Panasonic

TX-32ES600E

TX-24ES513E	TX-32ES513E	TX-40ES513E	TX-49ES513E
TX-32ES510E	TX-40ES510E	TX-49ES510E	
TX-24ES500E	TX-32ES500E	TX-40ES500E	TX-49ES500E
TX-32ES403E	TX-40ES403E	TX-49ES403E	
TX-32ES400E	TX-40ES400E	TX-49ES400E	

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How to use

■ Meaning of signs

OK :

Letters enclosed in brackets indicate remote control buttons.

Menu :

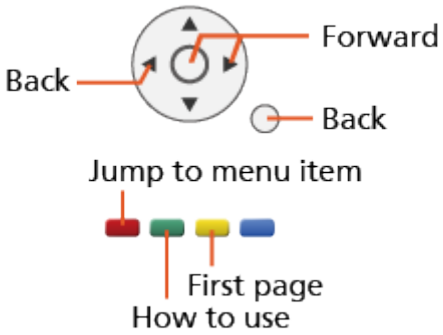
Letters in cyan indicate on-screen display items.

 :

References in this eHELP

You can jump to the page by pressing OK while the cursor is on the references.

■ Operation guide



= Note =

- Design and specifications are subject to change without notice.
- The images shown in this eHELP are for illustrative purposes only.
- This eHELP covers all models, however, some features may not be available on certain models.
- Refer to the paper manual and the actual menu in the TV etc. to confirm your model’s features.

Read first

Before use

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Contact Information: cdrequest@unipf.jp

The source code and the copyright notice are also available for free in our website below.

http://www.unipf.jp/dl/EUIDTV17/

Features

my Home Screen

“my Home Screen” is a gateway to the TV, applications, and more.

It provides easy access to special features such as Media Player, videos, games, communication tools, etc.

Home Screen > my Home Screen > Information

DVB-via-IP

This TV has DVB-via-IP client function and can connect to DVB-via-IP server or SAT>IP compatible servers to receive broadcast streaming.

Functions > DVB-via-IP > DVB-via-IP client connection

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.

Functions > Mirroring > How to use

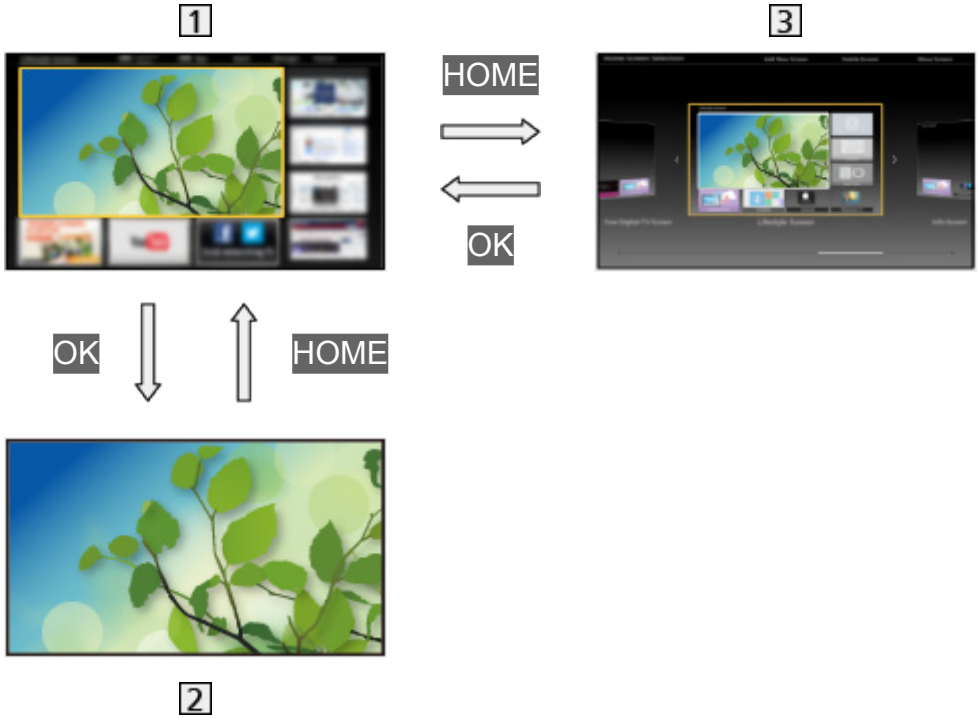
Home Screen

my Home Screen

Information

“my Home Screen” is a gateway to the TV, applications, and more.

It provides easy access to special features such as Media Player, videos, games, communication tools, etc. as shown below (example).



1 Home Screen

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

3 Home Screen Selection

– Your preferred Home Screen can be selected.

How to use

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

1. Display Home Screen with HOME.
   (Example)



   - The last viewed Home Screen is displayed when the TV is turned on.
   - Press again to select or add your preferred Home Screen layout.

     → Home Screen > my Home Screen > Settings

2. Select a feature and press OK to access.
   - To watch full-screen TV
     1) Select the TV viewer.
        (Example)



     2) Press OK to watch.
        (Example)



- Also refer to Tutorial from the tool guide.

Settings

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

(Example)



- Display the tool guide with HOME if it is not displayed.

■ Home Screen Selection

1. Display Home Screen Selection with HOME.

   (Example)



2. Select the screen and press OK to set.

   Full Screen TV:

   Displays full-screen TV.

   TV Home Screen:

   To make your TV experience more convenient and comfortable

   Lifestyle Screen:

   Displays the TV with useful information and services for everyday life.

   Info Screen:

   Enjoy internet content while watching TV.

■ Settings

You can customise any Home Screen. (For example, changing the wallpaper, renaming freely, editing applications, setting the screen launched when the TV is turned on, etc.)

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

■ Search

You can search for content from various sources.

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

= Note =

- A broadband network environment is required to fully use this function. Ensure the network connections and network settings are completed.

  Network > Network connections

  Network > Network settings

- 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 my Home Screen. You can update the software later manually.

  Network > Network settings > Software Update

APPS List

Information

Various applications (internet content, network content, Media Player, etc.) can be accessed easily from APPS List.

■ APPS List

(Example)



= Note =

- APPS List is subject to change without notice.

How to use

You can access special features such as internet content, network content, Media Player, etc. from APPS List.

1. Display APPS List with APPS.

   (Example)

   - To exit APPS List

     EXIT

2. Select an icon of the features and press OK to access.

   Internet content

   Network > Internet content

   Netflix

   - You can also access the service pressing NETFLIX.
   - A broadband network environment is required to fully use this function.
   - This service may be stopped or changed without notice.

   Media Player

   Media Player > Using Media Player > Selecting device / mode

   Recorded TV

   Media Player > Recorded TV mode

   Media Server

   Network > DLNA > Using DLNA

   VIERA Link

   Functions > VIERA Link “HDAVI Control™”

Settings

You can customise APPS List (screen settings, etc.).

1. Display APPS List with APPS.
2. Select the icon for settings on APPS List and press OK to access.



3. Follow the on-screen instructions.

= Note =

- Setup menu items may be changed without notice.

Watching

Basic

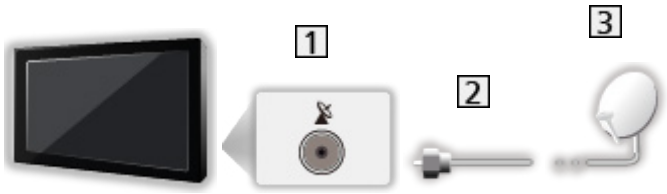
Basic connection

Some features are not available on all models.

Please ensure that the unit is disconnected from the mains socket before attaching or disconnecting any cables.

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

■ Satellite dish



1 Satellite terminal

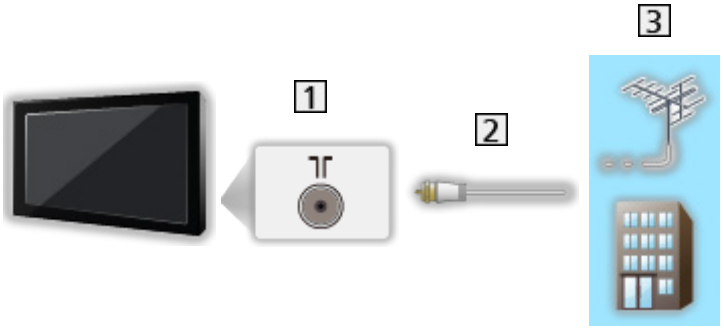
2 Satellite cable

3 Satellite dish

- For DVB-S
- To ensure your satellite dish is correctly installed, please consult your local dealer. Also consult the received satellite broadcasting companies for details.
- Selectable satellites and dish alignment to tune DVB-S channels

Watching > Tuning and editing channels > Selectable satellites

■ Aerial



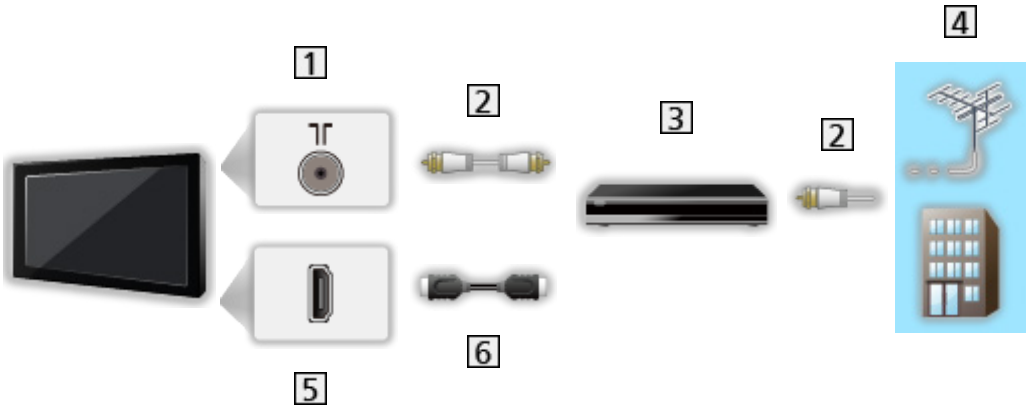
1 Terrestrial / cable terminal

2 RF cable

3 Terrestrial aerial / Cable

- For DVB-C, DVB-T, Analogue

■ DVD Recorder / Blu-ray Recorder, etc.



1 Terrestrial / cable terminal

2 RF cable

3 DVD Recorder / Blu-ray Recorder, etc.

4 Terrestrial aerial / Cable

5 HDMI terminal

6 HDMI cable

■ Set top box



1 HDMI terminal

2 HDMI cable

3 Set top box

4 Cable

= Note =

- For details of DVB-via-IP connections

  → Functions > DVB-via-IP

- For details of VIERA Link connections

  → Functions > VIERA Link “HDAVI Control™” > Summary of VIERA Link

- Please also read the manual of the equipment being connected.
- Keep the TV away from electronic equipment (video equipment, etc.) or equipment with an infrared sensor, otherwise distortion of image / sound may occur or operation of other equipment may be affected.
- Use a fully wired HDMI compliant cable.
- Check the terminal type and cable plugs are correct for connection.

Selecting channel

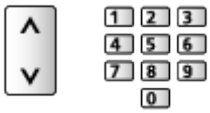
Some features are not available on all models.

1. Select the mode with TV.

   DVB-S / DVB-C / DVB-T / DVB-via-IP / Analogue

   - Selectable modes vary depending on the channels stored.

2. Select a channel with Channel Up / Down or Numeric buttons.



   - Press Numeric buttons to select a channel position with 2 or more-digit (e.g. 399, press 3 9 9).

■ To select a channel from the channel list

1. Display the channel list with OK.
2. Select a channel from the list and press OK to watch.

- To sort channel names in alphabetical order

  (red)

- To change the category

  (blue)

■ To select a channel using information banner

1. Display information banner with i if it is not displayed.
2. Select a channel and press OK to watch while the banner is displayed.

Watching > Basic > Information banner

■ To select a channel using TV Guide

1. Display TV Guide with GUIDE.
2. Select the current programme and press OK to access.
   – The current programme is displayed on the top left of the screen.
3. Select View and press OK to watch.

Watching > TV Guide > Using TV Guide

- Not valid in Analogue

■ To watch pay-TV

- For details of the encrypted channels

   → Functions > Common Interface > Using Common Interface

- Consult the operator / broadcaster or CI module manufacturer for more information and conditions of the services.

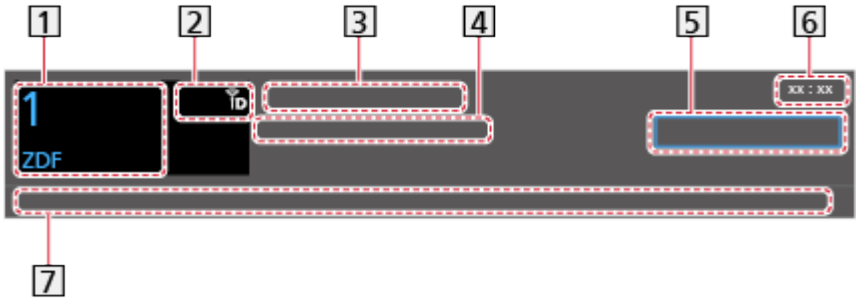
Information banner

Some features are not available on all models.

Display information banner with i.

- Also appears when changing a channel.

(Example)



1 Channel position and name

2 Channel type (Radio, HDTV, etc.) / Encrypted channel (🔒) / TV mode (, , , ,)

3 Programme

4 Start time / End time (except Analogue)

Channel position, etc. (Analogue)

Progress time indicator of the selected programme (except Analogue)

5 Category

- To change the category (DVB)

1) Display the category list with (blue).

2) Select the category and press OK to change.

6 Current time

7 Features available / message meanings

Bad signal:

Poor quality TV signal

DD+, DD, HE-AAC:

Dolby Audio (Dolby Digital Plus, Dolby Digital) or HE-AAC audio track

AD:

Audio Description service available

- This function can aid visually-impaired viewers by providing an additional audio track to describe events on screen.

Watching > For best audio > Audio Description

:

Subtitle service available

:

Teletext service available

:

Multiple audio available

:

Multiple video available

:

Multiple audio and video available

Stereo, Mono:

Audio mode

:

Data service (Hybrid Broadcast Broadband TV application) available

Functions > Data Service Application > Using Data Service Application

1 – 90:

Off Timer remaining time

Watching > Basic > Off Timer

- To confirm another tuned channel

  △ / ▽

- To watch the channel listed in the banner

  OK

- Information on the next programme (DVB)

  ▷

- Extra information (DVB)

  i

  – Press again to hide the banner.

- To hide the banner

  EXIT

- To adjust banner timeout, set Banner Display Timeout.

  1) Display the menu with MENU.
  2) Select Setup > Display Settings > Banner Display Timeout and press OK to access.
  3) Set the item and press OK to store.

- To display the introduction banner for the internet service
  1) Display the menu with MENU.
  2) Select Setup > Display Settings > Smart Banner and press OK to access.
  3) Select On / Off and press OK to set.

Option Menu

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

Confirm or change the current status.

1. Display the option menu with OPTION.
2. Select one of the following items and press OK to access.

   Voice Guidance Settings / Audio Type / Multi Video / Multi Audio / Dual Audio / Sub Channel / Subtitle Language / Teletext Character Set / Teletext Language / MPX / Volume Correction

   - The function items vary depending on the TV mode and country you select.
3. Set the item and press OK to store.

Voice Guidance Settings

Guidance settings for visually impaired users

Watching > For best audio > Voice Guidance Settings

Audio Type

Set to Audio Description if the programme has Audio Description service, then you will hear an additional audio track to describe events on screen (if available).

- For DVB
- To adjust the volume for Audio Description

Watching > For best audio > Audio Description

Multi Video

Selects from a group of multiple videos (if available).

- This setting is not memorised and it returns to the default setting once you exit the current programme.
- For DVB

Multi Audio

Selects between alternative language or Audio Description for sound tracks (if available).

- This setting is not memorised and it returns to the default setting once you exit the current programme.
- For DVB

Dual Audio

Selects stereo / monaural (if available).

- For DVB

Sub Channel

Selects the multifeed programme - sub channel (if available).

- For DVB

Subtitle Language

Selects between alternative subtitle languages or types (if available).

- This setting is not memorised and it returns to the default setting once you exit the current programme.
- For DVB

Teletext Character Set

Sets the teletext language font.

Watching > Teletext > Teletext Character Set

Teletext Language

Selects between alternative teletext languages (if available).

- This setting is not memorised and it returns to the default setting once you exit the current programme.
- For DVB

MPX

Selects multiplex sound mode (if available).

Watching > For best audio > Advanced settings

- For Analogue

Volume Correction

Adjusts the volume of each individual channel or input mode.

Subtitle

Display / hide subtitles (if available) with STTL.

- To select the preferred language for DVB subtitles (if available), set Preferred Subtitles.

  → Watching > Basic > Language

- To select the preferred subtitle type

  1) Display the menu with MENU.

  2) Select Setup > Display Settings > Preferred Subtitle Type and press OK to access.

  3) Select Standard / Hard of Hearing and press OK to set.

  – Hard of Hearing provides aids in understanding and enjoyment with DVB subtitles (depending on the broadcaster).

- Preferred Subtitles 1 / 2 in Language are given priority.

  → Watching > Basic > Language

= Note =

- If you press STTL in Analogue, the TV switches to teletext service and calls up a favourite page. Press EXIT to return to TV mode.

Last view

Switch to a previously viewed channel or input mode easily with LAST VIEW.

- Press again to return to the current view.

= Note =

- Switching channel may not be available depending on the condition.
- Watching less than 10 seconds is not reflected in the previously viewed channel or input mode.

Off Timer

Switch to TV Standby mode automatically after a fixed period.

1. Display the menu with MENU.
2. Select Timer > Off Timer and press OK to access.
3. Select the time in 15-minute increments and press OK to set.

   90 / 75 / 60 / 45 / 30 / 15 / Off (minutes)

- To cancel, set to Off or turn the TV off.
- The remaining time is displayed on the bottom right of the screen.
- The remaining time will flash on the screen when less than 3 minutes.

Energy saving functions

The TV can be eco-friendly using energy-saving functions.

The TV goes into Standby mode in the following conditions:

- Eco Navigation is set to Set to Eco.
- Off Timer is active.

  Watching > Basic > Off Timer
- No operation is performed for 4 hours while Auto Standby is set to On.
- No signal is received and no operation is performed for 10 minutes while No signal Power off is set to On.

= Note =

- This function does not affect the recording.

■ Auto Standby

1. Display the menu with MENU.
2. Select Timer > Auto Standby and press OK to access.
3. Select On / Off and press OK to set.

Auto Standby

(On / Off)

Automatically turns the TV to Standby mode for energy saving when no operation is performed for 4 hours.

- Automatic input switching with the connected equipment affects this function and time-count resets.
- A notification message will appear 3 minutes before going into Standby mode.
- Changing the default configuration may result in higher energy consumption of the product.

■ No signal Power off

1. Display the menu with MENU.
2. Select Timer > No signal Power off and press OK to access.
3. Select On / Off and press OK to set.

No signal Power off

(On / Off)

Automatically turns the TV to Standby mode to prevent unnecessary power consumption when no signal is received and no operation is performed for 10 minutes.

- A notification message will appear 3 minutes before going into Standby mode.

■ Eco Navigation

Automatically sets the TV to the most suitable energy-saving mode.

The concerned items and their current settings are displayed. Select Set to Eco to set them to the energy-saving settings at once.

1. Display the menu with MENU.
2. Select Setup > Eco Navigation and press OK to access.
3. Select Set to Eco and press OK to set.

- Auto Standby and No signal Power off are active when Eco Navigation is set to Set to Eco.

■ Radio Mode

Sets the timer for turning off the screen automatically when a radio channel is selected.

1. Display the menu with MENU.
2. Select Setup > Display Settings > Radio Mode and press OK to access.
3. Select the time and press OK to set.

   20 / 15 / 10 / 5 / Off (seconds)

- Sound is active even if the screen is turned off. This function is effective in reducing power consumption when listening to a radio channel.
- Press any buttons except Standby On / Off switch, Volume Up / Down and MUTE to turn the screen on.



- Not valid in Analogue

Adjusting time

Adjusts the time data.

1. Display the menu with MENU.
2. Select Timer > Time Zone and press OK to access.
3. Set the item and press OK to store.

- The time data are corrected based on GMT.

Language

1. Display the menu with MENU.
2. Select Setup > Language and press OK to access.
3. Select one of the following items and press OK to access.

   OSD Language / Preferred Audio 1 / 2 / Preferred Subtitles 1 / 2 / Preferred Teletext
4. Set the item and press OK to store.

OSD Language

Changes language for on-screen displays.

Preferred Audio 1 / 2

Selects the first and second preferred language for DVB multi audio (depending on the broadcaster).

Preferred Subtitles 1 / 2

Selects the first and second preferred language for DVB subtitles (depending on the broadcaster).

- To display subtitles

   → Watching > Basic > Subtitle

---

Preferred Teletext

Selects the preferred language for DVB teletext service (depending on the broadcaster).

External equipment

External connection

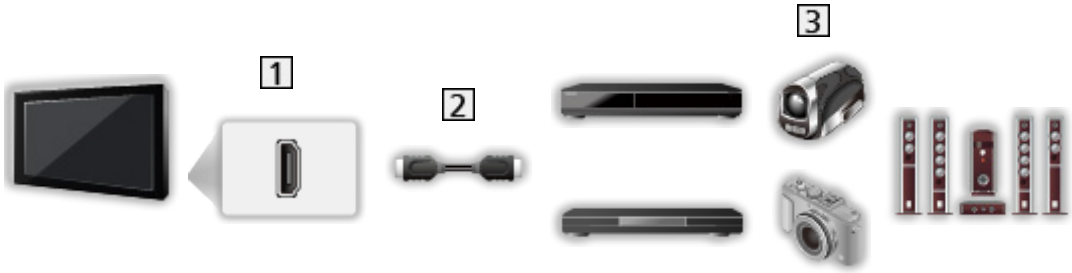
These diagrams show our recommendations for connection of your TV to various pieces of equipment. For other connections, consult the instructions for each piece of equipment.

- For details of basic connection

  Watching > Basic > Basic connection

- Check the terminal type and cable plugs are correct for connection.
- External equipment and cables shown are not supplied with this TV.

■ HDMI equipment



1 HDMI terminal

2 HDMI cable

3 Recorder / Player / Set top box / Camcorder / Amplifier with speaker system

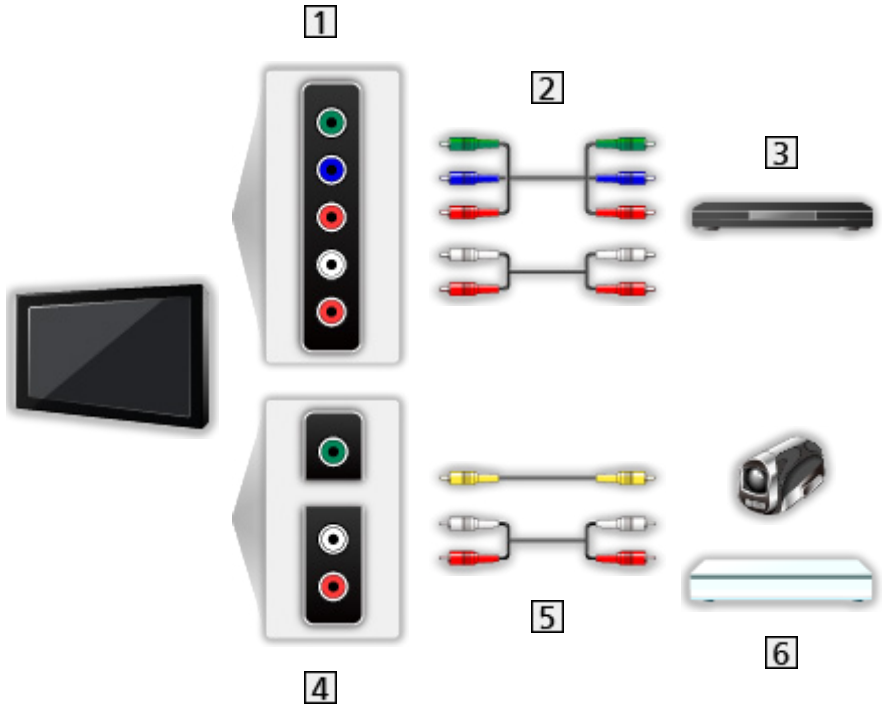
= Note =

- Use a fully wired HDMI compliant cable.
- For details of VIERA Link connections

  Functions > VIERA Link “HDAVI Control™” > Summary of VIERA Link

- Use HDMI2 to connect the TV to an amplifier which has ARC (Audio Return Channel) function.

■ AV devices



1 AV (COMPONENT) terminals

2 Component cables

3 DVD Player, etc.

4 AV (VIDEO) terminals

5 Composite cables

6 Camcorder / Game equipment

■ USB devices



1 USB port

2 USB cable

3 USB HDD, etc.

= Note =

- It is recommended to connect the device to the TV's USB port directly.
- You cannot use two or more of the same kind of USB devices simultaneously except USB Flash Memory or USB HDD.
- Use USB 2 port for connecting the USB HDD.
- Some USB devices or USB HUB may not be used with this TV.
- You cannot connect any devices by using USB card reader.

■ Listening with external speakers



[1] DIGITAL AUDIO

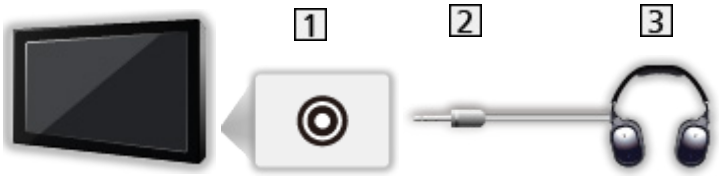
[2] Optical digital audio cable

[3] Amplifier with speaker system

- To enjoy multi-channel sound from external equipment (e.g. Dolby Audio (Dolby Digital) 5.1ch), connect the equipment to the amplifier. For information about the connections, read the manuals of the equipment and amplifier.
- To select the sound output to adjust volume, set TV Speaker Setting.

→ Watching > For best audio > Volume settings

■ Headphones



[1] Headphone jack

[2] M3 stereo mini plug

[3] Headphones

- To adjust volume, set Headphone Volume.

→ Watching > For best audio > Volume settings

- To select the sound output to adjust volume, set TV Speaker Setting.

→ Watching > For best audio > Volume settings

Watching external input

Connect the external equipment (VCR, DVD, etc.) and you can watch through the input.

1. Display the input selection menu with AV.
2. Select the input mode connected to the equipment and press OK to watch. (The selected mode is displayed on the top left of the screen.)

- You can also select the input pressing AV. Press repeatedly until the desired input is selected.
- You can select COMPONENT and VIDEO in AV.
- You can label or skip each input mode. Skipped inputs will not be displayed when AV is pressed. (Input Labels)
- The remote control is capable of operating the content or external equipment.

  → Watching > External equipment > Operating with TV's remote control
- To return to TV mode

  TV

= Note =

- If the external equipment has an aspect adjustment function, set it to 16:9.
- For details, read the manual of the equipment or ask your local dealer.

■ Input Labels

Accessing the input labels list allows you to change the input name or skip the input if unconnected, improving identification and selection in the Input Selection banner.

→ Watching > Basic > Information banner

1. Display the menu with MENU.
2. Select Setup > Display Settings > Input Labels and press OK to access.
3. Set the item and press OK to set.

- To name each input mode freely, select User input and set characters (maximum 10 characters).
- To skip the input mode, select Skip.

Operating with TV’s remote control

You can operate the content in Media Player / media server, recording functions or the connected equipment with the following buttons of this TV’s remote control.

 :

Playback (VCR / DVD / video content)

 :

Stop the operations

 :

Rewind, view the picture rapidly in reverse (VCR)

Skip to the previous track, title or chapter (DVD / video content)

 :

Rewind, view the picture rapidly in reverse (VCR)

Search backward (DVD / video content)

 :

Fast-forward, view the picture rapidly forward (VCR)

Skip to the next track, title or chapter (DVD / video content)

 :

Fast-forward, view the picture rapidly forward (VCR)

Search forward (DVD / video content)

 :

Pause / Resume

Press and hold to play at slow speed (DVD)

 :

One Touch Recording

 Recording > Recording current programme > One Touch Recording

■ How to change the code

Each Panasonic product has its own remote control code. Change the code according to the product for operation.

1. Press and hold Standby On / Off switch during the following operations.



2. Enter the appropriate code as follows with Numeric buttons.



- Codes for each product and features

  70: DVD Recorder, DVD Player, Blu-ray Disc Player

  71: Player theatre, Blu-ray Disc theatre

  72: VCR

  73 (default):

  Using in USB HDD recording, Media Player, DLNA features or VIERA Link

3. Press ■ to change.

= Note =

- Confirm if the remote control works correctly after changing the code.
- The codes may be reset to defaults if batteries are replaced.
- Some operations may not be available depending on the equipment.

HDMI features

HDMI (high-definition multimedia interface) is the world's first complete digital consumer AV interface complying with a non-compression standard.

HDMI allows you to enjoy high-definition digital images and high-quality sound by connecting the TV to external equipment.

HDMI-compatible equipment* with an HDMI or DVI output terminal, such as a DVD player, a set top box or game equipment, can be connected to the HDMI terminal using a fully wired HDMI compliant cable.

→ Watching > External equipment > External connection

*: The HDMI logo is displayed on HDMI-compliant equipment.

■ Applicable HDMI features

- Input audio signal:

  2ch LPCM, Dolby Audio (Dolby Digital, Dolby Digital Plus)

  – Audio settings can be made on HDMI Audio Format in the Sound Menu.

  → Watching > For best audio > Advanced settings

- Input video signal:

  Matches the output setting of the digital equipment.

  → Watching > External equipment > Valid input signals

- VIERA Link (HDAVI Control 5)

  → Functions > VIERA Link "HDAVI Control™" > Summary of VIERA Link

- Content Type
- Audio Return Channel
  – Audio Return Channel (ARC) is a function to send digital sound signals via an HDMI cable.
  – For HDMI2

■ DVI connection

If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adaptor cable. When using the DVI to HDMI adaptor cable, connect the audio cable to the audio input terminal (use COMPONENT / VIDEO audio terminals).

- Enquire HDMI adaptor cable at your local digital equipment retailer shop.

= Note =

- Audio settings can be made on HDMI Audio Format / HDMI Input in the Sound Menu.

  Watching > For best audio > Advanced settings

- If the connected equipment has an aspect adjustment function, set the aspect ratio to “16:9”.
- These HDMI connectors are “type A”.
- These HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Equipment having no digital output terminal may be connected to the input terminal of component or video to receive analogue signals.
- This TV incorporates HDMI™ technology.

Valid input signals

■ COMPONENT, HDMI

Signal name	COMPONENT	HDMI
525 (480) / 60i, 60p	○	○
625 (576) / 50i, 50p	○	○
750 (720) / 60p, 50p	○	○
1 125 (1 080) / 60i, 50i	○	○
1 125 (1 080) / 60p, 50p, 24p		○

○: Applicable input signal

= Note =

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

For best picture

Viewing Mode

1. Display the menu with MENU.
2. Select Picture > Viewing Mode and press OK to access.
3. Select the mode and press OK to set.

Viewing Mode

(Dynamic / Normal / Cinema / True Cinema / Custom)

Selects your favourite picture mode for each input.

Dynamic:

Improves contrast and sharpness for viewing in a bright room.

Normal:

Normal use for viewing in a normal lighting condition.

Cinema:

Improves the performance of contrast, black and colour reproduction for watching movies in a darkened room.

True Cinema:

Reproduces the original image quality precisely without any revision.

Custom:

Adjusts each menu item manually to suit your favourite picture quality.

- The following items can be adjusted and stored for each mode.

  Backlight / Contrast / Brightness / Colour / Tint / Sharpness / Colour Temperature / Vivid Colour / Adaptive Backlight Control / Ambient Sensor / Noise Reduction / MPEG Remaster / Clear Motion

- This function can be memorised respectively for input or TV mode.

Ambient Sensor

1. Display the menu with MENU.
2. Select Picture > Ambient Sensor and press OK to access.
3. Select On / Off and press OK to set.

Ambient Sensor

(On / Off)

- Automatic Brightness Control function

Adjusts picture settings automatically depending on ambient lighting condition.

Aspect

Change the aspect ratio (image size) with ASPECT.

■ To change the aspect ratio manually

1. Display Aspect Selection with ASPECT.
2. Select the mode and press OK to set.

- You can also change the mode pressing ASPECT.

  (Press repeatedly until you reach the desired mode.)

Auto:

The best ratio is selected automatically according to the “Aspect Control Signal”.

Watching > For best picture > Aspect Control Signal

16:9:

Directly displays the image at 16:9 without distortion (anamorphic).

4:3:

Displays the image at the standard 4:3 without distortion.

Zoom:

Displays a 16:9 letterbox or 4:3 image without distortion.

= Note =

- Display the image (TV, external input, etc.) full-screen to use this function completely.
- Aspect mode can be memorised separately for SD (Standard definition) and HD (High definition) signals.
- Aspect cannot be changed in teletext service.
- Aspect is fixed to 16:9 in the following conditions:
  – 1080p Pure Direct is set to On.

Aspect Control Signal

Some features are not available on all models.

Programmes usually contain an “Aspect Control Signal”. (Widescreen signal, Control signal through HDMI terminal)

In Auto mode, aspect mode will appear in the top left of the screen if a Widescreen signal (WSS) or a Control signal through HDMI terminal is found. The aspect switches to the appropriate ratio.

Watching > For best picture > Aspect

■ Available conditions

- Satellite terminal (WSS only)

  Valid input signal format:

  DVB-S

- Terrestrial / cable terminal (WSS only)

  Valid input signal format:

  DVB-C

  DVB-T / DVB-T2

  PAL B, G, H, I, D, K

  SECAM B, G, L, L’, D, K

  Invalid input signal format:

  PAL 525/60 6.5 MHz

  PAL 525/60 6.0 MHz

  PAL 525/60 5.5 MHz

  M.NTSC 6.5 MHz

  M.NTSC 6.0 MHz

  M.NTSC 5.5 MHz

- AV (VIDEO) terminals

  Valid input signal format:

  PAL

  SECAM

  PAL 525/60 *

  M.NTSC *

  NTSC *

  * : Control signal through HDMI terminal only

- AV (COMPONENT) terminals (WSS only)

  Valid input signal format:

  625 (576) / 50i, 50p

  Invalid input signal format:

  525 (480) / 60i, 60p

  750 (720) / 60p, 50p

  1 125 (1 080) / 60i, 50i

- HDMI terminal

  Valid input signal format:

  525 (480) / 60i, 60p

  625 (576) / 50i, 50p

  750 (720) / 60p, 50p

  1 125 (1 080) / 60i, 50i

  1 125 (1 080) / 60p, 50p, 24p

  • HDMI terminal does not receive WSS signal.

= Note =

• If the screen size looks unusual when a widescreen-recorded programme is played back on a VCR, adjust the tracking of the VCR. Read the manual of the VCR.

Basic settings

1. Display the menu with MENU.
2. Select Picture and press OK to access.
3. Select one of the following items and press OK to access.

   Backlight / Contrast / Brightness / Colour / Tint / Sharpness / Colour Temperature / Vivid Colour / Adaptive Backlight Control / Clear Motion
4. Set the item and press OK to store.

Backlight, Contrast, Brightness, Colour, Tint, Sharpness

Adjusts the levels of these options according to your personal preference.

Colour Temperature

Sets the overall colour tone of the picture (bluer - redder).

Vivid Colour

(On / Off)

Automatically adjusts colours to vivid ones.

Adaptive Backlight Control

Automatically controls the level of backlight according to the images.

Clear Motion

(On / Off)

Makes the moving pictures clearer by controlling the level of backlight.

- Not valid for photo content

Noise reduction settings

1. Display the menu with MENU.
2. Select Picture > Noise Reduction / MPEG Remaster and press OK to access.
3. Set the item and press OK to store.

Noise Reduction

(Auto / Max / Mid / Min / Off)

Reduces unwanted picture noise.

- Not valid when 1080p Pixel Direct is set to On

MPEG Remaster

(Auto / Max / Mid / Min / Off)

Reduces flicker noise in contoured parts of a picture and block noise.

- Not valid when 1080p Pixel Direct is set to On

Advanced Settings

You can adjust and set up the detailed picture settings when Viewing Mode is set to Cinema, True Cinema or Custom. The settings in True Cinema or Custom can be stored for each input.

Watching > For best picture > Viewing Mode

1. Select the input mode with AV or TV.
2. Display the menu with MENU.
3. Select Picture > Viewing Mode and press OK to access.
4. Select the mode and press OK to set.

   Cinema / True Cinema / Custom

■ Adjust the detailed picture settings

1. Display the menu with MENU.
2. Select Picture > Advanced Settings and press OK to access.
3. Select one of the following items and press OK to access.

   Contrast Control / Colour Gamut / White Balance / Colour Management / Gamma / Reset to Defaults
4. Set the item and press OK to store.

■ Contrast Control

Contrast Control

(Custom / Auto / Off)

Automatically adjusts the detailed contrast settings. Select Custom to set Contrast Control Setting manually.

Contrast Control Setting

Adaptive Gamma Control:

Adjusts the gamma curve to make the image brighter.

Black Expander:

Gradually adjusts the shades of black.

Clear White Effect:

Makes the white area clearer.

Reset to Defaults:

Resets items for Contrast Control Setting.

■ Colour Gamut

Colour Gamut

(Auto / Normal / Native)

Reproduces image colour precisely according to the colour gamut standards.

Auto:

Automatically adjusts the colour gamut according to the input signal.

Normal:

Displays colours according to the colour gamut.

Native:

Displays deep colours by expanding the colour gamut to its maximum.

- Not valid for photo content

■ White Balance

R-Gain / G-Gain / B-Gain

Adjusts the white balance of bright red / green / blue areas.

R-Cutoff / G-Cutoff / B-Cutoff

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

More Detailed Adjustment

Adjusts more detailed items for White Balance.

Input Signal Level:

Adjusts the input signal level.

R-Gain / G-Gain / B-Gain:

Adjusts the detailed white balance of bright red / green / blue areas.

Reset to Defaults:

Resets items for More Detailed Adjustment.

Reset to Defaults

Resets White Balance to the default settings.

■ Colour Management

R-Hue / R-Saturation / R-Luminance

Adjusts the picture hue / saturation / luminance of red areas.

G-Hue / G-Saturation / G-Luminance

Adjusts the picture hue / saturation / luminance of green areas.

B-Hue / B-Saturation / B-Luminance

Adjusts the picture hue / saturation / luminance of blue areas.

More Detailed Adjustment

Adjusts more detailed items for Colour Management.

C-Hue / M-Hue / Y-Hue:

Adjusts the picture hue of cyan / magenta / yellow areas.

C-Saturation / M-Saturation / Y-Saturation:

Adjusts the saturation of cyan / magenta / yellow areas.

Reset to Defaults:

Resets items for More Detailed Adjustment.

Reset to Defaults

Resets Colour Management to the default settings.

■ Gamma

Gamma

Switches the gamma curve.

- Please note the numerical values are reference for the adjustment.

More Detailed Adjustment

Adjusts more detailed items for Gamma.

Input Signal Level:

Adjusts the input signal level.

Gain:

Adjusts the gain of gamma for selected signal level.

Reset to Defaults:

Resets items for More Detailed Adjustment.

Reset to Defaults

Resets Gamma to the default settings.

■ Reset to Defaults

Reset to Defaults

Resets Advanced Settings to the default settings.

Option Settings

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

1. Display the menu with MENU.
2. Select Picture > Option Settings and press OK to access.
3. Select one of the following items and press OK to access.

   Film Cadence Mode / 1080p Pixel Direct / HDMI Content Type / HDMI RGB Range / AV Colour System / 3D-COMB
4. Set the item and press OK to store.

Film Cadence Mode

(Auto / On / Off)

Improves vertical resolution for movie images.

- This function is available for interlaced signals (except in Network services).

1080p Pixel Direct

(On / Off)

Reproduces the original image quality in detail for 1080p (HDMI) input signal.

HDMI Content Type

(Graphics / Photos / Auto / Off)

Adjusts the picture settings of each HDMI input according to the selected content type.

Auto:

Automatically adjusts the picture settings according to the received HDMI content if the connected equipment supports HDMI Content Type.

- To set the availability of each content type for Auto mode, select Auto Detail Setting.
- For HDMI

HDMI RGB Range

(Auto / Full / Normal)

Adjusts the black level of the image for each HDMI input.

- When the black level is not suitable, select Full.
- For HDMI

AV Colour System

(Auto / PAL / SECAM / M.NTSC / NTSC)

Selects optional colour system based on video signals.

- For AV (VIDEO)

3D-COMB

(On / Off)

Makes still or slow moving pictures more vivid.

- Occasionally, while viewing still or slow moving pictures, colour patterning may be seen. Set to On to display sharper and more accurate colours.
- For PAL / NTSC signal reception in TV mode or from composite connection

Screen Settings

1. Display the menu with MENU.
2. Select Picture > Screen Settings and press OK to access.
3. Select one of the following items and press OK to access.
   16:9 Overscan / Zoom Adjustments / Screen Display
4. Set the item and press OK to store.

16:9 Overscan

(On / Off)

Selects the screen area displaying the image for 16:9 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 occurs on the edge of the screen.
- This function can be memorised for SD (Standard definition) and HD (High definition) signals respectively.
- Not valid for photo content

Zoom Adjustments

Adjusts the vertical position and size when aspect is set to Zoom.

Screen Display

(On / Off)

Turns the screen off when you select Off.

- This function is effective in reducing power consumption when listening to the sound without watching the TV screen.
- Press any buttons (except Standby On / Off switch) to turn the screen on.

Copy Adjustment

Copies the picture settings of True Cinema or Custom to those of the other input mode or Viewing Mode.

1. Display the menu with MENU.
2. Select Picture > Copy Adjustment > Destination Viewing Mode / Destination Input and press OK to access.
3. Select the destination to copy to and press OK to set.
4. Select Copy Start and press OK to copy.
5. When a confirmation screen is displayed, select Yes and press OK to set.

= Note =

- Option Settings and Screen Settings are not copied.

For best audio

Sound mode

1. Display the menu with MENU.
2. Select Sound > Mode and press OK to access.
3. Select the mode and press OK to set.

Mode

(Standard / Music / Ambience / User)

Selects your favourite sound mode for each input.

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 using the equaliser to suit your favourite sound quality.

- The following items can be adjusted and stored for each mode.

  Bass / Treble / Surround / Bass Boost

- For the User mode, Equaliser is available in the Sound Menu instead of Bass and Treble. Select Equaliser and adjust the frequency.

  Watching > For best audio > Basic settings

- This function is effective only for the sound from TV speakers.

Basic settings

1. Display the menu with MENU.
2. Select Sound and press OK to access.
3. Select one of the following items and press OK to access.

   Bass / Treble / Equaliser / Balance / Surround / Bass Boost
4. Set the item and press OK to store.

Bass

Adjusts level to enhance or minimise lower, deeper sound output.

Treble

Adjusts level to enhance or minimise sharper, higher sound output.

Equaliser

Adjusts the frequency level to suit your favourite sound quality.

- This function is available when Mode is set to User.
- Select the frequency and adjust the frequency level.
- 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 and press OK.
- This function is effective only for the sound from TV speakers.

Balance

Adjusts volume level of right and left speakers.

Surround

(Virtual Surround / Off)

Selects surround sound settings.

Virtual Surround:

Provides a dynamic enhancer of width and depth to simulate improved spatial effects.

- This function is effective only for the sound from TV speakers.

Bass Boost

(On / Off)

Enhances the effect of bass sounds.

- This function is effective only for the sound from TV speakers.

Volume settings

1. Display the menu with MENU.
2. Select Sound and press OK to access.
3. Select one of the following items and press OK to access.

   Speaker Selection / TV Speaker Setting / Headphone Volume / Auto Gain Control / Volume Correction / Clear Sound Adjustment
4. Set the item and press OK to store.

Speaker Selection

(TV / Home Cinema)

Enables controlling the theatre speaker with this TV's remote control by pointing at the TV's signal receiver.

TV:

TV speakers are active.

Home Cinema:

The sound is delivered from theatre speakers. Player theatre, Blu-ray Disc theatre or Amplifier will be automatically turned on 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 Volume Up / Down and MUTE.



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

TV Speaker Setting

(TV Speaker / Headphone / Off)

Selects the sound output to adjust volume.

- Sound from TV speaker turns off when Headphone or Off is selected.

Headphone Volume

Adjusts the volume of headphones.

Auto Gain Control

(On / Off)

Automatically regulates large sound level differences between channels and inputs.

Volume Correction

Adjusts the volume of each individual channel or input mode.

Clear Sound Adjustment

(On / Off)

If the sound from TV speakers is unclear due to installation environment, On is recommended.

- This function is effective only for the sound from TV speakers.

Voice Guidance Settings

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

1. Display the menu with MENU.
2. Select Sound > Voice Guidance Settings and press OK to access.
3. Select one of the following items and press OK to access.

   Voice Guidance / Speed / Volume / Language / User Level / Web Browser
4. Set the item and press OK to store.

Voice Guidance

(On / Off)

Set to On to enable voice guidance of the basic features (on-screen messages, etc.) for visually impaired users.

Speed

(Fast / Normal / Slow)

Selects the readout speed for the voice guidance.

Volume

(Max / Mid / Min)

Selects the volume for the voice guidance.

Language

Changes language for the voice guidance.

- All languages may not be available. When the selected language is not supported, Language is set to English automatically.

User Level

(Beginner / Expert)

Selects the level of verbosity for the voice guidance.

Web Browser

(On / Off)

Set to On to enable voice guidance of the network content in web browser function.

= Note =

- Voice guidance function may not correspond exactly.

Audio Description

1. Display the menu with MENU.
2. Select Sound > Audio Description and press OK to access.
3. Select one of the following items and press OK to access.
   Preferred Audio Type / Volume / Speakers / Headphones
4. Set the item and press OK to store.

- For DVB

Preferred Audio Type

(Audio Description / Standard)

Narration settings for visually impaired users

Set to Audio Description to activate the narration sound track when available on the broadcast.

- The availability of audio description sound track is indicated by AD in the information banner.

Volume

Adjusts the volume for Audio Description.

Speakers

(Mix / Standard)

Set to Mix to activate the description sound track from TV speakers.

Headphones

(Mix / Standard)

Set to Mix to activate the description sound track from headphones.

Advanced settings

1. Display the menu with MENU.
2. Select Sound and press OK to access.
3. Select one of the following items and press OK to access.

   MPX / Audio Preference / SPDIF Selection / HDMI Audio Format / PCM Optical Level / SPDIF Delay / HDMI Input
4. Set the item and press OK to store.

MPX

Selects multiplex sound mode (if available).

Stereo:

Use this normally.

Mono:

When stereo signal cannot be received

M1 / M2:

Available while mono signal is transmitted

- For Analogue

Audio Preference

(Auto / Multichannel / Stereo / MPEG)

- Selectable options vary depending on the country you select.

Selects the initial setting for audio tracks.

Auto:

Automatically selects the audio tracks if a programme has two or more tracks. The priority is given in the following order - Dolby Audio (Dolby Digital Plus), HE-AAC, Dolby Audio (Dolby Digital), MPEG.

Multichannel:

The priority is given to multi-channel audio track.

Stereo:

The priority is given to stereo (2ch) audio track.

MPEG:

The priority is given to MPEG.

- Dolby Audio (Dolby Digital, Dolby Digital Plus) is the method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2ch) audio, these signals can be multi-channel audio.

- HE-AAC is a perceptual coding method used to compress digital audio for efficient storage and transmission.
- MPEG is an audio compression method that compresses audio to the smaller size without any considerable loss of audio quality.
- Dolby Audio (Dolby Digital Plus) and HE-AAC are the technologies for HD (High definition) programmes.
- For DVB

SPDIF Selection

(Auto / PCM)

Selects the initial setting for digital audio output signal from DIGITAL AUDIO and HDMI2 (ARC function) terminals.

- SPDIF is a standard audio transfer file format.

  Auto:

  Dolby Audio (Dolby Digital, Dolby Digital Plus) and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

  PCM:

  Digital output signal is fixed to PCM.

- ARC (Audio Return Channel) is a function of digital audio output using HDMI cable.
- For DVB, video content

  Media Player > Video mode > Audio output settings

  Network > Videos > Audio output settings

HDMI Audio Format

(Auto / Bitstream / PCM)

Selects the audio format for the HDMI input signal.

Auto:

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

Bitstream:

Dolby Audio (Dolby Digital, Dolby Digital Plus) is output as Dolby Audio Bitstream. Other digital audio output signals are output as PCM.

PCM:

Digital audio signal is output as PCM.

PCM Optical Level

Adjusts the audio level of PCM output from DIGITAL AUDIO and HDMI2 (ARC function) terminals to equalise with that of the other audio types.

SPDIF Delay

Adjusts the delay time of the sound output from DIGITAL AUDIO and HDMI2 (ARC function) terminals if the sound does not synchronise the image.

- For DVB

HDMI Input

(Digital / Analogue)

Selects to fit the input signal.

Watching > External equipment > HDMI features

Digital:

When sound is carried via the HDMI cable connection

Analogue:

When sound is not carried via the HDMI-DVI adaptor cable connection

- For HDMI

TV Guide

Using TV Guide

Some features are not available on all models.

TV Guide - Electronic Programme Guide (EPG) provides an on-screen listing of the programmes currently broadcast and the forthcoming broadcasts over the next seven days (depending on the broadcaster).

- Not valid in Analogue

1. Select the mode with TV.

   DVB-S / DVB-C / DVB-T / DVB-via-IP

2. Display TV Guide with GUIDE.

   (Example)



1 TV screen

2 Date

3 Time

4 Programme

5 Channel position and name

- To watch the programme

  1) Select the current programme and press OK to access.

     – The current programme is displayed on the top left of the screen.

  2) Select View and press OK to watch.

     – To use Timer Programming

       Watching > TV Guide > Timer Programming

- To the previous day

  (red)

- To the next day

  (green)

- To search programme titles and view a list of the searched programmes (if available)

  1) Display the search list with (yellow).
  2) Select Search and press OK to access.
  3) Enter characters with Cursor buttons or Numeric buttons, and press OK to set.



  4) Press (green) to start searching.
     – All the programme titles including the word you set are listed.
     – Searching without any characters lists all programmes including current programmes.

- To view a channel list of the selected category

  1) Display the category list with (blue).
  2) Select the category and press OK to view.
     – To list favourite channels, set Favourites Editor.

Watching > Tuning and editing channels > Favourites Editor

- To view more details of the programme

  1) Select the programme.
  2) Press to view.
     – Press again to return to TV Guide.

- To exit TV Guide

  EXIT

= Note =

- When this TV is turned on for the first time, or the TV is switched off for more than a week, it may take some time before TV Guide is completely shown.

Timer Programming

This function allows you to select programmes that you want to record to the USB HDD.

1. Display TV Guide with GUIDE.
2. Select the forthcoming programme and press OK to access.
   - You can also set a timer event pressing ●.
   - To check / change / cancel a timer event

     → Recording > Timer Programming > Editing Timer Programming
   - LED turns to orange in Standby mode when Timer Programming is set.
   - To return to TV Guide

     BACK/RETURN
   - If you select the current programme, a confirmation screen asking whether you want to watch or record the programme appears. Select Timer Programming and press OK to set USB HDD Rec. to record from the time you finish the timer event setting.
   - is displayed on the TV Guide screen if Timer Programming is set from TV Guide.

= Note =

- Not valid in Analogue
- Timer Programming only works reliably if correct time information is received via the signal from the broadcaster or service provider.
- No other channels can be selected while recording of Timer Programming is in progress.
- When recording programmes to the USB HDD, be sure to format the USB HDD and enable it to record in USB Device Setup.

  → Recording > USB HDD setup

Teletext

Viewing Teletext

1. Switch to teletext with TEXT.
   - Displays the index page (content varies depending on the broadcaster).
   - Current / sub page numbers are displayed on the top left of the screen.
   - Time / date is displayed on the top right of the screen.
   - Colour bar is displayed on the bottom of the screen.
2. Select the page with Cursor buttons, Numeric buttons or (red) (green) (yellow) (blue) (coloured buttons).



   - To adjust contrast
     1) Press MENU three times to display Contrast.
     2) Adjust and press OK to set.
   - To exit teletext

     EXIT

■ Reveal hidden data

1. Press MENU.
2. Reveal with (red).
   - Press again to hide.

■ To view a favourite page stored

Press STTL to view a favourite page.

- Call up the page stored on (blue). (List mode)
- Factory setting is “P103”.

■ FULL / TOP / BOTTOM

1. Press MENU.
2. Press (green) to change the layout.

■ Watch TV and teletext in two windows at once

1. Press MENU twice.
2. Set Picture and text to On / Off.

- Operations can be made only in teletext screen.

■ Store frequently viewed pages in the colour bar (List mode)

1. Press (coloured buttons) while the page is displayed.
2. Press and hold OK.

- The stored page number changes to white.
- To change stored pages
  1) Press (coloured buttons) to change.
  2) Enter a new page number with Numeric buttons.



  3) Press and hold OK.

■ View sub page

The number of sub pages is displayed on the top of the screen. Press ◁ / ▷ to view sub page. (Only when teletext has more than one page.)

- The number of sub pages varies depending on the broadcaster (up to 79 pages).
- Searching may take time while you are watching TV.
- To view a specific sub page
  1) Press MENU.
  2) Press (blue).
  3) Enter the 4-digit number (e.g. P6, press 0 0 0 6).

Teletext mode

Teletext services are the text information provided by the broadcaster.

- The features may vary depending on the broadcaster.

1. Display the menu with MENU.
2. Select Setup > Display Settings > Teletext and press OK to access.
3. Select TOP (FLOF) / List and press OK to set.

■ TOP mode (For TOP text broadcasting)

TOP is a particular improvement of the standard teletext service that results in an easier search and effective guide.

- Fast overview of the teletext information available
- Easy to use step-by-step selection of the topical subject
- Page status information on the bottom of the screen
- Available page up / down

  (red) / (green)
- To select among subject blocks

  (blue)
- To select next subject within the subject block

  (yellow)

  (After the last subject, it moves to the next subject block.)

■ FLOF (FASTEXT) mode (For FLOF (FASTEXT) broadcasting)

In FLOF mode, four differently coloured subjects are situated on the bottom of the screen.

To access more information about one of these subjects, press the appropriate coloured button.

This facility enables fast access to information on the subjects shown.

■ List mode

In List mode, four differently coloured page numbers are situated on the bottom of the screen. Each of these numbers can be changed and stored in the TV's memory.

Watching > Teletext > Viewing Teletext

Teletext Character Set

Selects teletext language font.

1. Display the menu with MENU.
2. Select Setup > Display Settings > Teletext Character Set and press OK to access.
3. Select the font and press OK to set.

West:

English, French, German, Greek, Italian, Spanish, Swedish, Turkish, etc.

East1:

Czech, English, Estonian, Lettish, Rumanian, Russian, Ukrainian, etc.

East2:

Czech, Hungarian, Lettish, Polish, Rumanian, etc.

Tuning and editing channels

Setting menu

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

You can retune channels, edit channel lists, create your favourite channel lists, etc.

1. Select the mode with TV.

   DVB-S / DVB-C / DVB-T / DVB-via-IP / Analogue

2. Display the menu with MENU.

3. Select Setup > Tuning Menu and press OK to access.

   DVB-S Tuning Menu / DVB-C Tuning Menu / DVB-T Tuning Menu / DVB-via-IP Tuning Menu / Analogue Tuning Menu

   - The menu name varies depending on the TV mode.

4. Select one of the functions and press OK to access.

   Channel List Editor / Favourites Editor / Auto Setup / Manual Tuning / Update Channel List / Favourite Network / New Channel Message / Service Replacement / Signal Condition / Attenuator / Add TV Signal

   - The function items vary depending on the TV mode and country you select.

Channel List Editor

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

■ Edit DVB channels

You can edit the list of All DVB Channels by adding / deleting and moving channels.

- Channels not in all DVB channels list cannot be displayed except in this function.

1. Select Channel List Editor and press OK to access.
   - To swap / move the channel position
     1) Press (green) to edit.
     2) Set the new position with Cursor buttons or Numeric buttons, and press (green) to store.



   - To delete the channel

     (blue)
   - To delete all channels

     (yellow)
   - To add channel
     1) Select a channel from Channels Found.
     2) Press OK to add it to All DVB Channels.
   - To sort channel names in alphabetical order

     (red)
   - To add all channels to the list (if available)
     1) Press (yellow).
     2) Press (green) to add all (depending on the broadcaster).
   - To add consecutive channels to the list at once (if available)
     1) Press (yellow).
     2) Make the channel block and press OK to add.
   - To change the category of Channels Found

     (blue)

2. Press BACK/RETURN and OK to store.

- To exchange channel list (DVB-S)

  1) Display the menu with MENU.

  2) Select Setup > Other Settings > Exchange Channel List and press OK to access.

  3) Follow the on-screen instructions.

  – During the operation, remove USB devices other than the USB Flash Memory used for this function.

  → Settings > Setup > Other Settings

■ Skip unwanted Analogue channels

You can hide (skip) unwanted channels. The hidden channels cannot be displayed except in this function.

1. Select Channel List and press OK to access.
2. Select a channel.
3. Press OK to set Reveal / Hide (skip).

   ☑ : Reveal

   ☐ : Hide (skip)

   - To reveal all channels (if available)

     (yellow)

■ Edit Analogue Channels

- To swap / move the channel position (if available)

  1) Press (green) to edit.

  2) Set the new position with Cursor buttons and press (green) to store.



- To retune each channel (Manual Tuning)

  (red)

- To rename the channel name

  1) Press (blue) to edit.

  2) Enter characters (maximum 5 characters) with Cursor buttons or Numeric buttons, and press OK to set.



  3) Press BACK/RETURN to store.

= Note =

- If a VCR is connected only with the RF cable in Analogue, edit VCR.

Favourites Editor

■ List favourite DVB channels

Create your favourite channel lists from various broadcasters (up to 4: Favourites 1 to 4).

The favourites lists are available for switching in the information banner and the TV Guide screen.

→ Watching > Basic > Information banner

→ Watching > TV Guide > Using TV Guide

1. Select Favourites Editor and press OK to access.
2. Select a channel to list from all DVB channels.
   - appears when the channel is encrypted.
   - To display other favourites

     (green)
   - To sort channel names in alphabetical order

     (red)
   - To change the category

     (blue)
3. Press OK to add it to favourites list.
   - To add all channels to the list (if available)

     1) Press (yellow).

     2) Press (green) to add all.
   - To add consecutive channels to the list at once

     1) Press (yellow).

     2) Make the channel block and press OK to add.
4. Press BACK/RETURN and OK to store.

■ Edit DVB favourites list

You can edit the favourites list while the cursor is on the channel in the favourites list.

- To move the channel
  1) Select the channel.
  2) Press (green).
  3) Select the new position with Cursor buttons.



  4) Press (green) to store.
- To delete the channel
  1) Select the channel.
  2) Press (blue) to delete.
  – Press (yellow) to delete all channels.
- To name the favourites
  1) Press (red).
  2) Enter characters (maximum 10 characters) with Cursor buttons or Numeric buttons, and press OK to set.



  3) Press BACK/RETURN to store.

Auto Setup

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

Automatically retunes the channels received in the area.

- This function is available if channel tuning is already performed.
- Only the selected mode is retuned. All the previous tuning settings are erased.
- Child Lock PIN number is required to retune locked channels.

  → Functions > Child Lock > PIN number
- If tuning has not been done completely, set Manual Tuning.

  → Watching > Tuning and editing channels > Manual Tuning

■ DVB-S

1. Select Antenna System and press OK to access.
2. Select One LNB / MiniDiSEqC / DiSEqC 1.0 / Single Cable and press OK to set.

   One LNB:

   Compatible with single LNB.

   MiniDiSEqC:

   Up to 2 LNBs can be controlled.

   DiSEqC 1.0:

   Up to 4 LNBs can be controlled.

   Single Cable:

   When using the Single Cable router, up to 32 user bands are available.

   - You can receive several satellites if you have DiSEqC control antenna system.
   - This TV supports DiSEqC Version 1.0.
3. Select LNB Configuration and press OK to access.
4. Select LNB / Satellite and set.

   1) Set LNB first.

      – If you set to One LNB, LNB is not selectable.

      – If you set to MiniDiSEqC or Single Cable, select from LNB AA and AB.

      – If you set to DiSEqC 1.0, select from LNB AA, AB, BA and BB.

2) Set Satellite for the selected LNB.
   – Select No Satellite if you do not know the connected satellite. (Available satellite is searched in Auto Setup.)
   – Select User defined to set Test Transponder Frequency manually.
   – If you set to Single Cable, additional settings are required. Set SingleCable Version, User Band, User Band Frequency and PIN (depending on the Single Cable router you use). For details, read the manual of the Single Cable router.

Watching > Tuning and editing channels > Selectable satellites

5. Press BACK/RETURN to store.
6. Select Auto Setup and press OK to access.
7. Select Search Mode / Scan Mode and press OK to access.
8. Set the item and press OK to store.
   - Scan Mode

     Quick:

     Scans the suitable frequency for the selected satellite.

     Full:

     Scans the whole frequency range.
   - After settings, select Start scan and press OK to search.
9. A confirmation screen is displayed and press OK to start Auto Setup. (Settings are made automatically.)
   - When the operation is completed, the channel at the lowest position will be displayed.

■ DVB-C, DVB-T, Analogue

1. Select Auto Setup and press OK to access.
2. Set DVB-C Auto Setup Settings and press OK to store. (DVB-C)
   - Scan Mode

     Quick:

     Scans the suitable frequency in your country.

     Full:

     Scans the whole frequency range.
   - Normally set Frequency, Symbol Rate and Network ID to Auto. If Auto is not displayed or if necessary, enter each value specified by your cable provider with Numeric buttons.

     
   - After settings, select Start scan and press OK to search.
3. A confirmation screen is displayed and press OK to start Auto Setup. (Settings are made automatically.)
   - When the operation is completed, the channel at the lowest position will be displayed.

■ DVB-via-IP

- Ensure the network connections and network settings are completed.

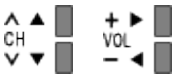
  → Functions > DVB-via-IP > DVB-via-IP client connection

  → Network > Network settings

1. Select Auto Setup and press OK to access.
2. A confirmation screen is displayed and press OK to access.
3. Select a server from Server List.
4. Select Client Settings and press OK to access.
   - Select Unicast Environment to use in a home network.
   - Select Multicast Environment to use in multi family housing units, hotel, hospital, etc. (All servers are selected automatically.)
5. Select Search Channels and press OK to access.
6. Set DVB-via-IP Search Mode and select Start Auto Setup.
   - Set DVB-via-IP configuration to tune DVB channels.
   - When the operation is completed, the channel at the lowest position will be displayed.

■ Auto Setup using the buttons on the TV

1. Press and hold INPUT/OK/HOLD for MENU button for 3 seconds to display the menu.
2. Set Auto Setup with following control panel buttons.
   - Move the cursor / select from a range of options / select the menu item

   - Access the menu / store settings after adjustments have been made or options have been set with INPUT/OK/HOLD for MENU button

Manual Tuning

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

- Normally use Auto Setup or Update Channel List to retune DVB channels.
- If tuning has not been done completely or for adjusting the direction of the aerial or dish, use this function. (DVB)
- All DVB channels found are added to Channel List Editor.

■ DVB-S

- Please consult the received satellite broadcasting companies for the setting.

1. Select Transponder Frequency / Symbol Rate / Polarisation / Modulation / Service ID and set with Cursor buttons or Numeric buttons.



2. Select Start scan and press OK to search.

■ DVB-C

1. Enter the frequency with Numeric buttons.



   - Normally set Symbol Rate and Service ID to Auto.

2. Select Start scan and press OK to search.

■ DVB-T

1. Select a channel and adjust frequency for each channel.
   - Set where the level of Signal Quality becomes the maximum.
2. Press OK to search.

■ Analogue

Set Analogue channel manually after Auto Setup.

- Set Sound System and Colour System, and then perform this function. Normally set Colour System to Auto.
  - SC1: PAL B, G, H / SECAM B, G
  - SC2: PAL I
  - SC3: PAL D, K / SECAM D, K
  - F: SECAM L, L’

1. Select the channel position with Numeric buttons.



2. Select the channel with Channel Up / Down.



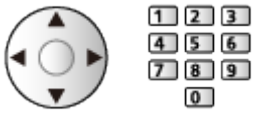
3. Set Manual Tuning.
4. Select Store and press OK to set.

- Use Fine Tuning to make small adjustments to the tuning of an individual programme (affected by weather conditions, etc.).
- If a VCR is connected only with the RF cable, select channel position 0.

■ DVB-via-IP (DVB-S)

- Please consult the received satellite broadcasting companies for the setting.

1. Select Transponder Frequency / Symbol Rate / Polarisation / Modulation / FEC / Service ID and set with Cursor buttons or Numeric buttons.



2. Select Start scan and press OK to search.

■ DVB-via-IP (DVB-C)

1. Select Frequency / Bandwidth / Modulation Type / Symbol Rate / FEC / Service ID and set with Cursor buttons or Numeric buttons.



   - Normally set Symbol Rate to Auto.

2. Select Start scan and press OK to search.

■ DVB-via-IP (DVB-T)

1. Select Frequency / Bandwidth / Modulation / FEC / Service ID and set with Cursor buttons or Numeric buttons.



2. Select Start scan and press OK to search.

= Note =

- For details of DVB-via-IP connections

  → Functions > DVB-via-IP > DVB-via-IP client connection

- Not valid when Client Settings is set to Multicast Environment (DVB-via-IP)

Update Channel List

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

By updating the DVB channel list, you can add new channels, delete removed channels or change channel names and positions automatically.

- The channel list is updated while keeping your settings in Channel List Editor, Favourites Editor, Child Lock, etc.
- Depending on the signal condition, the update may not work properly.
- To update DVB-S channels, set Search Mode and Scan Mode before updating.
  1) Select Search Mode / Scan Mode and press OK to access.
  2) Set each item and press OK to store.
  3) After settings, select Start scan and press OK to search.

= Note =

- Not valid when Client Settings is set to Multicast Environment (DVB-via-IP)

Signal Condition

Selects a channel and checks the signal condition with indicators.

- A good Signal Strength is not an indication of suitable signal reception.
- Vertical lines show the maximum signal value of the selected channel.
- To change the channel



- For DVB

Other settings

Favourite Network

Selects your favourite network for each broadcaster (only available in some countries).

- For DVB-C, DVB-T

New Channel Message

Selects whether to give a notification message when a new DVB channel is found or not.

- When a notification message appears, you can perform Update Channel List pressing OK.
- Not valid in DVB-via-IP

Service Replacement

(On / Off)

Set to On to display a message to switch to the available service (only available in some countries).

- For DVB-C, DVB-T

Attenuator

(On / Off)

Automatically reduces the DVB-C signal to avoid the interference.

- If the DVB-C signal is too strong, interference may occur. In this case, set to On to weaken the signal automatically.

Add TV Signal

Adds the TV mode.

- Allows you to add any TV mode which was skipped during initial Auto Setup.

Selectable satellites

ES513, ES403 series

■ Selectable satellites and dish alignment to tune DVB-S channels

To ensure your satellite dish is correctly installed, please consult your local dealer.

Also please consult the received satellite broadcasting companies for details.

- Intelsat at 85.2° East
- ABS 1 at 75° East
- Express at 53° East
- Intelsat at 45° East
- Turksat at 42° East
- Hellas at 39° East
- Eutelsat at 36° East
- Eutelsat at 33° East
- Astra at 28.2° East
- Arabsat at 26° East
- Eutelsat at 25.5° East
- Astra at 23.5° East
- Eutelsat at 21.5° East
- Astra at 19.2° East
- Eutelsat at 16° East
- Hot Bird at 13° East
- Eutelsat at 10° East
- Eutelsat at 9° East
- Eutelsat at 7° East
- Astra at 4.8° East
- Thor at 0.8° West / Intelsat at 1° West
- Amos at 4° West
- Eutelsat at 5° West
- Eutelsat at 7° West
- Eutelsat at 8° West
- Eutelsat at 12.5° West
- Telstar at 15° West
- SES at 22° West
- Intelsat at 24.5° West
- Hispasat at 30° West

Recording

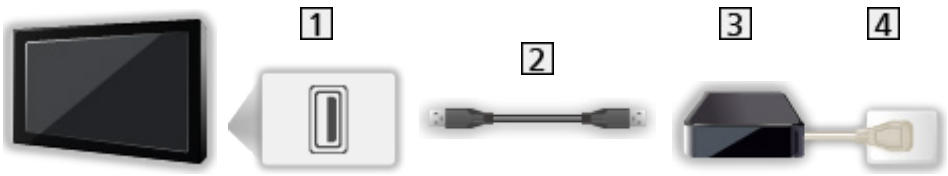
USB HDD setup

Preparations

You can record the digital TV programmes to the connected USB HDD and enjoy playing back in various ways.

- Prepare the USB HDD for the exclusive use of recording with this TV.
- Connect the USB HDD to the USB 2 port with the USB cable.
- Be sure to connect the USB HDD to the mains socket.
- To remove the USB HDD safely from the TV, perform Safely remove USB in USB Device Setup.

  Recording > USB HDD setup > Setting for USB HDD
- Check the terminal type and cable plugs are correct for connection.



1 USB port

2 USB cable

3 USB HDD

4 Mains socket

= Caution =

- All data in the USB HDD will be erased in the following cases:
  - When formatting the USB HDD with this TV

    Recording > USB HDD setup > Setting for USB HDD
  - When formatting the USB HDD to use on PC, etc.
- When the TV is repaired due to a malfunction, you may have to format the USB HDD again with this TV to use it. (All data will be erased after formatting.)
- To use the USB HDD with your PC after recording with this TV, format it again on your PC. (Special operations or tools may be necessary to format on your PC. For details, read the manual of the USB HDD.)

- The data recorded on the USB HDD with this TV can only be played back on this TV. You cannot play back its content with another TV (including the TV of the same model number) or any equipment.
- Do not turn the TV off, pull out the mains plug or remove the USB HDD during operation (formatting, recording, etc.). Doing so may cause malfunction of the device or damage the recorded data. (An electric outage may also be a cause of malfunction.)

= Note =

- Analogue TV programme cannot be recorded on the USB HDD.
- The data broadcasting (MHEG, etc.), radio broadcasting are not recorded, and also the recording function does not work during the period without any signal.
- Not all the programmes can be recorded depending on the broadcaster and service provider.
- Depending on the network condition, recording function may not work properly in DVB-via-IP.
- You cannot copy the recorded TV programmes of the USB HDD.
- For details of the USB HDD

Recording > Technical information > USB HDD

Setting for USB HDD

Format and set up the USB HDD with this TV in order to use it for recording.

All the USB devices recognised as a mass storage device are listed.

- Please note that USB HDD will be formatted and all data in it will be erased after this setup.
- Before setting, connect the USB HDD and be sure to turn on the USB HDD.

Recording > USB HDD setup > Preparations

1. Display the menu with MENU.
2. Select Setup > USB Device Setup and press OK to access.
3. Select the USB HDD for recording and press OK to start setup.
   - Some USB HDD may not be displayed.
   - To display information of the highlighted device

     i
4. When the caution and confirmation screen for using USB HDD is displayed, select Yes and press OK to proceed.
5. When a confirmation screen of USB HDD name is displayed, select Yes and press OK to set.
   - The name for the USB HDD is created automatically. If you want to edit the name, select Yes.
     1) Enter characters with Cursor buttons or Numeric buttons, and press OK to set.

     2) Press BACK/RETURN to store.
6. When a confirmation screen to enable USB HDD for recording is displayed, select Yes and press OK to set.
   - If another formatted USB HDD for recording already exists, this confirmation screen will be displayed to switch to enable this USB HDD for recording.

- Mode of the USB HDD

  : The USB HDD is available for recording / playing back.

  Only one USB HDD on the list is available for recording.

  : The USB HDD is available for playing back.

- To change the mode

  OK

- To edit USB HDD name

  (green)

- To format

  (red)

- To remove the USB HDD safely from the TV

  (yellow)

= Note =

- You can only select one USB HDD for recording at a time.
- You cannot change the settings for the USB HDD while recording is in progress.

Recording current programme

One Touch Recording

Records the current programme to the USB HDD immediately.

- Confirm the remote control code is “73”.

  → Watching > External equipment > Operating with TV’s remote control

1. Display the menu with MENU.
2. Select Setup > Recording Setup > One Touch Recording and press OK to access.
3. Select the maximum recording time 30 / 60 / 90 / 120 / 180 (minutes) and press OK to set.

■ To start One Touch Recording

Press ● to start.

- Other channels cannot be selected while recording is in progress.

■ To stop recording in progress

Press ■ to stop.

■ To play back or delete the recorded content

Recorded TV programmes can be played back in Media Player.

1. Display icons of the feature with APPS.
2. Select Recorded TV and press OK to access.

   → Media Player > Recorded TV mode

- Even if One Touch Recording is in progress, you can play back all the content. (Depending on the USB HDD, playback may not be possible or the recording may not work properly during playback.)

REW LIVE TV

Records the current programme to the USB HDD constantly within the maximum recordable time.

- Confirm the remote control code is “73”.

  Watching > External equipment > Operating with TV’s remote control

1. Display the menu with MENU.
2. Select Setup > Recording Setup > REW LIVE TV and press OK to access.
3. Select Auto to start REW LIVE TV.

- When you select Auto, recording will start automatically.
- This recording may not start if another recording is in progress, TV signal condition is bad or there are no images displayed.

■ To operate REW LIVE TV

- To pause

- To search backward (up to 90 minutes)

- After pausing or searching backward, the following buttons are available for operation.

  ◁ : Search backward

  ▷ : Search forward

  ▽ : Return to the current programme

  OK : Playback / Pause

   : Search backward / Search forward

   : Pause / Resume

   : Playback

   : Return to the current programme

■ To stop REW LIVE TV

1. Display the menu with MENU.
2. Select Setup > Recording Setup > REW LIVE TV and press OK to access.
3. Select Off to stop REW LIVE TV.

- If you stop REW LIVE TV, the recorded content for REW LIVE TV will be deleted.
- REW LIVE TV is stopped and the recorded content is deleted automatically in the following conditions: (Even if REW LIVE TV stops for the following conditions, as long as the setting is Auto, a new recording starts automatically in a condition that makes the recording available.)
  - Other channels selected
  - Locked channel selected
  - Invalid channel selected
  - No TV signal
  - External input selected
  - When the full-screen application (TV Guide, Media Player, eHELP, etc.) is launched
  - When the TV enters Standby or is turned off
  - When another recording starts

Timer Programming

Setting Timer Programming

Some features are not available on all models.

This function allows you to select programmes that you want to record to the USB HDD.

- Not valid in Analogue

1. Select the mode with TV.

   DVB-S / DVB-C / DVB-T / DVB-via-IP

2. Display the menu with MENU.
3. Select Timer > Timer Programming and press OK to access.
4. Press OK to start making the settings.

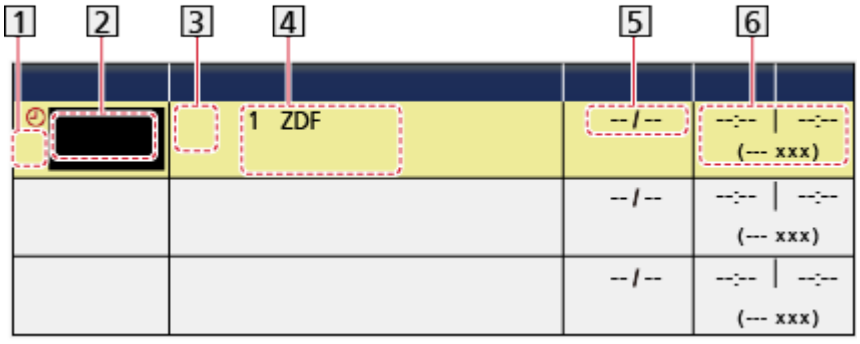
   USB HDD Rec.:

   Records the programme to the USB HDD.

5. Select and set the item (channel, date, start time, end time).
   - 4 and 6 can also be entered with Numeric buttons.



(Example)



1 !: Overlapped timer events

2 Function (USB HDD Rec.)

3 TV mode

: DVB-S

: DVB-C

: DVB-T

: DVB-via-IP

– You cannot change the mode within the menu.

4 Channel position, channel name, etc.

5 Date

- Daily Sun-Sat: Sunday to Saturday
- Daily Mon-Sat: Monday to Saturday
- Daily Mon-Fri: Monday to Friday
- Weekly Sun / Mon / Tue / Wed / Thu / Fri / Sat: Same time on the same day every week

6 Start time / End time / Duration (automatic display)

6. Store with OK.

Editing Timer Programming

1. Display the menu with MENU.
2. Select Timer > Timer Programming and press OK to access.
3. Select the event.

- To change a timer event

  OK

  – Correct as necessary.

  Recording > Timer Programming > Setting Timer Programming

- To delete a timer event

  1) Press (red).

  2) Press OK to delete.

■ To play back or delete the recorded content

Recorded TV programmes can be played back in Media Player.

1. Display icons of the feature with APPS.
2. Select Recorded TV and press OK to access.

Media Player > Recorded TV mode

Note

- TV Guide may also be used to set timer event.

   Watching > TV Guide > Timer Programming

- Timer Programming can store up to 15 events.
- Timer Programming only works reliably if correct time information is received via the signal from the broadcaster or service provider.
- For recording using Timer Programming, the TV must be either on or in Standby.
- No other channels can be selected while recording of Timer Programming is in progress.
- Recording an encrypted (copy-protected) programme may not be possible.
- Depending on the network condition, recording function may not work properly in DVB-via-IP.
- When the start time comes, the channel will be switched automatically and the video and audio signals will be output. 2 minutes before the start time, a reminder message appears if you are watching TV.
  - To remove the message and start the programming, press OK.
  - To cancel the programming, press EXIT.
- LED turns to orange in Standby mode when Timer Programming is set.
- For details of the USB HDD

   Recording > Technical information

Technical information

USB HDD

■ USB HDD

(for recording the digital TV programmes with this TV)

- The capacity of USB HDD that works with this TV is from 160 GB to 3 TB.
- Connect the USB HDD to the mains socket to record and play back properly with this TV.
- Use the USB HDD formatted with this TV.

  → Recording > USB HDD setup > Setting for USB HDD
- Regarding performance, not all USB HDDs are guaranteed.

= Note =

- Data modified with a PC may not be displayed.
- Do not remove the device while the TV is accessing data. Otherwise this can damage the device or TV.
- Do not touch the pins on the device.
- Do not subject the device to a high pressure or impact.
- Insert the device in the correct direction. Otherwise this can damage the device or TV.
- Electrical interference, static electricity, or erroneous operation may damage the data or device.

Media Player

Using Media Player

Information

Media Player allows you to enjoy photo, video or music recorded on the USB Flash Memory / network device, and content recorded with this TV to the formatted USB HDD.

(Example)

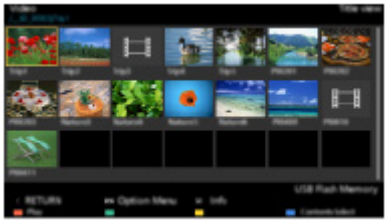


Photo mode:

Still pictures recorded with digital cameras are displayed.

Video mode:

Moving pictures recorded with digital video cameras and digital video data are played back.

Music mode:

Digital music data are played back.

Recorded TV mode:

(For exclusive USB HDD) TV programmes recorded on the USB HDD with this TV are played back.

- During the operation, audio signal is output from DIGITAL AUDIO and HDMI2 (ARC function) terminals. But no video signals are output. To use HDMI2 with ARC function, connect an amplifier that has ARC function and set to use theatre speakers.

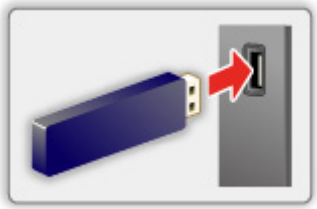
  → Functions > VIERA Link “HDAVI Control™”

- Date shows the date on which the recording was made by the recording equipment. For a file without a valid record date “**” is shown.
- Pictures may not appear correctly on this TV depending on the recording equipment used.
- Displaying may take some time when there are many files and folders.
- Partially degraded files may be displayed with reduced resolution.
- Picture setting may not work depending on the condition.

- Folder and file names may be different from those on the digital camera or digital video camera used.

■ To insert or remove the USB Flash Memory

Ensure alignment is straight and complete when inserting or removing.



- To remove the USB Flash Memory safely from the TV, perform Safely remove USB in USB Device Setup.
  1) Display the menu with MENU.
  2) Select Setup > USB Device Setup and press OK to access.
  3) Select the device and press (yellow) to set.

= Note =

- To connect the USB HDD

  → Recording > USB HDD setup
- Check the terminal type and devices are correct for connection.
- For details of the devices

  → Media Player > Connected device
- For details of supported file formats

  → Media Player > Supported format

Selecting device / mode

1. Insert the USB Flash Memory to the TV.

   → Media Player > Using Media Player > Information

   - To play back content in the USB HDD, ensure the connection and settings are completed.

     → Recording > USB HDD setup

   - To play back content in the network device, ensure the connection and settings are completed.

     → Media Player > Using Media Player > Network device

2. Display APPS List with APPS.
3. Select Media Player and press OK to access.
4. Select the device and press OK to access.
   - If only one device is connected, this step will be skipped.
   - The network device already connected to the TV is also displayed.

     : Enter User / Password to access.

     : User / Password are already entered.
5. Select Photo / Video / Music / Recorded TV and press OK to access.

   Photo

   → Media Player > Photo mode

   Video

   → Media Player > Video mode

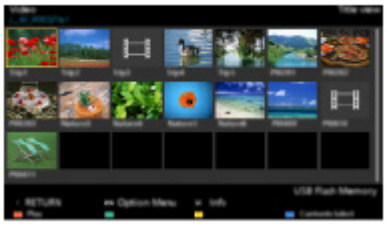
   Music

   → Media Player > Music mode

   Recorded TV

   → Media Player > Recorded TV mode
6. The thumbnail view is displayed.

   (Example)



- To display / hide information of the highlighted content

  i

= Note =

- You may also access each mode directly from APPS List.

  → Home Screen > APPS List > How to use

- Recorded TV is available for content recorded on the USB HDD with this TV.
- Select the appropriate device and content for playing back each file.
- You can use the following buttons during playback. Confirm the remote control code is “73”.

  → Watching > External equipment > Operating with TV’s remote control

■ To change the device

You can change the current device to another device directly in the same mode when two or more available devices are connected.

1. Display the device selection screen with (yellow) while the thumbnail is displayed.
2. Select the device and press OK to access.

- Not valid in Recorded TV mode
  - To change the device in Recorded TV mode

    → Media Player > Recorded TV mode > Changing device

■ To change the mode

You can switch to another mode of Media Player from the thumbnail view.

1. Display the content selection screen with (blue) while the thumbnail is displayed.
2. Select the content and press OK to access.

- The mode can be switched in the current device.

Network device

You can enjoy photo, video or music stored in the network devices.

- To enable this function, connect this TV to your home network.

  → Network > Network connections

  → Network > Network settings

■ How to set User / Password

1. Display the menu with MENU.
2. Select Network > File Sharing Settings > Network Device List and press OK to access.
3. Select the network device and press OK to access.
4. Enter User / Password with Cursor buttons or Numeric buttons, and press OK to set.



   - Press BACK/RETURN to store.
   - To register the new network device, set Server Name / Shared Folder. For details, read the manual of the equipment.
5. Select Register and press OK to set.
   - To delete the registered device, select Delete and press OK to set.

= Note =

- Regarding performance, not all servers are guaranteed.
- Up to 16 devices can be registered.

Photo mode

Selecting file

Select the file in the thumbnail view and press OK to start playback.

: Error display

- To change the size of photos in the thumbnail view
  1) Display the option menu with OPTION.
  2) Select Change Size and press OK to change.
- For details of supported file formats

  Media Player > Supported format > Photo format

■ Thumbnail view

- To display / hide information of the highlighted content

  i
- To display Slideshow Settings

  (red)

  Media Player > Photo mode > Using Slideshow
- To sort

  (green)
- To change the device

  (yellow)
- To change the content

  (blue)

Viewing photo

■ Playback

- To operate Single view

  ◁ : To the previous photo

  ▷ : To the next photo

  ▽ : Stop (return to thumbnail)

  OK : Slideshow

- To display / hide the operation guide

  i

- To rotate 90°

  (blue)

- To return to thumbnail

  BACK/RETURN

Sorting photos

■ To sort by folder, recorded date or recorded month

1. Display the view selection in the thumbnail view with (green).
2. Select Folder view / Sort by Date / Sort by Month and press OK to set.

   Folder view:

   Displays the thumbnail grouped by folder.

   - Files which are in the root folder are collected to the folder named "/".

   Sort by Date / Sort by Month:

   Displays the thumbnail grouped by the same date or month.

   - The group of the photos without recorded dates is shown as Unknown.

- To return to the thumbnail of all photos
  1) Display the view selection in the thumbnail view with (green).
  2) Select All photos and press OK to set.

Using Slideshow

Slideshow ends when all photos within the current thumbnail are viewed.

1. Select the file from the thumbnail of photos for the first view.
2. Start Slideshow with (red) and OK.
   - To display / hide the operation guide

     i
   - To pause (return to Single view)

     OK
   - To return to thumbnail

     BACK/RETURN
   - You can change the back ground music by setting Back Ground Music in Slideshow Settings (see below).

■ Slideshow Settings

Set up the settings for Photo mode.

1. Display the option menu with OPTION.
2. Select Slideshow Settings with OK.
3. Select one of the following items and press OK to access.

   Screen Mode / Interval / Repeat / Back Ground Music
4. Set the item and press OK to store.

Screen Mode

(Normal / Zoom)

Selects enlarged or normal viewing.

- Depending on the photo size, the photo may not be fully enlarged to fill the screen (e.g. portrait style picture).

Interval

(Long / Normal / Short)

Selects slideshow interval.

Repeat

(On / Off)

Slideshow repeat

Back Ground Music

(Off / Type1 / Type2 / Type3 / Type4 / Type5 / User / Auto)

Selects the background music during Photo mode.

Type1 - 5:

Music files installed on this TV at the factory settings are played back.

Auto:

Music files stored in the current device are played back.

- If there is no available music data, no sound is played back.

User:

Music files in the device registered by yourself are played back.

- If no music files have been registered or the device which had registered music files is removed, no sound is played back.

● To register music

1) Select the music file and press OK to access.
   - Depending on the condition of the device, select folders until you reach the desired music file.
2) Select File / Folder and press OK to set.

   File:

   The selected music file is registered.

   Folder:

   All the music files in the folder which contains the selected music file are registered.

= Note =

- Picture quality may be degraded depending on the slideshow setting.
- Picture setting may not work depending on the slideshow setting.

Video mode

Selecting file

1. Select the title in the thumbnail view.

   : Error display

   : The file does not support thumbnail view.

   - The preview will start when the title / scene is highlighted in the thumbnail view if it supports a preview. To turn off the preview, set Video Preview to Off.

     → Media Player > Video mode > Video Setup

2. Start playback with (red).

   - If you have stopped the last playback halfway, a confirmation screen may be displayed to select whether to start from where you stopped last time or from the beginning.

- For details of supported file formats

  → Media Player > Supported format > Video format

■ Thumbnail view

- To display / hide information of the highlighted content

  i

- To start playback

  (red)

- To change the device

  (yellow)

- To change the content

  (blue)

■ Playback from the selected scene in the title

Playback of the selected scene starts and continues until the end of the title.

1. Select the title and press OK to access.
2. Select the scene.
3. Start playback with (red).

- The structure of titles and scenes may vary depending on the digital video camera used.
- Playback may not continue depending on the condition.
- To repeat playback

  → Media Player > Video mode > Video Setup

■ Playback

- To operate playback

  ◁ : Rewind

  ▷ : Fast forward

  ▽ : Stop

  OK : Pause (displays the time seek bar) / Playback
- To jump to the specified time point

  1) Display the time seek bar with OK.

  2) While the time seek bar is displayed

  Press ◁ / ▷ :

  Search approx. 10 seconds

  Press and hold ◁ / ▷ :

  Search rapidly

  3) Jump to the specified time point with OK.
- To display / hide the operation guide and information banner

  i
- To the previous title / scene

  (red)
- To the next title / scene

  (green)

- To change aspect

  1) Display Aspect Selection with ASPECT.

  2) Select the mode and press OK to set.

     Aspect1:

     Displays the content in original size.

     Aspect2:

     Displays the content enlarged without distortion.

  – You can also change the mode pressing ASPECT. (Press repeatedly until you reach the desired mode.)

  – Aspect cannot be changed depending on the content.

- To return to thumbnail

  BACK/RETURN

Video Setup

Set up the settings for Video mode.

1. Display the option menu with OPTION.
2. Select Video Setup with OK.
3. Select one of the following items and press OK to access.

   Video Preview / Multi Audio / Dual Mono Audio / Repeat / Subtitle Settings

   - Menu items and selectable options vary depending on the content.
4. Set the item and press OK to store.

Video Preview

(On / Off)

Sets to start the preview of the title or scene in the thumbnail view.

- Images may not be displayed for an instant in the thumbnail view. Set the preview Off to solve this.
- This function is available in the thumbnail view.

Multi Audio, Dual Mono Audio

Selects for selectable sound tracks (if available).

- It may take several seconds to change the sound.
- This function is available during playback.

Repeat

(On / Off)

Playback repeat within the title or selected file (depending on the content)

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 Colour:

  Selects the colour of subtitles.

  Subtitle Text Position:

  Adjusts the position of subtitles on the screen.

  Subtitle Text Delay:

  Adjusts the delay time for the subtitles.

Audio output settings

You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO or HDMI2 (ARC function) terminal.

- To confirm or change the current sound status

  → Media Player > Video mode > Video Setup

1. Display the menu with MENU.
2. Select Sound > SPDIF Selection and press OK to access.
3. Select Auto / PCM and press OK to set.

SPDIF Selection

(Auto / PCM)

Selects the initial setting for digital audio output signal from DIGITAL AUDIO and HDMI2 (ARC function) terminals.

- SPDIF is a standard audio transfer file format.

  Auto:

  Dolby Audio (Dolby Digital, Dolby Digital Plus) and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

  PCM:

  Digital output signal is fixed to PCM.

- ARC (Audio Return Channel) is a function of digital audio output using HDMI cable.

Music mode

Selecting file

1. Select the folder in the thumbnail view.
2. Start playback with (red).

- For details of supported file formats

  → Media Player > Supported format > Music format

■ Thumbnail view

- To display / hide information of the highlighted content

  i

- To start playback

  (red)

- To change the device

  (yellow)

- To change the content

  (blue)

Playing music

■ Playback of the selected file in the folder

1. Select the folder and press OK to access.
2. Select the file.
3. Start playback with (red).

■ Playback

- To operate playback

  ◁ : Rewind

  ▷ : Fast forward

  ▽ : Stop

  OK : Pause (displays the time seek bar) / Playback

- To jump to the specified time point

  1) Display the time seek bar with OK.

  2) While the time seek bar is displayed

     Press ◁ / ▷ :

     Search approx. 10 seconds

     Press and hold ◁ / ▷ :

     Search rapidly

  3) Jump to the specified time point with OK.

- To display / hide the operation guide

  i

- To the previous track

  (red)

- To the next track

  (green)

- To return to thumbnail

  BACK/RETURN

Music Setup

Set up the setting for Music mode.

- This function is available in the thumbnail view.

1. Display the option menu with OPTION.
2. Select Music Setup > Repeat with OK.
3. Select Off / Folder / One and press OK to set.

   Folder:

   Playback repeat within the selected folder

   One:

   Playback repeat of the selected one file

Recorded TV mode

Selecting content

- For exclusive USB HDD
- To play back content in the USB HDD, ensure the connection and settings are completed.

  → Recording > USB HDD setup

1. Content list of the selected device is displayed in Recorded TV mode.
   - Remaining capacity of the selected device is displayed on the top right. (This value may not be accurate depending on the condition.)
   - Content list is displayed as All or Not Viewed.

     All:

     All the recorded TV programmes are listed.

     Not Viewed:

     Content not played back yet are listed.
   - Icons are displayed.

     : Content not played back yet (Once you play back the content, this icon will disappear.)

     : Protected content cannot be deleted.

     : Currently recording (You can play back this recording content.)

     : Group of content

2. Select the content and press OK to start playback.
   - If you have stopped the last playback halfway, a confirmation screen may be displayed to select whether to start from where you stopped last time or from the beginning.
   - If the content has multiple programmes with different parental ratings, the highest restriction is applied to the content. Once you unlock the restriction, all the programmes in the content can be played back.

- For details of supported file formats

  → Media Player > Supported format > Video format

■ Playback

- To operate playback

  △ : Manual skip

  – Press to skip forward approx. 30 seconds.

  – Press and hold to skip backward approx. 15 seconds.

  ◁ : Rewind

  ▷ : Fast forward

  ▽ : Stop

  OK : Pause (displays the time seek bar) / Playback

- To jump to the specified time point

  1) Display the time seek bar with OK.

  2) While the time seek bar is displayed

     Press ◁ / ▷ :

     Search approx. 10 seconds

     Press and hold ◁ / ▷ :

     Search rapidly

  3) Jump to the specified time point with OK.

- To display / hide the operation guide and information banner

  i

- To repeat between the starting point “A” and finishing point “B”

  (blue)

  (Set “A” and “B” in order.)

  – The points are reset by pressing again or by other operations.

- To the previous / next chapter

  (red) / (green)

  – A recorded content is automatically divided into chapters (approx. 5 minutes for each).

- To change aspect

  ASPECT

  → Watching > For best picture > Aspect

- To display the subtitle (if available)

  STTL

- To confirm or change the current status (if available)

   → Watching > Basic > Option Menu

- To return to list

  BACK/RETURN

Grouping content

1. Select the content to edit and press (blue) to tick in the content list.
2. Display the option menu with OPTION.
3. Select Create Group / Release Group / Exclude from Group / Change Protect Status and press OK to set.

   Create Group:

   Create a group of content. Select and tick all the desired content, and then select Create Group.

   Release Group:

   Select the created group to release, and then select Release Group. (To release several groups at once, tick all the desired groups.)

   Exclude from Group:

   Select the group and press OK to display the grouped content. To exclude specific content from the group, tick it and then select Exclude from Group. (To exclude some of the content at once, tick all the desired content.)

   Change Protect Status:

   Select the content to protect from deletion, and then select Change Protect Status. Perform the same way to cancel the protection. (To change the status of some of the content at once, tick all the desired content.)

Deleting content

1. Select the content to edit and press (blue) to tick in the content list.
2. Delete the content with (red).
3. When a confirmation screen is displayed, select Yes and press OK to set.

Changing device

You can change the current device to another device directly in the same mode when two or more available devices are connected.

1. Display the option menu with OPTION.
2. Select Drive Select and press OK to access.
3. Select the device and press OK to access.

- If you select the device to play back photos, videos or music, change to the appropriate content.
  1) Display the option menu with OPTION.
  2) Select Contents Select and press OK to access.

Chapter List

You can start playback from the chapter list you select.

1. Display the chapter list with (yellow).
2. Select the chapter and press OK to start playback.

= Note =

- The chapter list is not displayed while the selected content is being recorded.
- Depending on the recorded programmes, some playback operations may not work properly.

Audio output settings

You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO or HDMI2 (ARC function) terminal.

- To confirm or change the current sound status

  → Media Player > Video mode > Video Setup

1. Display the menu with MENU.
2. Select Sound > SPDIF Selection and press OK to access.
3. Select Auto / PCM and press OK to set.

SPDIF Selection

(Auto / PCM)

Selects the initial setting for digital audio output signal from DIGITAL AUDIO and HDMI2 (ARC function) terminals.

- SPDIF is a standard audio transfer file format.

  Auto:

  Dolby Audio (Dolby Digital, Dolby Digital Plus) and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

  PCM:

  Digital output signal is fixed to PCM.

- ARC (Audio Return Channel) is a function of digital audio output using HDMI cable.

Connected device

Device handling caution

- Data modified with a PC may not be displayed.
- Do not remove the device while the TV is accessing data. Otherwise this can damage the device or TV.
- Do not touch the pins on the device.
- Do not subject the device to a high pressure or impact.
- Insert the device in the correct direction. Otherwise this can damage the device or TV.
- Electrical interference, static electricity, or erroneous operation may damage the data or device.
- Back up the recorded data at regular intervals to prevent data deterioration, data damage or erratic operation of the TV. Panasonic is not liable for any deterioration or damage of recorded data.

USB devices

- It is recommended to connect the device to the TV's USB port directly.
- Some USB devices or USB HUB may not be used with this TV.
- You cannot connect any devices using a USB card reader.

■ USB Flash Memory

USB Flash Memory format:

FAT16, FAT32 or exFAT

- USB HDDs formatted on a PC are not guaranteed to work in Media Player.

■ USB HDD

- The capacity of USB HDD that works with this TV is from 160 GB to 3 TB.
- Connect the USB HDD to the mains socket to record and play back properly with this TV.
- Use the USB HDD formatted with this TV.

  → Recording > USB HDD setup > Setting for USB HDD
- Regarding performance, not all USB HDDs are guaranteed.

Supported format

Photo format

■ Supported Photo formats

- JPEG (.jpg, .jpeg)

  Sub-sampling:

  4:4:4, 4:2:2, 4:2:0

  Image resolution (pixel):

  8 × 8 to 30 719 × 17 279

- DCF and EXIF standards
- Progressive JPEG is not supported.

= Note =

- Some files may not be played back even if they fulfil these conditions.
- Some files may not be played back correctly depending on the resolution, etc.
- 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.

Video format

■ Supported Video formats

- AVI (.avi)

  Video codec:

  H.264, MPEG1, MPEG2, MPEG4, VC-1, WMV9

  Audio codec:

  AAC, ADPCM, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, LPCM, MP3, WMA, WMA Pro

- MP4 (.f4v, .m4v, .mp4)

  Video codec:

  H.264, H.265 (HEVC), MPEG1, MPEG2, MPEG4

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, MP3

  • This TV supports this container recorded with Panasonic products. For details, read the manual of the products.

- MKV (.mkv)

  Video codec:

  H.264, H.265 (HEVC), MPEG1, MPEG2, MPEG4

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, MP3, Vorbis

- ASF (.asf, .wmv)

  Video codec:

  MPEG4, VC-1, WMV9

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, LPCM, MP3, WMA, WMA Pro

  • Copy-protected files cannot be played back.

- FLV (.flv)

  Video codec:

  H.264

  Audio codec:

  AAC, MP3

- 3GPP (.3gp, .3g2)

  Video codec:

  H.264, MPEG4

  Audio codec:

  AAC, HE-AAC

- PS (.mod, .mpg, .mpeg, .vob, .vro)

  Video codec:

  H.264, MPEG1, MPEG2, VC-1

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, LPCM, MP3

- TS (.mts, .m2ts, .tp, .trp, .ts, .tts)

  Video codec:

  H.264, H.265 (HEVC), MPEG1, MPEG2, VC-1

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, MP3

- WebM (.webm)

  Video codec:

  VP9

  Audio codec:

  Vorbis

■ 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”.

= Note =

- Some files may not be played back even if they fulfil these conditions.
- Some files may not be played back correctly depending on the resolution, frame rate condition, etc.
- 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.
- Supported formats are different in Media Player and media server.

Music format

■ Supported Music formats

- MP3 (.mp3)

- AAC / Apple Lossless (.m4a)
  - Copy-protected files cannot be played back.

- FLAC (.flac)

- WMA / WMA Pro (.wma)
  - Copy-protected files cannot be played back.

- LPCM (.wav)

= Note =

- Some files may not be played back even if they fulfil these conditions.
- 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.

Network

Internet content

Information

You can access some specific websites supported by Panasonic, and enjoy internet content such as videos, games, communication tools, etc. from APPS List.

(Example)



- A broadband network environment is required to use this function. Ensure the network connections and network settings are completed.

Network > Network connections

Network > Network settings

Selecting internet content

1. Display APPS List with APPS.
   - For details of APPS List

     Home Screen > APPS List
   - Depending on the usage conditions, it may take a while to read all the data.
2. Select the desired item and press OK to access.

   (Example)

   - To return to APPS List

     APPS
   - To exit APPS List

     EXIT
   - You can connect a keyboard for character input in the applications. You can also use the keyboard for TV operation.

     Functions > Keyboard

Note

- If you cannot access the internet content, check the network connections and settings.

  → Network > Network connections

  → Network > Network settings

- Design and specifications are subject to change without notice.
- Not all the features of the websites are available.
- 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 APPS List. You can update the software later manually.

  → Network > Network settings > Software Update

- The services through APPS List are operated by their respective service providers and such service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
- Content may not be available depending on the country you select.
- Content may be presented in specific languages.
- Depending on the connection environment, the internet connection may be slow or may not be successful.

DLNA

In-House streaming

This TV is a DLNA Certified™ product.

DLNA® (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, visit www.dlna.org.

- To enable this function, connect this TV to your home network.

  → Network > Network connections

  → Network > Network settings

■ Playback of sharing content stored in the media server

Store photo, video or music content into the DLNA Certified media server connected to your home network. And then you can enjoy the content on this TV.

(Example)



- For details of watching and operating content on this TV

  → Network > DLNA > Using DLNA

- For details of supported file formats

  → Network > Supported format

■ Playback of sharing content on this TV with the DMC (Digital Media Controller) network equipment

You can enjoy content stored in the media server by controlling with the DMC network equipment connected to your home network.

- To use this function with your smartphone or PC, set TV Remote App Settings of this TV.

  → Network > Network settings > TV Remote App Settings

  And you need to install the application for controlling VIERA on your smartphone.

  → Support > FAQs > Detailed information

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

■ Sharing the content of this TV with another piece of network equipment

You can enjoy the content of this TV with another network equipment connected to your home network.

Available content:

- Photo, video or music content of this TV

Available network equipment:

- DLNA Certified VIERA
- Smartphone, etc.

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

  → Support > FAQs > Detailed information

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

- To use this function with another DLNA Certified VIERA, set Network Link Settings of this TV.

  → Network > Network settings > Network Link Settings

- Only 1 piece of other equipment can share the content of this TV.

= Note =

- This function is not available when the TV is turned off with Mains Power On / Off switch.

Using DLNA

To use DLNA® features, ensure the preparations of the media server, network connections and network settings are completed.

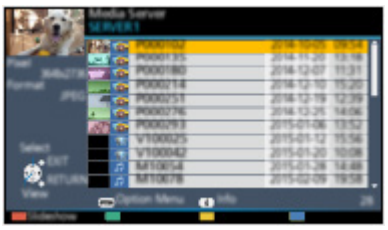
→ Network > DLNA > In-House streaming

→ Network > Network connections

→ Network > Network settings

1. Display APPS List with APPS.
2. Select Media Server and press OK to access.
3. Select one of the media servers and press OK to access.
   - To display / hide information of the highlighted media server

     i
4. Select the file and press OK to access.
   (Example)

   - Depending on the condition of media server, you may need to select the folder before selecting the file.
   - To display / hide information of the highlighted file

     i

= Note =

- Non-playable files are also listed but cannot be selected.
- You can use the following buttons during playback. Confirm the remote control code is “73”.

  ◀◀ ⏮ ▶▶ ⏭ ▶ ■ ⏸

  → Watching > External equipment > Operating with TV’s remote control

Network connections

Internet connection

A broadband network environment is required to use internet services.

- If you do not have any broadband network services, please consult your retailer for assistance.
- Dial-up internet connections cannot be used.
- Required speed (effective): at least 1.5 Mbps for SD (Standard Definition) and 6 Mbps for HD (High Definition) picture quality, respectively. If the transfer speed is not enough, content may not be played back properly.

■ Wireless connection

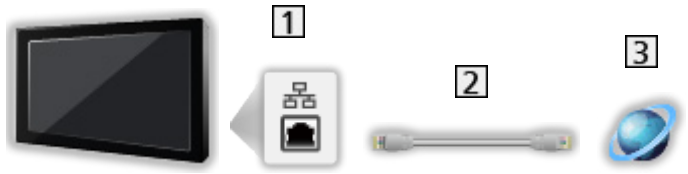


1 Built-in wireless LAN (Rear of the TV)

2 Access point

3 Internet environment

■ Wired connection



1 ETHERNET terminal

2 LAN cable (Shielded)

- Use Shielded Twist Pair (STP) LAN cable.

3 Internet environment

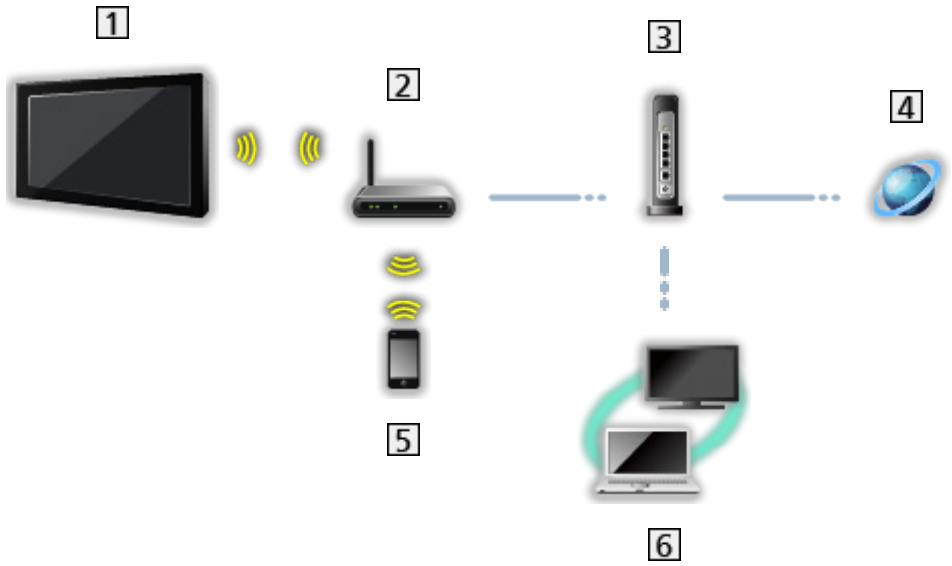
DLNA connection

To use DLNA features, you need a home network environment and you can operate the features without a broadband network environment.

- A broadband network environment is required to use internet services.

Network > Network connections > Internet connection

■ Wireless connection (For DLNA and internet service)



1 Built-in wireless LAN (Rear of the TV)

2 Access point

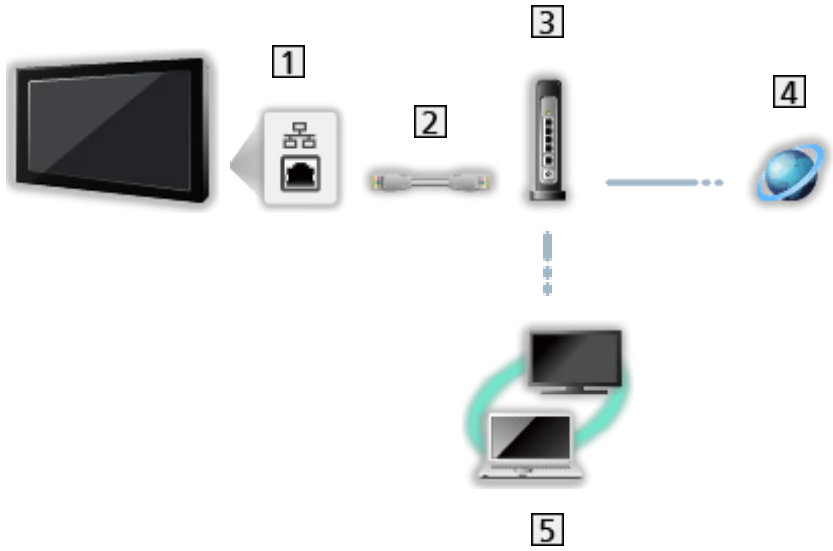
3 Hub / Router

4 Internet environment

5 Smartphone, etc.

6 DLNA Certified media server (PC, etc.)

■ Wired connection (For DLNA and internet service)



1 ETHERNET terminal

2 LAN cable (Shielded)

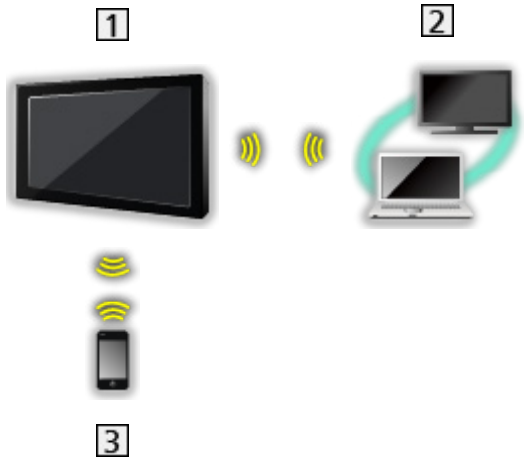
- Use Shielded Twist Pair (STP) LAN cable.

3 Hub / Router

4 Internet environment

5 DLNA Certified media server (PC, etc.)

■ Wireless connection (For DLNA)



1 TV

- To use the TV as a wireless access point

→ Network > Network settings > Custom - Wireless Access Point

2 DLNA Certified media server (PC, etc.)

3 Smartphone, etc.

Note

- Ensure to use a LAN straight cable.
- Set up and connect equipment required for the network environment. You cannot make such settings on this TV. Read the manual of the equipment.
- If your modem has no broadband router functions, use a broadband router.
- If your modem has broadband router functions but there are no vacant ports, use a hub.
- Ensure that the broadband routers and hubs are compatible with 10BASE-T / 100BASE-TX.
- If you use the equipment compatible only with 100BASE-TX, category 5 or later LAN cables are required.
- Contact your Internet Service Provider (ISP) or telecommunications company for further assistance regarding the network equipment.
- Confirm the terms and conditions of the contracts with your Internet Service Provider (ISP) or telecommunications company. Depending on the contracts, additional fees may be charged or multiple connections to the internet may be impossible.
- Turn the TV off with Mains Power On / Off switch, then turn it on again when changing or making the network connection again.
- Depending on the network condition, the content may not be played back properly.
- For details of DVB-via-IP connections

→ Functions > DVB-via-IP > DVB-via-IP client connection

Network settings

Network Connection

Ensure the connections are completed before starting network setup.

Network > Network connections

■ Quick setup - Wireless

1. Display the menu with MENU.
2. Select Network > Network Connection and press OK to access.
   - Confirm the encryption key, settings and position of your access point before starting setup. For details, read the manual of the access point.
3. Select Quick setup and press OK to access.
   - When the LAN cable is connected, wired setup will be done automatically.
4. Select your desired access point and press OK to access.
   - Available Wireless Networks are displayed automatically.

     : Encrypted access point
   - For WPS(Push button)

     1) Select Easy setup with Push button and press OK to access.

     2) Press the WPS button on the access point until the light flashes.

     3) Connect the TV with the access point with OK.

     – WPS: Wi-Fi Protected Setup™

     – If the connection fails, check the settings and positions of your access point. And then, follow the on-screen instructions.
   - It is recommended to select the encrypted access point.
5. Enter the encryption key of the access point and press OK to set.
   - You can set characters using Numeric buttons.

   - Press BACK/RETURN to store.
6. Automatically setup is done and Network Status is displayed.

Network > Network settings > Network Status

7. Select Exit and press OK to set.

- To set manually

  → Network > Network settings > Custom - Wireless

■ Quick setup - Wired

1. Display the menu with MENU.
2. Select Network > Network Connection and press OK to access.
3. Select Quick setup and press OK to access.
4. Automatically setup is done and Network Status is displayed.

   → Network > Network settings > Network Status
5. Select Exit and press OK to set.

- To set manually

  → Network > Network settings > Custom - Wired

= Note =

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

Custom - Wireless

Ensure the connections are completed before starting network setup.

Network > Network connections

1. Display the menu with MENU.
2. Select Network > Network Connection > Custom > Wireless and press OK to access.
   - Confirm the encryption key, settings and position of your access point before starting setup. For details, read the manual of the access point.
3. Select your desired access point and press OK to access.
   - Available Wireless Networks are displayed automatically.

     : Encrypted access point
   - For WPS(Push button)

     1) Press (red).
     2) Press the WPS button on the access point until the light flashes.
     3) Connect the TV with the access point with OK.

     – WPS: Wi-Fi Protected Setup™

     – If the connection fails, check the settings and positions of your access point. And then, follow the on-screen instructions.
   - For WPS(PIN)

     1) Press (green).
     2) Enter the PIN code to the access point.
     3) Connect the TV with the access point with OK.
   - For Manual

     1) Press (yellow).
     2) You can set up SSID, security settings and encryption key manually.
     3) Follow the on-screen instructions and set manually.
   - To search access points again

     (blue)
   - To display / hide information of the highlighted access point
   - It is recommended to select the encrypted access point.

4. Enter the encryption key of the access point and press OK to set.
   - You can set characters using Numeric buttons.



   - Press BACK/RETURN to store.
5. IP/DNS Settings is displayed.

Acquire IP Address / Acquire DNS Address

- Auto is recommended.
- Available settings are displayed automatically.
- To set manually, select and set IP Address / Subnet Mask / Default Gateway / DNS Address.

Proxy Settings

- It is not required for normal household use.
- Some internet services may not be available depending on the proxy setting.

  Proxy:

  This is the address of the relay server which is connected between the browser and the target server to send data to the browser.

  1) Select Proxy and press OK to access.
  2) Enter the address with Cursor buttons or Numeric buttons, and press OK to set.



  3) Press BACK/RETURN to store.

  Proxy Port:

  This number is also specified by the provider with the proxy address.

  1) Select Proxy Port.
  2) Enter the number with Numeric buttons.



  3) Press BACK/RETURN to store.

---

6. Select Network Status and press OK to access.

   → Network > Network settings > Network Status

7. Select Exit and press OK to set.

Custom - Wired

Ensure the connections are completed before starting network setup.

Network > Network connections

1. Display the menu with MENU.
2. Select Network > Network Connection > Custom > Wired and press OK to access.
3. IP/DNS Settings is displayed.

Acquire IP Address / Acquire DNS Address

- Auto is recommended.
- Available settings are displayed automatically.
- To set manually, select and set IP Address / Subnet Mask / Default Gateway / DNS Address.

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Proxy Port:

This number is also specified by the provider with the proxy address.

1) Select Proxy Port.
2) Enter the number with Numeric buttons.



3) Press BACK/RETURN to store.

---

4. Select Network Status and press OK to access.

   → Network > Network settings > Network Status

5. Select Exit and press OK to set.

= Note =

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

Custom - Wireless Access Point

You can use the TV as a wireless access point and connect the network equipment without an access point.

- Confirm the PIN code, network settings of the equipment before starting setup. For details, read the manual of the equipment.

1. Display the menu with MENU.
2. Select Network > Network Connection > Custom > Wireless Access Point and press OK to access.
3. Select Connect to device in WPS and press OK to access.
   - To set manually, select Change settings (see below).
4. Select and set WPS(Push button) / WPS(PIN) and press OK to access.

   WPS(Push button):

   Set up the equipment for WPS(Push button). For details, read the manual of the equipment.

   WPS(PIN):

   Enter the PIN code of the equipment.

   - If the connection fails, check the settings and positions of the equipment. And then, follow the on-screen instructions.

■ Change settings

You can set up Network Name(SSID), Encryption key, Wireless type and Channel setting method manually.

Follow the on-screen instructions and set manually.

- Set Reset settings to reset the items for Change settings.

= Note =

- You cannot connect the internet service while the TV is set to Wireless Access Point.
- You can connect up to 7 devices. But the transfer rate varies according to communication environment or the numbers of connected equipment.
- To confirm the current network settings

  → Network > Network settings > Network Status
- Ensure the equipment to connect supports WPS for this setup.
- WPS: Wi-Fi Protected Setup™

Network Status

Displays and checks the network status (MAC Address, current network settings, etc.).

1. Display the menu with MENU.
2. Select Network > Network Status and press OK to access.
3. Automatically testing is done and Network Status is displayed.

   Try Again:

   Performs automatic testing of the network connection for the TV and displays the current status again.

   Status Details:

   Displays the detailed network status (SSID, security settings, etc.).

- For information about the network connection, select Help.

my Home Cloud Settings

Displays the terms of service.

1. Display the menu with MENU.
2. Select Network > my Home Cloud Settings > Notices and press OK to access.
3. Follow the on-screen instructions.

VIERA Name

Sets your favourite name for this TV.

1. Display the menu with MENU.
2. Select Network > VIERA Name and press OK to access.
3. Enter characters and press OK to set.

- This name is used as the name of this TV on the screen of the other network equipment.
- When you use two or more TVs in your network environment, set the names of the TVs for each.

TV Remote App Settings

Sets to control the TV with the equipment (smartphone, etc.) connected to your network.

1. Display the menu with MENU.
2. Select Network > TV Remote App Settings and press OK to access.
3. Select one of the following items and press OK to access.

   TV Remote / Powered On by Apps / Networked Standby / Home Streaming / Device to upload contents
4. Set the item and press OK to store.

TV Remote

(On / Off)

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

Powered On by Apps

(On / Off)

Enables turning the TV on from the network equipment (smartphone, etc.).

- Depending on the network condition, you may have to turn the TV on with Standby On / Off switch of the TV's remote control.
- Changing the default configuration may result in higher energy consumption of the product.
- LED turns to orange in Standby mode when Powered On by Apps is set to On.

Networked Standby

(On / Off)

Enables turning the TV on via the LAN cable or wireless LAN using a wake-up message sent from the network equipment in the home network.

- Changing the default configuration may result in higher energy consumption of the product.

Home Streaming

(Always / Only when powered on)

Enables sharing the TV programme and content of this TV with the network equipment (smartphone, etc.) in the home network.

- Changing the default configuration may result in higher energy consumption of the product.
- LED turns to orange in Standby mode when Home Streaming is set to Always.

Device to upload contents

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

= Note =

- This function is not available when the TV is turned off with Mains Power On / Off switch.
- You need to install the application for controlling VIERA on your smartphone.

   Support > FAQs > Detailed information

  For the operations, refer to the support information of the application.
- Depending on the network condition, this function may not be available.
- Depending on the area, this function may not be available. For details, consult your local Panasonic dealer.

Network Link Settings

Sets to control the TV with devices connected to the network.

1. Display the menu with MENU.
2. Select Network > Network Link Settings and press OK to access.
3. Select one of the following items and press OK to access.

   DLNA Server / Registration Type / Remote Device List
4. Set the item and press OK to store.

DLNA Server

(On / Off)

Enables sharing the content of this TV with the network equipment (DLNA Certified VIERA, etc.).

- To use this function with another VIERA, select the name of this TV from the DLNA server list of another VIERA, and then select the content to share. Also read the manual of another VIERA.
- To use this function with your smartphone, you need to install the application for controlling VIERA on your smartphone.

   → Support > FAQs > Detailed information

  For the operations, refer to the support information of the application.
- Changing the default configuration may result in higher energy consumption of the product.
- LED turns to orange in Standby mode when DLNA Server is set to On.

Registration Type

(Auto / Manual)

Selects the type to restrict the access to this TV for each piece of equipment on the home network.

Auto:

All available equipment on the home network is accessible (maximum 16 pieces of equipment).

Manual:

Sets the restrictions for each piece of equipment in Remote Device List.

Remote Device List

Lists the equipment accessible to this TV on the home network.

= Note =

- Depending on the area, this function may not be available. For details, consult your local Panasonic dealer.

File Sharing Settings

Network Device List

Lists the accessible network devices to play back the content in Media Player.

Media Player > Using Media Player > Network device

Mirroring Settings

Settings for the mirroring function

Functions > Mirroring > Mirroring Settings

Control4 Settings

Settings for the Control4 function

1. Display the menu with MENU.
2. Select Network > Control4 Settings and press OK to access.
3. Select Control4 Discovery / Send Identify and press OK to access.
4. Set the item and press OK to store.

Control4 Discovery

(On / Off)

Enables Control4 mode.

Send Identify

Sends identifying message to Control4 controller.

- This function is available when Control4 Discovery is set to On.

= Note =

- For details of the settings and operations, consult your local Control4 dealer.

Software Update

Accesses the specific website to update the TV's software if any updates are available.

1. Display the menu with MENU.
2. Select Network > Software Update and press OK to access.
3. Follow the on-screen instructions.

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

New Software Message

Selects whether to give a notification message when new software is found via network or not.

1. Display the menu with MENU.
2. Select Network > New Software Message and press OK to access.
3. Select On / Off and press OK to set.

Photos

Selecting file

Ensure the preparations of the media server, network connections and network settings are completed.

Network > DLNA > In-House streaming

Network > Network connections

Network > Network settings

1. Display APPS List with APPS.
2. Select Media Server and press OK to access.
3. Select one of the media servers and press OK to access.
   - To display / hide information of the highlighted media server

     i
4. Select the file and press OK to access.
   - Depending on the condition of media server, you may need to select the folder before selecting the file.
   - To display / hide information of the highlighted file

     i

= Note =

- Non-playable files are also listed but cannot be selected.

Viewing photo

■ Playback

- To operate Single view

  ◁ : To the previous photo

  ▷ : To the next photo

  ▽ : Stop (return to list)

  OK : Slideshow

- To display / hide the operation guide

  i

- To rotate 90°

  (blue)

- To return to list

  BACK/RETURN

Using Slideshow

Slideshow ends when all photos within the list are viewed.

1. Select the file from the thumbnail of photos for the first view.
2. Start Slideshow with (red) and OK.

- To display / hide the operation guide

  i

- To pause (return to Single view)

  OK

- To return to list

  BACK/RETURN

■ Slideshow Settings

Set up the settings for photo file operations on this TV.

1. Display the option menu with OPTION.
2. Select Slideshow Settings and press OK to access.
3. Select one of the following items and press OK to access.

   Interval / Repeat / Back Ground Music
4. Set the item and press OK to store.

Interval

(Long / Normal / Short)

Selects slideshow interval.

Repeat

(On / Off)

Slideshow repeat

Back Ground Music

(Off / Type1 / Type2 / Type3 / Type4 / Type5)

Selects the background music during Photo mode.

Videos

Selecting file

Ensure the preparations of the media server, network connections and network settings are completed.

- Network > DLNA > In-House streaming
- Network > Network connections
- Network > Network settings

1. Display APPS List with APPS.
2. Select Media Server and press OK to access.
3. Select one of the media servers and press OK to access.
   - To display / hide information of the highlighted media server

     i
4. Select the file and press OK to access.
   - Depending on the condition of media server, you may need to select the folder before selecting the file.
   - To display / hide information of the highlighted file

     i

= Note =

- Non-playable files are also listed but cannot be selected.

■ Playback

If you have stopped the last playback halfway, a confirmation screen may be displayed to select whether to start from where you stopped last time or from the beginning.

- To operate playback

  △ : Manual skip (if available)

  – Press to skip forward approx. 30 seconds.

  ◁ : Rewind

  ▷ : Fast forward

  ▽ : Stop

  OK : Pause (displays the time seek bar / slow playback) / Playback

- To jump to the specified time point

  1) Display the time seek bar with OK.
  2) While the time seek bar is displayed

     Press ◁ / ▷ :

     Search approx. 10 seconds

     Press and hold ◁ / ▷ :

     Search rapidly
  3) Jump to the specified time point with OK.

- To display / hide the operation guide and information banner

  i

- To the previous content

  (red)

- To the next content

  (green)

- To change aspect

  1) Display Aspect Selection with ASPECT.
  2) Select the mode and press OK to set.

     Aspect1:

     Displays the content in original size.

     Aspect2:

     Displays the content enlarged without distortion.

– You can also change the mode pressing ASPECT. (Press repeatedly until you reach the desired mode.)

– Aspect cannot be changed depending on the content.

• To return to list

BACK/RETURN

Video Setup

Set up the settings for video file operations on this TV.

1. Display the option menu with OPTION.
2. Select Video Setup and press OK to access.
3. Select one of the following items and press OK to access.

   Video Preview / Multi Audio / Dual Audio / Dual Mono Audio / Repeat / Subtitle Settings

   - Menu items and selectable options vary depending on the content.
4. Set the item and press OK to store.

Video Preview

(On / Off)

Sets to start the preview of the title or scene in the thumbnail view.

- Images may not be displayed for an instant in the thumbnail view. Set the preview Off to solve this.

Multi Audio, Dual Audio, Dual Mono Audio

Selects for selectable sound tracks (if available).

- It may take several seconds to change the sound.
- This function is available during playback.

Repeat

(On / Off)

Playback repeat within the selected file

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 Colour:

  Selects the colour of subtitles.

  Subtitle Text Position:

  Adjusts the position of subtitles on the screen.

  Subtitle Text Delay:

  Adjusts the delay time for the subtitles.

Audio output settings

You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO or HDMI2 (ARC function) terminal.

- To confirm or change the current sound status

  Network > Videos > Video Setup

1. Display the menu with MENU.
2. Select Sound > SPDIF Selection and press OK to access.
3. Select Auto / PCM and press OK to set.

SPDIF Selection

(Auto / PCM)

Selects the initial setting for digital audio output signal from DIGITAL AUDIO and HDMI2 (ARC function) terminals.

- SPDIF is a standard audio transfer file format.

  Auto:

  Dolby Audio (Dolby Digital, Dolby Digital Plus) and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

  PCM:

  Digital output signal is fixed to PCM.

- ARC (Audio Return Channel) is a function of digital audio output using HDMI cable.

= Note =

- During the operation, audio signal is output from DIGITAL AUDIO and HDMI2 (ARC function) terminals. But no video signals are output. To use HDMI2 with ARC function, connect an amplifier that has ARC function and set to use theatre speakers.

  Functions > VIERA Link “HDAVI Control™”

Music

Selecting file

Ensure the preparations of the media server, network connections and network settings are completed.

- Network > DLNA > In-House streaming
- Network > Network connections
- Network > Network settings

1. Display APPS List with APPS.
2. Select Media Server and press OK to access.
3. Select one of the media servers and press OK to access.
   - To display / hide information of the highlighted media server

     i
4. Select the file and press OK to access.
   - Depending on the condition of media server, you may need to select the folder before selecting the file.
   - To display / hide information of the highlighted file

     i

= Note =

- Non-playable files are also listed but cannot be selected.

Playing music

■ Playback

- To operate playback

  ◁ : Rewind

  ▷ : Fast forward

  ▽ : Stop

  OK : Pause (displays the time seek bar) / Playback

- To jump to the specified time point

  1) Display the time seek bar with OK.

  2) While the time seek bar is displayed

     Press ◁ / ▷ :

     Search approx. 10 seconds

     Press and hold ◁ / ▷ :

     Search rapidly

  3) Jump to the specified time point with OK.

- To display / hide the operation guide

  i

- To the previous track

  (red)

- To the next track

  (green)

- To return to list

  BACK/RETURN

Music Setup

Set up the settings for music file operations on this TV.

1. Display the option menu with OPTION.
2. Select Music Setup > Repeat with OK.
3. Select Off / Folder / One and press OK to set.

   Folder:

   Playback repeat within the selected folder

   One:

   Playback repeat of the selected one file

Supported format

Photo format

■ Supported Photo formats

- JPEG (.jpg, .jpeg)

  Sub-sampling:

  4:4:4, 4:2:2, 4:2:0

  Image resolution (pixel):

  8 × 8 to 30 719 × 17 279

- DCF and EXIF standards
- Progressive JPEG is not supported.

= Note =

- Some files may not be played back even if they fulfil these conditions.
- 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.

Video format

■ Supported Video formats

- AVI (.avi)

  Video codec:

  H.264, MPEG1, MPEG2, MPEG4, VC-1, WMV9

  Audio codec:

  AAC, ADPCM, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, LPCM, MP3, WMA

- MP4 (.f4v, .m4v, .mp4)

  Video codec:

  H.264, H.265 (HEVC), MPEG1, MPEG2, MPEG4

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, MP3

  • This TV supports this container recorded with Panasonic products. For details, read the manual of the products.

- MKV (.mkv)

  Video codec:

  H.264, H.265 (HEVC), MPEG1, MPEG2, MPEG4

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, MP3, Vorbis

- ASF (.asf, .wmv)

  Video codec:

  MPEG4, VC-1, WMV9

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC, LPCM, MP3, WMA

  • Copy-protected files cannot be played back.

- FLV (.flv)

  Video codec:

  H.264

  Audio codec:

  AAC, MP3

- 3GPP (.3gp, .3g2)

  Video codec:

  H.264, MPEG4

  Audio codec:

  AAC, HE-AAC

- PS (.mod, .mpg, .mpeg, .vob, .vro)

  Video codec:

  MPEG1, MPEG2

  Audio codec:

  Dolby Audio (Dolby Digital), LPCM

- TS (.mts, .m2ts, .tp, .trp, .ts, .tts)

  Video codec:

  H.264, H.265 (HEVC), MPEG1, MPEG2

  Audio codec:

  AAC, Dolby Audio (Dolby Digital, Dolby Digital Plus), HE-AAC

- WebM (.webm)

  Video codec:

  VP9

  Audio codec:

  Vorbis

■ 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”.

= Note =

- Some files may not be played back even if they fulfil 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.
- Supported formats are different in Media Player and media server.

Music format

■ Supported Music formats

- MP3 (.mp3)

- AAC / Apple Lossless (.m4a)
  - Copy-protected files cannot be played back.

- FLAC (.flac)

- WMA (.wma)
  - Copy-protected files cannot be played back.

- LPCM (.wav)

= Note =

- Some files may not be played back even if they fulfil these conditions.
- 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.

Functions

Mirroring

How to use

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 APPS List with APPS.
2. Select Mirroring and press OK.
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.

→ Functions > Mirroring > Mirroring Settings

- You cannot use Easy Mirroring function while the TV is set to Wireless Access Point.

→ Network > Network settings > Network Status

= Note =

- This function is available with the other devices (smartphone, etc.) supporting the mirroring function. For details, refer to the operating instructions of the devices.

Mirroring Settings

You can set items for the mirroring function.

1. Display the menu with MENU.
2. Select Network > Mirroring Settings and press OK.
3. Select one of the following items and press OK to access.

   Easy Mirroring / Powered On by Easy Mirroring / Delete All Pairings
4. Set the item and press OK to store.

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 > Network settings > Network Status
- Not valid when the TV is set to Wireless Access Point

Powered On by Easy Mirroring

(On / Off)

Enables turning on the TV automatically when the mirroring function is activated from the other devices (smartphone, etc.).

- Changing the default configuration may result in higher energy consumption of the product.
- Use the mirroring function to turn on the TV only when you can see the status of the TV.
- Register the devices (smartphone, etc.) before using this function.
- LED turns to orange in Standby mode when Powered On by Easy Mirroring is set to On.

Delete All Pairings

Delete the pairing information for all paired devices.

DVB-via-IP

DVB-via-IP client connection

This TV has DVB-via-IP client function and can connect to DVB-via-IP server or SAT>IP compatible servers to receive broadcast streaming.

Please ensure that the unit is disconnected from the mains socket before attaching or disconnecting any cables.

- It is recommended to connect to DVB-via-IP server with a LAN cable.

■ Wired connection



[1] ETHERNET terminal

[2] LAN cable (Shielded)

- Use Shielded Twist Pair (STP) LAN cable.

[3] DVB-via-IP server

[4] Satellite dish / Terrestrial aerial / Cable

■ Wireless connection



[1] Built-in wireless LAN (Rear of the TV)

[2] Access point

[3] DVB-via-IP server

[4] Satellite dish / Terrestrial aerial / Cable

= Note =

- External equipment and cables shown are not supplied with this TV.
- Check the terminal type and cable plugs are correct for connection.
- Due to network conditions or certain broadcaster restrictions, this function may not be available.
- To confirm the current network settings

  → Network > Network settings > Network Status
- For information about the connections, read the manual of the DVB-via-IP server.

DVB-via-IP Server Selection

■ Preparations

- Ensure the network connections and network settings are completed.

  → Functions > DVB-via-IP > DVB-via-IP client connection

  → Network > Network settings

- Ensure the server settings are completed. For details, read the manual of DVB-via-IP server.

■ DVB-via-IP Server Selection

1. Display the menu with MENU.
2. Select Setup > Tuning Menu > Add TV Signal and press OK to access.
3. Select DVB-via-IP and press OK to access.
4. Select Start Auto Setup and press OK to access.
5. Select a server from Server List and press OK to set.
6. Select Client Settings and press OK to access.
   - Select Unicast Environment to use in a home network.
   - Select Multicast Environment to use in multi family housing units, hotel, hospital, etc. (All servers are selected automatically.)
7. Select Search Channels and press OK to access.
8. Set DVB-via-IP Search Mode and select Start Auto Setup.
   - Set DVB-via-IP configuration to tune DVB channels.
   - When the operation is completed, the channel at the lowest position will be displayed.

= Note =

- If tuning has not been done completely, set Manual Tuning.

  → Watching > Tuning and editing channels > Manual Tuning

- Due to network conditions or certain broadcaster restrictions, this function may not be available.
- In case you install the DVB-via-IP client in multicast environment, please consult your professional dealer or server manufacturer.

Note

- Due to network conditions or certain broadcaster restrictions, this function may not be available.
- This function is not available when the TV is turned off with Mains Power On / Off switch.
- Please also read the manual of DVB-via-IP server.

VIERA Link “HDAVI Control™”

Summary of VIERA Link

Enjoy additional HDMI Inter-Operability with Panasonic products which have “HDAVI Control™” function.

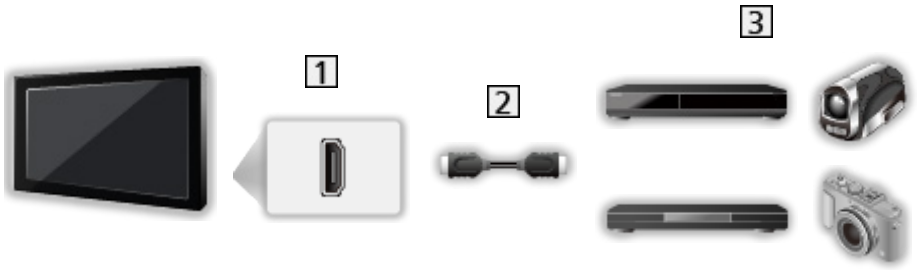
VIERA Link (HDAVI Control) connects the TV and the equipment with VIERA Link function, and enables easy control, playback, energy saving, creating home theatre, etc. without complicated settings. Connections to the equipment (DVD Recorder, HD Video Camera, Player theatre, Amplifier, etc.) with HDMI cable allow you to interface them automatically. These features are limited to models incorporating “HDAVI Control” and “VIERA Link”.

- This TV supports “HDAVI Control 5” function.
- Some functions are not available depending on the equipment’s version of HDAVI Control. Confirm the connected equipment’s version of HDAVI Control.
- VIERA Link “HDAVI Control” is a unique function that we have developed and added based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control). As such, its operation with other manufacturers’ product that supports HDMI CEC cannot be guaranteed.
- VIERA Link features may be available even with other manufacturers’ equipment supporting HDMI CEC.
- Please refer to individual manuals for other manufacturers’ product supporting VIERA Link function.
- About applicable Panasonic product, consult your local Panasonic dealer.

■ VIERA Link (HDMI connection)

- Use a fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV's HDMI terminal via an HDMI cable.

  About HDMI cable for connecting Panasonic HD Video Camera or LUMIX Camera, read the manual of the equipment.



1 HDMI terminal

2 HDMI cable

3 Equipment with VIERA Link function (DVD Recorder / DVD Player / Blu-ray Disc Player / HD Video Camera / LUMIX Camera)

■ Available features (HDMI connection)

DVD Recorder / DVD Player / Blu-ray Disc Player

- Easy playback
- Power on Link
- Power off Link
- Standby Power Save*2
- Intelligent Auto Standby*2
- VIERA Link Control*1

HD Video Camera / LUMIX Camera

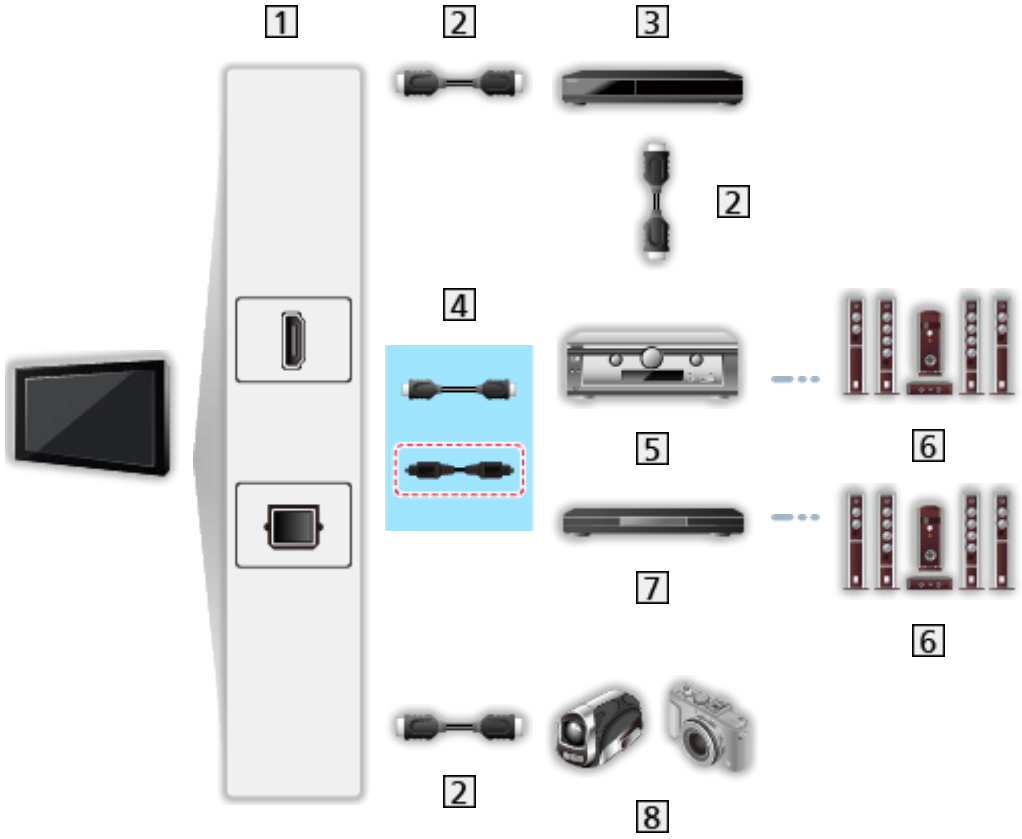
- Easy playback
- Power on Link
- Power off Link
- VIERA Link Control*1

*1 : For equipment which has "HDAVI Control 2 or later" function.

*2 : For equipment which has "HDAVI Control 4 or later" function.

■ VIERA Link (HDMI and Audio out connections)

- Use a fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV's HDMI terminal via an HDMI cable.
- Use the optical digital audio cable for audio output from the TV.



1 HDMI terminal / DIGITAL AUDIO

2 HDMI cable

3 DVD Recorder with VIERA Link function

4 HDMI cable (Optical digital audio cable *)

5 Amplifier with VIERA Link function

6 Speaker system

7 Player theatre / Blu-ray Disc theatre with VIERA Link function

8 HD Video Camera / LUMIX Camera with VIERA Link function

*: If the connected equipment has "HDAVI Control 5" function, you do not have to use this audio cable (Optical digital audio cable). In this case, connect the equipment to the TV's HDMI2 terminal via an HDMI cable.

■ Available features (HDMI and Audio out connections)

Player theatre

- Easy playback*3
- Power on Link
- Power off Link
- Intelligent Auto Standby*2*4
- VIERA Link Control*1
- Speaker Selection

Blu-ray Disc theatre

- Easy playback*3
- Power on Link
- Power off Link
- Standby Power Save*2
- Intelligent Auto Standby*2*4
- VIERA Link Control*1
- Speaker Selection

Amplifier

- Power off Link
- Intelligent Auto Standby*2
- Speaker Selection

*1 : For equipment which has “HDAVI Control 2 or later” function.

*2 : For equipment which has “HDAVI Control 4 or later” function.

*3 : While playing a disc

*4 : Except for watching a disc

■ VIERA Link Control of compatible equipment

The following is the maximum number of compatible equipment that can be controlled by VIERA Link Control. This includes connections to equipment already connected to the TV.

For example, DVD Player connected to Amplifier which is connected to the TV via an HDMI cable.

Functions > VIERA Link “HDAVI Control™” > VIERA Link Control

- Recorder:

  Maximum 3

- Player:

  Maximum 3 (DVD Player, Blu-ray Disc Player, HD Video Camera, LUMIX Camera, Digital Camera, Player theatre, Blu-ray Disc theatre, etc.)

- Audio system:

  Maximum 1 (Player theatre, Blu-ray Disc theatre, Amplifier, etc.)

- Tuner:

  Maximum 4 (Set top box, etc.)

Preparations

- Connect the equipment supporting VIERA Link.
- For details of VIERA Link connections

  Functions > VIERA Link “HDAVI Control™” > Summary of VIERA Link
- Use a fully wired HDMI compliant cable.
- Set up the connected equipment. Read the manual of the equipment.
- Set VIERA Link to On in the Setup Menu.
- Set up the TV. After connection, turn the equipment on and then switch the TV on. Select the HDMI input from Input Selection with AV and make sure that an image is displayed correctly. (This setup should be done each time the following conditions occur.)
  - First time operation
  - Adding or reconnecting equipment
  - Changing setup

Easy playback

Automatic input switching - When the connected equipment is operated, the input mode is switched automatically.

Power on Link

Set Power on Link to On in VIERA Link Settings to use this function.

When the connected equipment is operated, the TV is automatically turned on. (Only when the TV is in Standby mode.)

Power off Link

Set Power off Link to On in VIERA Link Settings to use this function.

When the TV is set to Standby mode, the connected equipment is also automatically set to Standby.

- This function will work even if the TV enters Standby mode automatically by auto power standby function.

Standby Power Save

Set Standby Power Save to On in VIERA Link Settings to use this function.

The power consumption of the connected equipment in Standby mode is controlled higher or lower in synchronisation with the TV on / off state to reduce the consumption.

When the TV is set to Standby mode, the connected equipment is automatically set to Standby and the power consumption of the connected equipment is automatically minimised.

When the TV is turned on, the connected equipment is still in Standby mode, but the power consumption is increased to quickly start the connected equipment.

- This function is effective if the connected equipment can change the power consumption in Standby mode and is set to higher consumption.
- This function works when Power off Link is set to On.

Intelligent Auto Standby

Set Intelligent Auto Standby to On in VIERA Link Settings to use this function.

When the TV is on, non-used connected equipment goes into Standby mode automatically to reduce the power consumption. For example, when the input mode is switched from HDMI or when Speaker Selection is changed to TV (except for watching a disc).

- This function may not work properly depending on the connected equipment. In this case, set to Off.

VIERA Link Control

You can control some functions of the connected equipment with this TV's remote control by pointing at the TV's signal receiver.

1. Display APPS List with APPS.
2. Select VIERA Link and press OK to access.
3. Select VIERA Link Control and press OK to access.
4. Select one of the following items and press OK to access.

   Recorder / Player / Home Cinema / Video Camera / LUMIX / Digital Camera / Other

   (The menu of the accessed equipment is displayed. The input mode is changed automatically.)

   - The displayed item may vary depending on the connected equipment.
   - Home Cinema means Player theatre, Blu-ray Disc theatre or Recorder theatre.
   - Other means Tuner set top box.
5. Follow the on-screen instructions to operate the menu of the equipment.
   - Confirm the remote control code is "73".

     Watching > External equipment > Operating with TV's remote control
   - To display the operation guide

     OPTION

     (If other manufacturers' product is accessed, Setup / Contents Selection menu may be displayed.)
   - Available TV's remote control buttons depend on the connected equipment.

■ If multiple recorders or players are connected

Each recorder / player is numbered. The number is given from the TV's lower number of HDMI terminal connected to the same type of equipment. For example, when two recorders are connected to HDMI1 and HDMI2, the recorder connected to HDMI1 is displayed as Recorder1, and the recorder connected to HDMI2 is displayed as Recorder2.

■ If you access non-VIERA Link equipment

The type of the connected equipment is displayed. Although you can access the connected equipment, you cannot operate it. Use the remote control of the connected equipment.

= Note =

- If you cannot operate the equipment, check the settings and the equipment.

  Functions > VIERA Link “HDAVI Control™” > Summary of VIERA Link

- Some operations may not be available depending on the equipment. In this case, use the remote control of the connected equipment.
- For details of the operations for the connected equipment, read the manual of the equipment.

Speaker Selection

You can control the theatre speaker with this TV's remote control by pointing at the TV's signal receiver.

1. Display APPS List with APPS.
2. Select VIERA Link and press OK to access.
3. Select Speaker Selection and press OK to access.
4. Select TV / Home Cinema and press OK to set.

   TV:

   TV speakers are active.

   Home Cinema:

   The sound is delivered from theatre speakers. Player theatre, Blu-ray Disc theatre or Amplifier will be automatically turned on 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 Volume Up / Down and MUTE.



■ Multi-channel sound

If you want to enjoy the multi-channel sound (e.g. Dolby Audio (Dolby Digital) 5.1ch) via an Amplifier, connect it with an HDMI cable and Optical digital audio cable, and then select Home Cinema. If your Amplifier has the "HDAVI Control 5" function, you only need to connect it with an HDMI cable to the TV's HDMI2 terminal.

To enjoy multi-channel sound from DIGA Recorder, connect an HDMI cable from the DIGA Recorder to the Amplifier.

= Note =

- If you cannot operate the equipment, check the settings and the equipment.

  → Functions > VIERA Link "HDAVI Control™" > Summary of VIERA Link

- Some operations may not be available depending on the equipment.

Note

- These functions may not work properly depending on the connected equipment.
- Image or sound may not be delivered for the first few seconds when the input mode is switched.
- “HDAVI Control 5” is the newest standard for HDAVI Control compatible equipment. This standard is compatible with conventional HDAVI equipment.
- To confirm the HDAVI Control version of this TV

   → Support > Help menu > Using Help menu

Child Lock

Using Child Lock

You can lock specific channels / AV input terminals to restrict access to them. When the locked channel / input is selected, a message appears. Enter the PIN number to watch.

1. Display the menu with MENU.
2. Select Setup > Child Lock and press OK to access.
3. Enter the PIN number (4 digits) with Numeric buttons.



   - Enter the PIN number twice at first setting.
   - Make a note of the PIN number in case you forget it.
   - “0000” may be stored as the default PIN number depending on the country you select.
4. Select Child Lock List and press OK to access.
5. Select the channel / input and press OK to lock.
   - 🔒 appears when the channel / input is locked.
   - To cancel
     1) Select the locked channel / input.
     2) Press OK.
   - To sort channel names in alphabetical order

     (red)
   - To lock all

     (green)
   - To cancel all locks

     (yellow)
   - To jump to the head of the next channel / input group

     (blue)

PIN number

You can change the PIN number.

1. Select Change PIN and press OK to access.
2. Enter a new PIN number twice with Numeric buttons.



= Note =

- Setting Shipping Condition erases the PIN number and all settings.

Parental Rating

To watch the DVB programme that has rating information on the selected age, enter the PIN number (depending on the broadcaster).

1. Select Parental Rating and press OK to access.
2. Select an age for the restriction of programmes and press OK to set.

- The availability of this function depends on the country you select.

= Note =

- Setting Shipping Condition erases the PIN number and all settings.

Data Service Application

Using Data Service Application

You can enjoy Hybrid Broadcast Broadband TV application that may be provided via digital broadcasting as interactive data services.

1. Display the menu with MENU.
2. Select Setup > Data Service Application > Service and press OK to access.
3. Select Auto Start / Manual Start / Off for each channel.

   Auto Start:

   Automatically starts the application.

   Manual Start:

   Starts the application by pressing (red).

- To sort channel names in alphabetical order

  (red)

- To set Auto Start for all channels

  (green)

- To disable the service for all channels

  (yellow)

- To set Manual Start for all channels

  (blue)

4. Press BACK/RETURN to store.

- A notification message will appear when the application is available. Follow the on-screen instructions.
- is displayed on the information banner if the programme has Hybrid Broadcast Broadband TV application.

  → Watching > Basic > Information banner

- To terminate the running application. (The default application may start immediately.)

  EXIT

Privacy Setting

1. Display the menu with MENU.
2. Select Setup > Data Service Application > Privacy Setting and press OK to access.
3. Select Low / High / Custom and press OK to set.

■ To change the privacy settings manually

You can set up the detailed privacy settings when Privacy Setting is set to Custom.

Store Cookie

(On / Off)

Enables storing the technical information that a data service application leaves into the TV in order to recognise to use it again.

Delete Cookie

Deletes all of technical information left by a data service application.

Do Not Track Setting

(Mode1 / Mode2 / Mode3)

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

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.

Allow Unique Device ID

(On / Off)

Sends identifying ID of this TV for the data service application.

Reset Unique Device ID

Resets the identifying ID of this TV.

Note

- A broadband network environment is required to fully use Hybrid Broadcast Broadband TV application. Ensure the network connections and network settings are completed.

  → Network > Network connections

  → Network > Network settings

- Not all the data services are available depending on the country, area and broadcaster.
- Depending on the connection environment, the internet connection may be slow or may not be successful.
- Operations may vary depending on the broadcaster. Follow the on-screen instructions.
- On-screen instructions may not correspond to the remote control buttons.

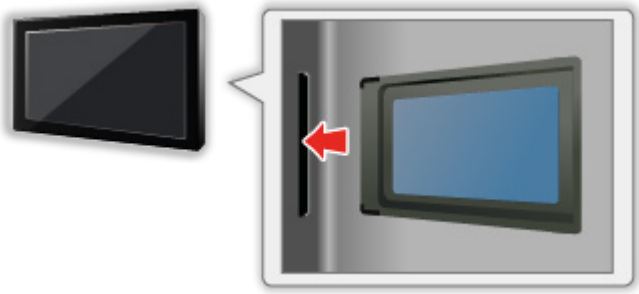
Common Interface

Caution

If the encrypted message is displayed on the screen, the correct Common Interface (CI) Module and smart card that are required for this service are not inserted.

■ How to insert CI module and smart card

- Turn the TV off with Mains Power On / Off switch whenever inserting or removing the CI module.
- If a smart card and a CI module come as a set, first insert the CI module, then insert the smart card into the CI module.
- Insert or remove the CI module completely in the correct direction as shown.



- Remove the CI module from the TV when placing the TV facing upward. This may cause damages to the CI module and CI slot.

= Note =

- There might be some CI modules in the market with older firmware versions that do not work fully interoperable with this new CI+ v1.3 TV. In this case, please contact your content provider.

Using Common Interface

Some features are not available on all models.

The Common Interface Module menu provides access to software contained in Common Interface (CI) Modules.

- This function may not be available in some countries or regions.
- Video and audio signals may not be output depending on the broadcast or service.

Although CI module may enable you to view some services, this TV does not guarantee all services (e.g. encrypted pay-TV channels). Please use only the broadcaster-approved CI module. Consult the operator / broadcaster or CI module manufacturer for more information and conditions of the services.

■ Insert the CI module (optional)

- Normally encrypted channels will appear. (Viewable channels and their features depend on the CI module.) If encrypted channels do not appear, take the following steps.
- For details, read the manual of the CI module, or check with the content provider.

1. Select the mode with TV.

   DVB-S / DVB-C / DVB-T
2. Display the menu with MENU.
3. Select Setup > Common Interface and press OK to access.
4. Select Slot 1:, press OK and follow the on-screen instructions.

- On-screen instructions may not correspond to the remote control buttons.

Shipping Condition

Shipping Condition

Resets the TV to its original condition (i.e. no channels tuned in).

All settings other than USB Device Setup are reset (channels, picture, sound settings, etc.).

1. Display the menu with MENU.
2. Select Setup > System Menu > Shipping Condition and press OK to access.
   - Child Lock PIN number is required depending on the country. If you have forgotten your changed PIN, input “6969” as the PIN number.

     Functions > Child Lock > PIN number
3. When a confirmation screen is displayed, select Yes and press OK to set.
4. Follow the on-screen instructions.
   - Auto Setup automatically starts.

= Note =

- To retune TV channels only (e.g. after moving house), set Auto Setup.

  Watching > Tuning and editing channels > Auto Setup

Updating the TV Software

Information

A new version of software may be released for download to enhance the performance or operations of the TV.

If there is an update available and the channel has the update information, a notification message is displayed.

- To install new software, select Standby / Now and press OK to set.

  Standby:

  Installs new software in standby condition.

  Now:

  Installs new software now.

Auto update

You can update new software automatically.

1. Display the menu with MENU.
2. Select Setup > System Menu > System Update > Auto Update Search in Standby and press OK to access.
3. Select the time and press OK to set.

- If any software updates are available, a notification message will appear. To install new software, select Standby / Now and press OK to set.

  Standby:

  Installs new software in standby condition.

  Now:

  Installs new software now.

- If System Update is performed, the software will be updated (TV functions may be changed). If you do not want to do so, set Auto Update Search in Standby to Off.
- The automatic updating cannot be performed in the following conditions:
  - TV turned off with Mains Power On / Off switch
  - Recording is in progress.
  - DVB-via-IP

= Note =

- Download may take a few hours.
- During software download and update, DO NOT switch off the TV.
- A notification message may be a reminder. In this case, schedule information (the date when the new version can be used) will appear. You can set the reservation for update. The update will not start when the TV is off.

Manual update

You can update new software manually.

1. Display the menu with MENU.
2. Select Setup > System Menu > System Update > System Update Search Now and press OK to access.
3. Searches for an update (for several minutes) and displays a corresponding message if any.
4. Download with OK.

= Note =

- Download may take a few hours.
- During software download and update, DO NOT switch off the TV.

Setting characters

Using Numeric buttons

You can enter characters for free input items using Numeric buttons.

Press Numeric buttons repeatedly until you reach the desired character.

1 : . @ / 1 ! : # + - * _ ( ) “ ‘ % & ? , ; = $ [ ] ~ < > { } | ` ^ \

2 : a b c 2 A B C

3 : d e f 3 D E F

4 : g h i 4 G H I

5 : j k l 5 J K L

6 : m n o 6 M N O

7 : p q r s 7 P Q R S

8 : t u v 8 T U V

9 : w x y z 9 W X Y Z

0 : Space 0

- The character is set automatically if you leave for 1 second.
- You can also set the character pressing OK or other Numeric buttons less than 1 second.
- The characters may vary depending on the input item.

Keyboard

Keyboard

- Keyboards requiring the drivers are not supported.
- To change the language type, set USB Keyboard Layout.
  1) Display the menu with MENU.
  2) Select Setup > System Menu > USB Keyboard Layout and press OK to access.
  3) Select the language and press OK to set.
- Characters may not be displayed correctly on the TV screen depending on the connected keyboard or the keyboard layout setting.
- Some of the keys of keyboards may correspond to the operation of the remote control.

Keyboard	Remote Control
↑ / ↓ / ← / →	△ / ▽ / ◁ / ▷
Enter	OK
Backspace	BACK/RETURN
Esc	EXIT
0 - 9 / Character	Numeric buttons
F1	HOME
F2	APPS
F3	MENU
F4	AV
F5 / F6	Channel Down / Up
F7 / F8	Volume Down / Up
F9 / F10 / F11 / F12	Coloured buttons

Settings

Setting menu

How to use

Various menus allow you to make settings for the picture, sound, and other functions.

1. Display the menu with MENU.
   - Displayed items vary depending on the input signal.
2. Select the menu and press OK to access.
3. Select the items and press OK to access.
   - Only available items can be selected.
   - You can also access from eHELP pressing (red) at each item (if available).

- You can select from among alternatives with △ / ▽ and press OK to set.
- You can adjust using the slide bar with ◁ / ▷ and press OK to set.
- You can go to the next screen with OK.
- You can enter names or numbers freely for some items.
  1) Enter characters one by one with Cursor buttons and press OK to set.



  – You can set characters using Numeric buttons.



→ Functions > Setting characters > Using Numeric buttons

  2) Press BACK/RETURN to store.
- To reset the settings
  – To initialise picture or sound settings only, select Reset to Defaults in the Picture Menu or Sound Menu.
  – To initialise all settings, select Shipping Condition.

→ Functions > Shipping Condition

- To exit the menu screen

  EXIT

- To return to the previous screen

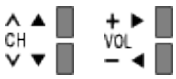
  BACK/RETURN

= Note =

- Menu items and selectable options vary depending on the mode (TV mode, Media Player, Network services, etc.).

■ Using control panel buttons

1. Press and hold INPUT/OK/HOLD for MENU button for 3 seconds to display the menu.
2. Select and set with following control panel buttons.
   - Move the cursor / select from a range of options / select the menu item / adjust levels

   - Access the menu / store settings after adjustments have been made or options have been set with INPUT/OK/HOLD for MENU button

Picture

Viewing Mode

Selects your favourite picture mode for each input.

Watching > For best picture > Viewing Mode

Basic settings

Backlight, Contrast, Brightness, Colour, Tint, Sharpness

Adjusts the levels of these options according to your personal preference.

Watching > For best picture > Basic settings

Colour Temperature

Sets the overall colour tone of the picture (bluer - redder).

Watching > For best picture > Basic settings

Vivid Colour

Automatically adjusts colours to vivid ones.

Watching > For best picture > Basic settings

Adaptive Backlight Control

Automatically controls the level of backlight according to the images.

Watching > For best picture > Basic settings

Clear Motion

Makes the moving pictures clearer by controlling the level of backlight.

Watching > For best picture > Basic settings

Ambient Sensor

Automatic Brightness Control function

Adjusts picture settings automatically depending on ambient lighting condition.

Watching > For best picture > Ambient Sensor

Noise reduction settings

Noise Reduction

Reduces unwanted picture noise.

Watching > For best picture > Noise reduction settings

MPEG Remaster

Reduces flicker noise in contoured parts of a picture and block noise.

Watching > For best picture > Noise reduction settings

Advanced Settings

You can adjust and set up the detailed picture settings.

Watching > For best picture > Advanced Settings

Option Settings

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

Film Cadence Mode

Improves vertical resolution for movie images.

Watching > For best picture > Option Settings

1080p Pixel Direct

Reproduces the original image quality in detail for 1080p (HDMI) input signal.

Watching > For best picture > Option Settings

HDMI Content Type

Adjusts the picture settings of each HDMI input according to the selected content type.

Watching > For best picture > Option Settings

HDMI RGB Range

Adjusts the black level of the image for each HDMI input.

Watching > For best picture > Option Settings

AV Colour System

Selects optional colour system based on video signals.

Watching > For best picture > Option Settings

3D-COMB

Makes still or slow moving pictures more vivid.

Watching > For best picture > Option Settings

Screen Settings

16:9 Overscan

Selects the screen area displaying the image for 16:9 aspect.

Watching > For best picture > Screen Settings

Zoom Adjustments

Adjusts the vertical position and size when aspect is set to Zoom.

Watching > For best picture > Screen Settings

Screen Display

Turns the screen off when you select Off.

Watching > For best picture > Screen Settings

Copy Adjustment

Copies the picture settings of True Cinema or Custom to those of the other input mode or Viewing Mode.

Watching > For best picture > Copy Adjustment

Reset to Defaults

Resets the current Picture Viewing Mode to the default settings.

Sound

Mode

Selects your favourite sound mode for each input.

 Watching > For best audio > Sound mode

Basic settings

Bass

Adjusts level to enhance or minimise lower, deeper sound output.

Watching > For best audio > Basic settings

Treble

Adjusts level to enhance or minimise sharper, higher sound output.

Watching > For best audio > Basic settings

Equaliser

Adjusts the frequency level to suit your favourite sound quality.

Watching > For best audio > Basic settings

Balance

Adjusts volume level of right and left speakers.

Watching > For best audio > Basic settings

Surround

Selects surround sound settings.

Watching > For best audio > Basic settings

Bass Boost

Enhances the effect of bass sounds.

Watching > For best audio > Basic settings

Volume settings

Speaker Selection

Enables controlling the theatre speaker with this TV's remote control by pointing at the TV's signal receiver.

Watching > For best audio > Volume settings

TV Speaker Setting

Selects the sound output to adjust volume.

Watching > For best audio > Volume settings

Headphone Volume

Adjusts the volume of headphones.

Watching > For best audio > Volume settings

Auto Gain Control

Automatically regulates large sound level differences between channels and inputs.

Watching > For best audio > Volume settings

Volume Correction

Adjusts the volume of each individual channel or input mode.

Watching > For best audio > Volume settings

Clear Sound Adjustment

If the sound from TV speakers is unclear due to installation environment, On is recommended.

Watching > For best audio > Volume settings

Voice Guidance Settings

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

Voice Guidance

Set to On to enable voice guidance of the basic features (on-screen messages, etc.) for visually impaired users.

Watching > For best audio > Voice Guidance Settings

Speed

Selects the readout speed for the voice guidance.

Watching > For best audio > Voice Guidance Settings

Volume

Selects the volume for the voice guidance.

Watching > For best audio > Voice Guidance Settings

Language

Changes language for the voice guidance.

Watching > For best audio > Voice Guidance Settings

User Level

Selects the level of verbosity for the voice guidance.

Watching > For best audio > Voice Guidance Settings

Web Browser

Set to On to enable voice guidance of the network content in web browser function.

Watching > For best audio > Voice Guidance Settings

Audio Description

Preferred Audio Type

Narration settings for visually impaired users

Watching > For best audio > Audio Description

Volume

Adjusts the volume for Audio Description.

Watching > For best audio > Audio Description

Speakers

Set to Mix to activate the description sound track from TV speakers.

Watching > For best audio > Audio Description

Headphones

Set to Mix to activate the description sound track from headphones.

Watching > For best audio > Audio Description

Advanced settings

MPX

Selects multiplex sound mode (if available).

Watching > For best audio > Advanced settings

Audio Preference

Selects the initial setting for audio tracks.

Watching > For best audio > Advanced settings

SPDIF Selection

Selects the initial setting for digital audio output signal from DIGITAL AUDIO and HDMI2 (ARC function) terminals.

Watching > For best audio > Advanced settings

HDMI Audio Format

Selects the audio format for the HDMI input signal.

Watching > For best audio > Advanced settings

PCM Optical Level

Adjusts the audio level of PCM output from DIGITAL AUDIO and HDMI2 (ARC function) terminals to equalise with that of the other audio types.

Watching > For best audio > Advanced settings

SPDIF Delay

Adjusts the delay time of the sound output from DIGITAL AUDIO and HDMI2 (ARC function) terminals if the sound does not synchronise the image.

Watching > For best audio > Advanced settings

HDMI Input

Selects to fit the input signal.

Watching > For best audio > Advanced settings

Reset to Defaults

Resets the current Sound Mode to the default settings.

Network

Network Connection

Sets the network setting to use this TV in your network environment.

 Network > Network settings > Network Connection

Network Status

Displays and checks the network status (MAC Address, current network settings, etc.).

 Network > Network settings > Network Status

my Home Cloud Settings

Notices

Displays the terms of service.

 Network > Network settings > my Home Cloud Settings

VIERA Name

Sets your favourite name for this TV.

 Network > Network settings > VIERA Name

TV Remote App Settings

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

Network > Network settings > TV Remote App Settings

Network Link Settings

Sets to control the TV with devices connected to the network.

Network > Network settings > Network Link Settings

File Sharing Settings

Network Device List

Lists the accessible network devices to play back the content in Media Player.

Media Player > Using Media Player > Network device

Mirroring Settings

Settings for the mirroring function

Functions > Mirroring > Mirroring Settings

Control4 Settings

Settings for the Control4 function

Network > Network settings > Control4 Settings

Other settings

Software Update

Checks for available software updates from the Panasonic website.

Network > Network settings > Software Update

New Software Message

Selects whether to give a notification message when new software is found via network or not.

Network > Network settings > New Software Message

Timer

Off Timer

Sets the duration of time until the TV automatically goes into Standby mode.

 Watching > Basic > Off Timer

Timer Programming

Sets a timer to record forthcoming programmes.

Recording > Timer Programming > Setting Timer Programming

Time Zone

Adjusts the time data.

Watching > Basic > Adjusting time

Auto Standby

Automatically turns the TV to Standby mode for energy saving when no operation is performed for 4 hours.

Watching > Basic > Energy saving functions

No signal Power off

Automatically turns the TV to Standby mode to prevent unnecessary power consumption when no signal is received and no operation is performed for 10 minutes.

Watching > Basic > Energy saving functions

Setup

Eco Navigation

Automatically sets the TV to the most suitable energy-saving mode.

Watching > Basic > Energy saving functions

USB Device Setup

Formats the USB HDD or safely removes USB device.

 Recording > USB HDD setup > Setting for USB HDD

Recording Setup

Settings for the recording feature of the USB HDD

Recording > Recording current programme > One Touch Recording

Recording > Recording current programme > REW LIVE TV

Child Lock

Applies access control for channels or inputs to prevent unwanted access.

Functions > Child Lock > Using Child Lock

Tuning Menu

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

Channel List Editor

You can edit the channel list by adding / deleting and moving channels.

Watching > Tuning and editing channels > Channel List Editor

Favourites Editor

Creates a list of favourite channels.

Watching > Tuning and editing channels > Favourites Editor

Auto Setup

Automatically searches for receivable channels.

Watching > Tuning and editing channels > Auto Setup

Manual Tuning

Searches for channels manually.

Watching > Tuning and editing channels > Manual Tuning

Update Channel List

Updates the channel list while keeping your settings.

Watching > Tuning and editing channels > Update Channel List

Favourite Network

Selects your favourite network for each broadcaster (only available in some countries).

Watching > Tuning and editing channels > Other settings

New Channel Message

Selects whether to give a notification message when a new channel is found or not.

Watching > Tuning and editing channels > Other settings

Service Replacement

Set to On to display a message to switch to the available service (only available in some countries).

Watching > Tuning and editing channels > Other settings

Signal Condition

Checks the signal condition.

Watching > Tuning and editing channels > Signal Condition

Antenna System

Sets the antenna system to use plural LNBs for receiving several satellites.

Watching > Tuning and editing channels > Auto Setup

LNB Configuration

Selects the satellite for each LNB.

Watching > Tuning and editing channels > Auto Setup

Attenuator

Automatically reduces the DVB-C signal to avoid the interference.

Watching > Tuning and editing channels > Other settings

Add TV Signal

Adds the TV mode.

Watching > Tuning and editing channels > Other settings

= Note =

- The settings in Tuning Menu are applicable only for the selected TV mode. The menu name varies depending on the TV mode. (DVB-S Tuning Menu / DVB-C Tuning Menu / DVB-T Tuning Menu / DVB-via-IP Tuning Menu / Analogue Tuning Menu)

Language

OSD Language

Changes language for on-screen displays.

Watching > Basic > Language

Preferred Audio 1 / 2

Selects the first and second preferred language for DVB multi audio (depending on the broadcaster).

Watching > Basic > Language

Preferred Subtitles 1 / 2

Selects the first and second preferred language for DVB subtitles (depending on the broadcaster).

Watching > Basic > Language

Preferred Teletext

Selects the preferred language for DVB teletext service (depending on the broadcaster).

Watching > Basic > Language

Display Settings

Preferred Subtitle Type

Selects the preferred subtitle type.

Watching > Basic > Subtitle

Teletext

Selects teletext display mode.

Watching > Teletext > Teletext mode

Teletext Character Set

Selects teletext language font.

Watching > Teletext > Teletext Character Set

Input Labels

Accessing the input labels list allows you to change the input name or skip the input if unconnected, improving identification and selection in the Input Selection banner.

Watching > External equipment > Watching external input

Banner Display Timeout

Sets how long the information banner stays on screen.

Watching > Basic > Information banner

Smart Banner

Displays the introduction banner for the internet service.

Watching > Basic > Information banner

Radio Mode

Sets the timer for turning off the screen automatically when a radio channel is selected.

Watching > Basic > Energy saving functions

Common Interface

Sets to watch encrypted channels, etc.

Functions > Common Interface > Using Common Interface

VIERA Link Settings

VIERA Link

Sets to use VIERA Link functions.

Functions > VIERA Link “HDAVI Control™” > Preparations

Power on Link

Sets to use Power on Link functions.

Functions > VIERA Link “HDAVI Control™” > Power on Link

Power off Link

Sets to use Power off Link functions.

Functions > VIERA Link “HDAVI Control™” > Power off Link

Standby Power Save

Controls the connected equipment to reduce power consumption in Standby.

Functions > VIERA Link “HDAVI Control™” > Standby Power Save

Intelligent Auto Standby

Makes non-watched or non-used connected equipment go into Standby mode to reduce the power consumption.

Functions > VIERA Link “HDAVI Control™” > Intelligent Auto Standby

Data Service Application

Service

Sets to use Hybrid Broadcast Broadband TV application.

Functions > Data Service Application > Using Data Service Application

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Privacy Setting

Settings for the privacy in the interactive data services

Functions > Data Service Application > Privacy Setting

System Menu

USB Keyboard Layout

Selects the language that your USB Keyboard supports.

Functions > Keyboard > Keyboard

Shipping Condition

Resets all settings to the original condition.

Functions > Shipping Condition > Shipping Condition

System Update

Downloads new software to this TV.

Functions > Updating the TV Software > Auto update

Licence Menu

Displays the software licence information.

Other Settings

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

Power Save

(On / Off)

Reduces brightness of the picture to economise on power consumption.

Exchange Channel List

Exports / Imports DVB-S Channel List settings using the USB device to share the same settings with VIERA which has the same function.

Watching > Tuning and editing channels > Channel List Editor

Support

Help menu

Using Help menu

1. Display the menu with MENU.
2. Select Help and press OK to access.
3. Select TV Self Test / System Information / Device Information and press OK to access.

TV Self Test

Makes a diagnosis of picture or sound problems.

Follow the on-screen instructions.

System Information

Displays the system information of this TV.

Device Information

Displays the device information of this TV.

FAQs

Picture

Before requesting service or assistance, please follow these simple guides to solve the problem. Also makes a diagnosis of picture problem in TV Self Test.

 Support > Help menu > Using Help menu

If the problem still persists, please contact your local Panasonic dealer for assistance.

Auto aspect

- Auto aspect is designed to provide you with the best ratio to fill the screen.

   Watching > For best picture > Aspect Control Signal

- Press ASPECT if you want to change the aspect ratio manually.

   Watching > For best picture > Aspect

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Black and white picture

- Check that the output of the external equipment matches the input of the TV.

Chaotic image, noisy

- Set Noise Reduction and MPEG Remaster in the Picture Menu to remove noise.

   Watching > For best picture > Noise reduction settings

- Check nearby electrical equipment (car, motorcycle, fluorescent lamp).

No image is displayed

- Check the correct input mode is selected.
- Check the setting of AV (COMPONENT / VIDEO) in Input Selection to match the signal being output by the external equipment.

  Watching > External equipment
- Is Backlight, Contrast, Brightness or Colour in the Picture Menu set to the minimum?

  Watching > For best picture > Basic settings
- Check all required cables and connections are firmly in place.

Blurry or distorted image (no sound or low volume)

- Reset channels.

  Watching > Tuning and editing channels > Auto Setup

There may be red, blue, green and black spots on the screen

- This is a characteristic of liquid crystal panels and is not a problem. The liquid crystal panel is built with very high precision technology giving you fine picture details. Occasionally, a few non-active pixels may appear on the screen as a fixed point of red, green, blue or black. Please note this does not affect the performance of the panel.

Digital TV

Some features are not available on all models.

Before requesting service or assistance, please follow these simple guides to solve the problem.

If the problem still persists, please contact your local Panasonic dealer for assistance.

Block noise, frozen or disappearing image occurs / Some channels cannot be tuned

- Check the position, direction and connection of the aerial or dish.
- Check Signal Condition. If the level of Signal Quality is low, the DVB signal is weak. Connecting the aerial to the TV directly may improve signal quality than connecting the aerial through the equipment (Set top box, DVD, etc.).

  → Watching > Tuning and editing channels > Signal Condition

  → Watching > Basic > Basic connection
- Weather conditions affect signal reception (heavy rain, snow, etc.), in particular in poor reception areas. Even during good weather, the high pressure can cause poor reception of some channels.
- Due to the digital reception technologies involved, quality of the digital signals may be relatively low in some cases, despite good reception of analogue channels.
- Check the network connections and settings (DVB-via-IP).

  → Functions > DVB-via-IP

  → Network > Network settings
- Turn the TV off with Mains Power On / Off switch, then turn it on again.

DVB-S Auto Setup cannot be done completely

- Check connections and dish alignment.

  → Watching > Basic > Basic connection
- If the problem persists, consult your local dealer.

Faulty dish message appears

- The satellite cable may be short-circuited or there may be connection problems of the cable. Check the cable and connection and then turn the TV off with Mains Power On / Off switch, and turn it on again.
- If the message persists, consult a dish installer for checking the dish and cable.

No programmes shown on TV Guide

- Check the digital transmitter.
- Adjust the direction of the aerial or dish to another transmitter installed nearby.

Analogue TV

Before requesting service or assistance, please follow these simple guides to solve the problem.

If the problem still persists, please contact your local Panasonic dealer for assistance.

White spots or shadow image (ghosting) occurs / Some channels cannot be tuned

- Check the position, direction and connection of the aerial.
- Weather conditions affect signal reception (heavy rain, snow, etc.), in particular in poor reception areas. Even during good weather, the high pressure can cause poor reception of some channels.
- Turn the TV off with Mains Power On / Off switch, then turn it on again.
- If the problem persists, consult your local dealer or service provider for the availability of services.

Sound

Before requesting service or assistance, please follow these simple guides to solve the problem. Also makes a diagnosis of sound problem in TV Self Test.

→ Support > Help menu > Using Help menu

If the problem still persists, please contact your local Panasonic dealer for assistance.

No sound is produced

- Is “Sound mute” active? Press MUTE to switch sound mute on or off.
- Is the volume set to the minimum?
- Check connections and setting of external equipment.

  → Watching > External equipment
- Ensure that Speaker Selection is set to TV.

  → Watching > For best audio > Volume settings

  → Functions > VIERA Link “HDAVI Control™” > Speaker Selection
- Ensure that TV Speaker Setting is set to TV Speaker.

  → Watching > For best audio > Volume settings

Sound level is low or sound is distorted

- Sound signal reception may be poor.
- Set MPX in the Sound Menu to Mono. (Analogue)

  → Watching > For best audio > Advanced settings

HDMI

Before requesting service or assistance, please follow these simple guides to solve the problem.

If the problem still persists, please contact your local Panasonic dealer for assistance.

Sound is unusual

- Check the setting of HDMI Audio Format in the Sound Menu to match the audio signal from the connected equipment.

  Watching > For best audio > Advanced settings

- Check the HDMI Input setting in the Sound Menu.

  Watching > For best audio > Advanced settings

- If digital sound connection has a problem, select analogue sound connection.

  Watching > External equipment > HDMI features

Pictures from external equipment are unusual when the equipment is connected via HDMI

- Check the HDMI cable is connected properly.

  Watching > External equipment > External connection

- Turn the TV and equipment off, then turn them on again.
- Check an input signal from the equipment.

  Watching > External equipment > Valid input signals

- Use equipment compliant with EIA/CEA-861/861D.

Network

Before requesting service or assistance, please follow these simple guides to solve the problem.

If the problem still persists, please contact your local Panasonic dealer for assistance.

Cannot connect to the network

- Check the LAN cable or wireless LAN is connected properly.

  Network > Network connections

- Check the connections and settings.

  Network > Network connections

  Network > Network settings

- Check the network equipment and network environment.
- The router may not be set to issue IP address automatically. If the network administrator prefers to allocate an IP address, set an IP address manually.

  Network > Network settings

- The router may be using MAC address filtering (security setting). Confirm the MAC Address of this TV and set the router to use it.

  Network > Network settings > Network Status

- If the problem persists, consult your Internet Service Provider or telecommunications company.

Cannot select the file during DLNA operations

- Is media server of the connected equipment prepared?

  Network > DLNA > In-House streaming

- Check applicable data format.

  Network > Supported format

- Check the settings of Network Link Settings.

  Network > Network settings > Network Link Settings

Cannot operate internet content

- Check the connections and settings.

   Network > Network connections > Internet connection

   Network > Network settings

- The server or connected line may be busy now.

Other

Before requesting service or assistance, please follow these simple guides to solve the problem.

If the problem still persists, please contact your local Panasonic dealer for assistance.

VIERA Link function does not work and an error message appears

- Check the connections.

  Functions > VIERA Link “HDAVI Control™” > Summary of VIERA Link

- Turn the connected equipment on and then switch the TV on.

  Functions > VIERA Link “HDAVI Control™”

Parts of the TV become hot

- Parts of the TV may become hot. These temperature rises do not pose any problems in terms of performance or quality.

Overcurrent error message appears

- The connected USB device may cause this error. Remove the device and turn the TV off with Mains Power On / Off switch, then turn it on again.
- Check foreign objects are not inside the USB port.

An error message appears

- Follow the message’s instructions.
- If the problem persists, contact your local Panasonic dealer or the authorised service centre.

LED does not turn to red in Standby mode

- LED turns to orange in Standby mode in the following conditions:
  - Recording is in progress.
  - Timer Programming is set.
  - DLNA Server is set to On.
  - Powered On by Apps is set to On.
  - Home Streaming is set to Always.
  - Powered On by Easy Mirroring is set to On.

When pushed with a finger, the display panel moves slightly and makes a noise

- There is a little gap around the panel to prevent damage to the panel. This is not a malfunction.

Detailed information

Support information about the application, optional devices, operation, etc. may be found on the following website.

http://panasonic.jp/support/global/cs/tv/ (English only)

Maintenance

Care and Cleaning

First, remove the mains plug from the mains socket.

■ Display panel, Cabinet, Pedestal

Regular care:

Gently wipe the surface of the display panel, cabinet, or pedestal by using a soft cloth to remove dirt or fingerprints.

For stubborn dirt:

(1) First clean the dust from the surface.

(2) Dampen a soft cloth with clean water or diluted neutral detergent (1 part detergent to 100 parts water).

(3) Wring out the cloth firmly. (Please note, do not let liquid enter the TV inside as it may lead to product failure.)

(4) Carefully wipe moisten and wipe away the stubborn dirt.

(5) Finally, wipe away all the moisture.

= Caution =

- Do not use a hard cloth or rub the surface too hard, otherwise this may cause scratches on the surface.
- Take care not to subject the surfaces to insect repellent, solvent, thinner or other volatile substances. This may degrade surface quality or cause peeling of the paint.
- The surface of the display panel is specially treated and may be easily damaged. Take care not to tap or scratch the surface with your fingernail or other hard objects.
- Do not allow the cabinet and pedestal to make contact with a rubber or PVC substance for a long time. This may degrade surface quality.

■ Mains plug

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

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