software update**

How do I get the software update information and download periodically?

- In the main menu, select **Network**. Highlight **New software notice**. Make sure that setting is **On**.

  When the TV is turned On, update message is displayed if available. Follow the directions on the screen to download.

  ☞ MENU ➡ **Menu** > **Network** > **New software notice**

Voice guidance

How does the voice guidance feature work?

- This function provides you with useful voice guidance for basic features.

- For more information about settings or operation of voice guidance, please refer to the page below.

   Convenience features > **Using Voice guidance**

Voice control

Will the TV learn my accent?

- Set or adjust the **Voice control settings** first.

- This function is not available for all dialects or regions. Performance will differ depending on your pronunciation, volume and your surrounding area.

- Voice control function may not work properly depending on the pronunciation, noise and network environment.

- For more information about Voice Control, please refer to the page below.

     Convenience features > **Using Voice control**

Eco navigation

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

- This TV is equipped with a money saving feature called Eco Navigation. The TV automatically dims the brightness to save energy. It also puts the picture in "Standard" mode and enables the C.A.T.S. feature so it will adjust the picture brightness automatically depending on the rooms ambient lighting conditions. This mode will also turn the TV power off if no signal is detected for 10 minutes.

- For more information about Eco navigation, please refer to the page below.

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

Other

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

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

Why does the CC button not display Closed Caption?

- Check if the setting is turned **On** or **CC on mute**.

- When viewing TV via an HDMI connected device, such as a Cable or Satellite box, CC must be enabled on the device.

- Closed Caption is available only for supported TV programming and supported contents via Video (Composite) input.

Why does the screen and back cover of the TV get warm?

- The main unit radiates heat and some of the parts may become hot. This is normal operation and does not affect the performance of the set.

- Ensure good ventilation.

- Do not block the ventilation holes of the TV and do not place the TV on top of other equipment.

* 4 ” (10 cm)
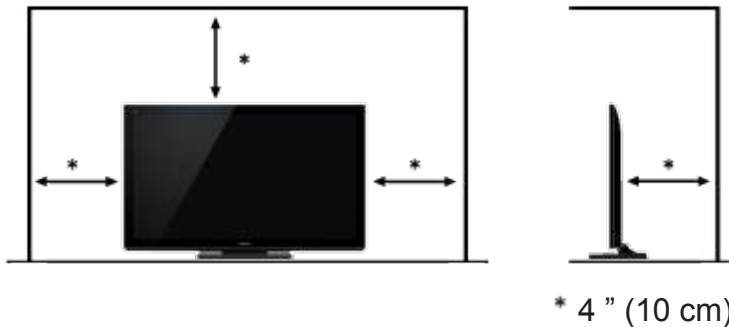
Where is the power source and power consumption?

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

Menu - Gray-out or missing items

Why the Antenna/Cable option or available inputs are not listed in the Input select menu?

- When you label an input as **Not used**, then it will be hidden from the **Input select** menu. To make the input visible again:

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

2. Select **Input labels** from **Display customization** and press 🆗.

3. Select desired input and press 🆗 to change the label.

   ☞ **MENU** ➡ **Menu** > **Setup** > **Display customization** > **Input labels**

Some menu items are grayed-out and unable to be selected. Why?

- Depending on certain modes or the selected input, some options are not available.

Reset to factory defaults

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

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

  Enter your password (if locked).

  Confirmation message will be displayed.

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

  ☞ **MENU** ⇒ **Menu** > **Setup** > **System** > **Factory defaults**

Information

Detailed information

Support information about the application, optional devices, operation, etc. may be found on the following website.

http://panasonic.net/viera/support (English only)

Data information

■ Supported Data format for Media player (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

Videos	• AVI files Video codec: H.264/MPEG1/MPEG2/MPEG4/WMV9/VC-1 Audio codec: AAC/Dolby Digital/Dolby Digital Plus/HE-AAC/LPCM/MP3/MPEG Audio/WMA • MP4 files Video codec: H.264/H.265 (HEVC) */MPEG1/MPEG2/MPEG4 Audio codec: AAC/Dolby Digital/Dolby Digital Plus/HE-AAC/MPEG Audio/MP3 • MKV files Video codec: H.264/H.265 (HEVC)/MPEG1/MPEG2/MPEG4 Audio codec: AAC/Dolby Digital/Dolby Digital Plus/HE-AAC/MPEG Audio/MP3/Vorbis • ASF files Video codec: WMV9/VC-1/MPEG4 Audio codec: AAC/Dolby Digital/Dolby Digital Plus/HE-AAC/LPCM/MP3/WMA – Copy-protected files cannot be played back. • FLV files Video codec: H.264 Audio codec: AAC/MP3 • 3GPP files Video codec: H.264/MPEG4 Audio codec: AAC/HE-AAC

	• PS files Video codec: H.264 */MPEG1/MPEG2/VC-1 * Audio codec: AAC */Dolby Digital/Dolby Digital Plus */HE-AAC */LPCM/MPEG Audio/MP3 * • TS files Video codec: H.264/H.265 (HEVC)/MPEG1/ MPEG2/VC-1 * Audio codec: AAC/Dolby Digital/Dolby Digital Plus/ HE-AAC/MPEG Audio/MP3 * • WebM files Video codec: VP9 Audio codec: Vorbis

Music	• MP3 files (MP3)
	
	• M4A files (AAC/Apple Lossless)
	
	  – Copy-protected files cannot be played back.
	
	• FLAC files (FLAC)
	
	• WMA files (WMA)
	
	  – Copy-protected files cannot be played back.
	
	• WAV files (LPCM)

*: for Media player only

■ Supported Subtitles formats

● MicroDVD, SubRip, TMPlayer (.srt, .sub, .txt)

- The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.

- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: ".srt" ".sub" ".txt".

> - Some files may not be played back even if they fulfill these conditions.
>
> - Some subtitles or chapter functions may not be available.
>
> - Do not use multi-byte characters or other special codes for file names.
>
> - Connected devices may become unusable with this TV if the file or folder names are changed.

Care and Cleaning

Display panel

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

■ Display panel

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

- If the surface is particularly dirty, after cleaning up the dust, soak a soft, lint-free cloth in diluted mild liquid dish soap (1 part mild liquid dish soap diluted by 100 times the amount of water) and then wring the cloth to remove excess liquid. Use this cloth to wipe the surface of the display panel, then wipe it evenly with a dry cloth of the same type until the surface is dry.

- Do not scratch or hit the surface of the panel with fingernails or other hard objects. Furthermore, avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the surface may be adversely affected.

Cabinet

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

■ Cabinet

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

- If the cabinet is particularly dirty, soak the cloth in a weak mild liquid dish soap and then wring the cloth dry. Use this cloth to wipe the cabinet and then wipe it dry with a dry cloth.

- Do not allow any mild liquid dish soap to come into direct contact with the surface of the TV. If water droplets get inside the unit, operating problems may result.

- Avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the cabinet surface may be adversely affected or the coating may peel off.

- Do not let articles made from rubber or PVC be in contact with the TV for long periods of time.

Pedestal / Power cord

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

■ Pedestal

Cleaning

- Wipe the surfaces with a soft, dry cloth. If the unit is particularly dirty, clean it using a cloth soaked with water to which a small amount of mild liquid dish soap has been added and then wipe with a dry cloth. Do not use products such as solvents, thinner, or household wax for cleaning, as they can damage the surface coating. (If using a chemically-treated cloth, follow the instructions supplied with the cloth.)

- Do not attach sticky tape or labels, as they can make the surface of the pedestal dirty. Do not allow long-term contact with rubber, vinyl products, or the like. (Doing so will cause deterioration.)

■ Power cord

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