

Panasonic

Model No.

*e***HELP**

Read first

Before use

- Licence 12

Features

- 4K resolution 15
- Home 16
- Recording 17
- Easy Mirroring 18

Home

Home

- Information 19
- How to use 21
- Pin to HOME 23
- Option menu 24

Devices

- How to use 25
- Option menu 26

Apps

- How to use 27
- Option menu 28

Live TV

- How to use 29
- Option menu 30

my Scenery

- How to use 31

Watching

Basic

- Basic connection 32
- Selecting channel 35
- Information banner 36
- AV Options 39

• Subtitle	41
• Off Timer	42
• Energy saving functions	43
• Adjusting time	46
• Language	47
• EWS Settings	49
4K resolution	
• 4K-compatible equipment	50
• HDMI Auto Setting	51
• Valid 4K format	52
External equipment	
• External connection	53
• Watching external input	57
• Operating with TV's remote control	59
• HDMI features	61
• HDMI HDR Setting	63
• HDMI Signal Power Link Setting	64
• Valid input signals	65
For best picture	
• Viewing Mode	66
• Aspect	69
• Basic settings	70
• Ambient Sensor	72
• Noise reduction settings	73
• Advanced Settings	74
• Option Settings	80
• Screen Settings	84
• Lock Settings	86
• Copy Adjustment	87
For best audio	
• Sound mode	88
• Basic settings	90
• Volume settings	93

• Headphone terminal output setting	96
• Voice Guidance Settings	98
• Audio Description	99
• Advanced settings	100
TV Guide	
• Using TV Guide	105
• Timer Programming	107
Teletext	
• Viewing Teletext	108
• Teletext mode	110
• Teletext Character Set	111
Tuning and editing channels	
• Setting menu	112
• Favourites Edit	113
• Channel List	115
• Auto Tuning	116
• Manual Tuning	117
• Update Channel List	118
• Signal Condition	119
• Other settings	120
Recording	
USB HDD setup	
• Preparations	121
• Setting for USB HDD	123
Recording current programme	
• One Touch Recording	125
Timer Programming	
• Setting Timer Programming	126
• Editing Timer Programming	127
• Note	128
Technical information	
• USB HDD	129

Media Player

Using Media Player

- Information 130
- Selecting device / mode 132

Easy List View

- Selecting file 133
- Filtering files 135

Mix Folder View

- Selecting file 136
- Filtering files 138
- Sorting files 139

Playback

- Playback 140
- Slideshow Settings 142
- Video Setup 144
- Audio output settings 145

Recorded TV mode

- Selecting content 146
- Watching recorded TV 147
- Grouping content 149
- Deleting content 150
- Chapter List 151
- Audio output settings 152

Other settings

- USB Sharing 153

Connected device

- Device handling caution 155
- USB devices 156

Supported format

- Photo format 157
- Video format 158
- Music format 161

Network

Internet content

- Information 162
- Selecting internet content 163
- Note 164

Home network

- In-House streaming 165
- Preparations 167

Network connections

- Internet connection 168
- Home network connection 169
- Note 172

Network settings

- Network Connection 173
- Custom - Wireless 175
- Custom - Wired 178
- Custom - Wireless Access Point 180
- Network Status 181
- TV Name 182
- TV Remote App Settings 183
- Network Link Settings 185
- Smart Speaker Settings 187
- Mirroring Settings 188
- VOD Content Refresh 189
- Software Update 190
- New Software Message 191
- IPv6 192
- Terms of Service and Settings 193

Photos

- Selecting file 194
- Viewing photo 195
- Using Slideshow 196

Videos	
• Selecting file	197
• Watching video	198
• Video Setup	200
• Audio output settings	202
Music	
• Selecting file	204
• Playing music	205
• Music Setup	206
Supported format	
• Photo format	207
• Video format	208
• Music format	211
Functions	
Menu	
• How to use	212
Voice Control	
• Information	213
• How to use	214
• Settings	215
• Note	216
Mirroring	
• How to use	217
• Mirroring Settings	218
VIERA Link “HDAVI Control™”	
• Summary of VIERA Link	219
• Preparations	224
• Easy playback	225
• Power on Link	226
• Power off Link	227
• Standby Power Save	228
• Intelligent Auto Standby	229

• VIERA Link Control	230
• Speaker Selection	232
• Note	233
Child Lock	
• Using Child Lock	234
• PIN number	235
• Parental Rating	236
Power LED Indicator	
• Using Power LED Indicator	237
Data Service Application	
• Using Data Service Application	238
• Privacy Setting	239
• Note	240
Shipping Condition	
• Shipping Condition	241
Updating the TV Software	
• Information	242
• Auto update	243
• Manual update	244
Setting characters	
• Using Numeric buttons	245
Bluetooth devices	
• Bluetooth Setup	246
Keyboard	
• Keyboard	249
Settings	
Setting menu	
• How to use	250
Picture	
• Viewing Mode	252
• Basic settings	253

• Ambient Sensor	254
• Noise reduction settings	255
• Advanced Settings	256
• Option Settings	257
• Screen Settings	259
• PICTURE Button Setting	260
• Lock Settings	261
• Copy Adjustment	262
• Reset to Defaults	263

Sound

• Mode	264
• Basic settings	265
• Volume settings	267
• Headphone terminal output setting	268
• Voice Guidance Settings	269
• Audio Description	270
• Advanced settings	271
• Reset to Defaults	272

Network

• Network Connection	273
• Network Status	274
• TV Name	275
• TV Remote App Settings	276
• Network Link Settings	277
• Smart Speaker Settings	278
• Mirroring Settings	279
• Other settings	280

Timer

• On Timer	281
• Off Timer	282
• Timer Programming	283
• Clock Settings	284
• Auto Standby	285
• No signal Power off	286

Setup

• Voice Control	287
• Eco Navigation	288
• USB Device Setup	289
• Recording Setup	290
• Bluetooth Setup	291
• Child Lock	292
• Tuning Menu	293
• Language	295
• Display Settings	296
• HDMI Auto Setting	297
• HDMI HDR Setting	298
• VIERA Link Settings	299
• HDMI Signal Power Link Setting	300
• EWS Settings	301
• Data Service Application	302
• Home Settings	303
• System Menu	304
• Other Settings	305

Support

Help menu

• Using Help menu	306
-------------------	-----

FAQs

• Picture	307
• Digital TV	309
• Sound	310
• HDMI	311
• Network	312
• Other	314
• Detailed information	317

Maintenance

• Care and Cleaning	318
---------------------	-----

How to use

■ Meaning of signs

OK :

Letters enclosed in brackets indicate remote control buttons.

Main Menu :

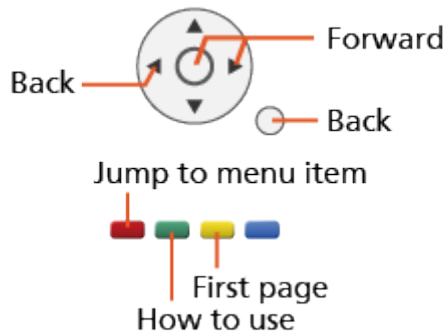
Letters in cyan indicate on-screen display items.

 → :

References in this eHELP

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

■ Operation guide



= Note =

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

<https://panasonic.net/cns/oss/tv/EUIDTV21.html>

Features

4K resolution

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

 → [Watching > 4K resolution > 4K-compatible equipment](#)

Home

“Home” is a gateway to the TV programmes, applications and connected devices.

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

 → [Home](#) > [Home](#) > [Information](#)

Recording

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

 → [Recording > Recording current programme > One Touch Recording](#)

 → [Recording > Timer Programming > Setting Timer Programming](#)

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](#)

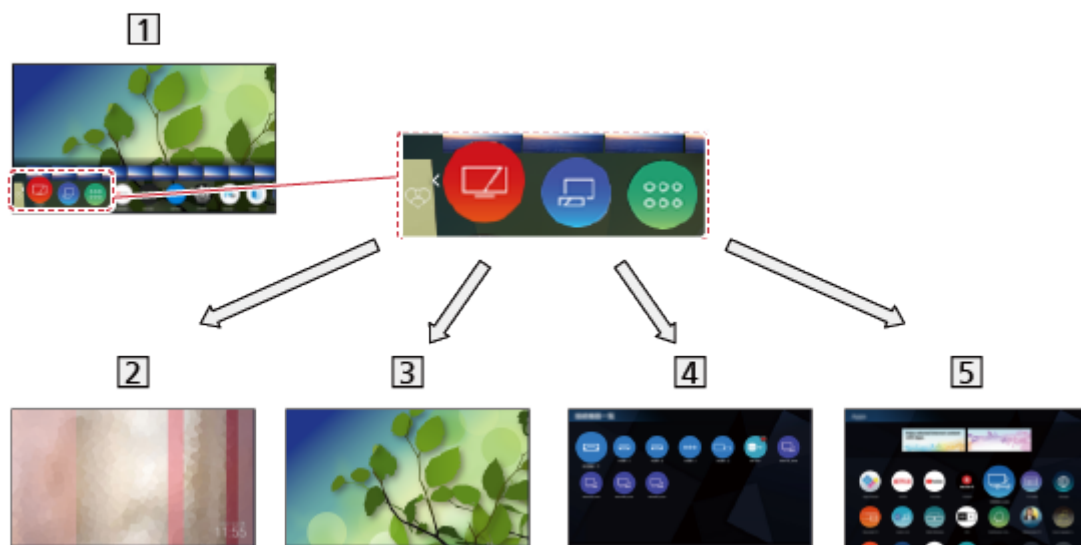
Home

Home

Information

“Home” is a gateway to the TV programmes, applications and connected devices.

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



1 Home

2 my Scenery

- Displays the photos or videos stored in this TV, connected USB device, etc.

 → Home > my Scenery

3 Live TV

- Gateway to TV programmes

 → Home > Live TV

4 Devices

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

 → Home > Devices


5 Apps

- Gateway to various applications (internet content, etc.)

 → Home > Apps

= Note =

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

 → Network > Network settings > Software Update

How to use

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

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

 → Network > Network connections > Internet connection

1. Display Home with **HOME**.

(Example)



2. Select a feature (device / application / TV programme) and press **OK** to access.

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

(Example)



- You can also select the content from the relevant programme information, recommended content, etc. by pressing **△** for each feature.

= Note =

- The design and specifications are subject to change without notice.

■ Search

You can search for content from various sources.

1. Display Home with **HOME**.

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

- A search history may be displayed and you can select it for keyword search.

- To delete the search history

- 1) Select **Search** and press **OPTION**.

- 2) Select **Delete all histories** and press **OK**.

3. Follow the on-screen instructions.

■ Auto Pin

Selects whether to automatically add a shortcut for a feature frequently used on Home.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Setup** > **Home Settings** > **Auto Pin** and press **OK** to access.
3. Select **On / Off** and press **OK** to set.

Pin to HOME

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

1. Display Home with **HOME**.
2. Select **Devices / Apps / Live TV** and press **OK** to access.
3. Select a feature (device / application / TV programme).
4. Display the option menu with **OPTION**.
5. Select **Pin to HOME** and press **OK** to set.
6. Select the position to add on Home and press **OK** to set.
 - To remove a shortcut from Home, set **Unpin from HOME**.

 → Home > Home > Option menu

Option menu

You can customise Home.

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

[Unpin from HOME / Move](#)

3. Set the item and press **OK** to store.
-

[Unpin from HOME](#)

Removes a shortcut from Home.

[Move](#)

Arranges the position of the icons.

Devices

How to use

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

1. Display Home with **HOME**.
2. Select [Devices](#) and press **OK** to access.

(Example)



- To exit [Devices](#)

EXIT

- To add a shortcut icon

 → Home > Home > Pin to HOME

3. Select a device and press **OK** to access.

- For external equipment

 → Watching > External equipment

- For USB device

 → Media Player > Using Media Player

- For network equipment

 → Network > Home network

- For mirroring function

 → Functions > Mirroring

= Note =

- The design and specifications are subject to change without notice.

Option menu

1. Display the option menu with **OPTION**.
 2. Select one of the following items and press **OK** to access.
[Pin to HOME](#) / [Accessibility](#) / [Show Info](#).
 3. Set the item and press **OK** to store.
-

[Pin to HOME](#)

Adds a shortcut for a frequently used feature on Home.

 → [Home](#) > [Home](#) > [Pin to HOME](#)

[Accessibility](#)

Guidance settings for visually impaired users

 → [Watching](#) > [For best audio](#) > [Voice Guidance Settings](#)

[Show Info](#)

Displays the information about the selected device.

Apps

How to use

Various applications (internet content, etc.) can be accessed easily from [Apps](#).

1. Display Home with **HOME**.
2. Select [Apps](#) and press **OK** to access.
 - You can also display [Apps](#) by pressing **APPS**.

(Example)



- To exit [Apps](#)

EXIT

- To add a shortcut icon

 → Home > Home > Pin to HOME

- You can assign a favourite application to **MY APP** of the TV's remote control.

 → Home > Apps > Option menu

3. Select an application and press **OK** to access.
4. Follow the on-screen instructions.

= Note =

- The design and specifications are subject to change without notice.
- Internet apps are provided by their service providers, and may be changed, interrupted, or discontinued at any time.
- A broadband network environment is required to fully use this function.

Option menu

1. Display the option menu with **OPTION**.
 2. Select one of the following items and press **OK** to access.
[Pin to HOME](#) / [Set as My App](#) / [Move](#) / [Lock](#) / [Unlock](#) / [Uninstall](#) / [Show Info](#).
 3. Set the item and press **OK** to store.
-


[Pin to HOME](#)

Adds a shortcut for a frequently used feature on Home.

 → [Home](#) > [Home](#) > [Pin to HOME](#)

[Set as My App](#)

Assigns your favourite application to **MY APP** of the TV's remote control.

-  is displayed on the assigned application.
 - To change the assignment, set [Set as My App](#) while the cursor is on another application.
-

[Move](#)

Arranges the position of the applications.

[Lock, Unlock](#)

Locks / unlocks a specific application to restrict access (if available).

- Child Lock PIN number is required to access to locked application.

 → [Functions](#) > [Child Lock](#) > [PIN number](#)

[Uninstall](#)

Deletes an application from [Apps](#) (if available).

[Show Info.](#)

Displays the information about the selected application.

Live TV

How to use

Live TV is a gateway to the TV programmes.

1. Display Home with **HOME**.
2. Select **Live TV**.
3. Press **OK** to access.

(Example)



- For details of watching TV

 → **Watching > Basic**

- To add a shortcut icon

 → **Home > Home > Pin to HOME**

Option menu

1. Display the option menu with **OPTION**.
 2. Select one of the following items and press **OK** to access.
[Pin to HOME](#) / [Accessibility](#) / [AV Options](#) / [Favourites](#)
 3. Set the item and press **OK** to store.
-

Pin to HOME

Adds a shortcut for a frequently used feature on Home.

 → [Home](#) > [Home](#) > [Pin to HOME](#)

Accessibility

Guidance settings for visually impaired users

 → [Watching](#) > [For best audio](#) > [Voice Guidance Settings](#)

AV Options

Easy optional setting for viewing, sound, etc.

 → [Watching](#) > [Basic](#) > [AV Options](#)

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

Favourites

Selects a favourite list for selecting a channel from the information banner, TV Guide, etc.

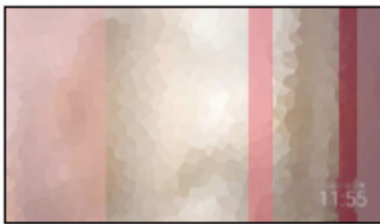
my Scenery

How to use

Displays my Scenery from Home.

1. Display Home with **HOME**.
2. Select **my Scenery** by pressing ◀.
3. Press **OK**.
 - You can also display my Scenery by pressing **SCENERY**.

(Example)



- Select a scenery and press **OK** to switch my Scenery.
- To exit my Scenery

EXIT

= Note =

- The design and specifications are subject to change without notice.
- **Viewing Mode** is fixed to **my Scenery** when my Scenery is displayed.
- When no operation is performed for 15 minutes, the luminance level is automatically adjusted to prevent panel “image retention”.

■ Settings

You can set up the scenery (selecting contents stored in this TV or connected device, timer function, background music, etc.) and also view the guide screen.

1. Press **OK** while my Scenery is displayed.
2. Select the items and press **OK** to access.
3. Follow the on-screen instructions.
 - Menu items and selectable options vary depending on the scenery.

= Note =

- A picture may not be displayed depending on its file size.
- The still pictures / moving pictures stored on the root directory can be selected and the files in the folders are not selectable.

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.
- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting cables.

■ Aerial



1 Aerial terminal

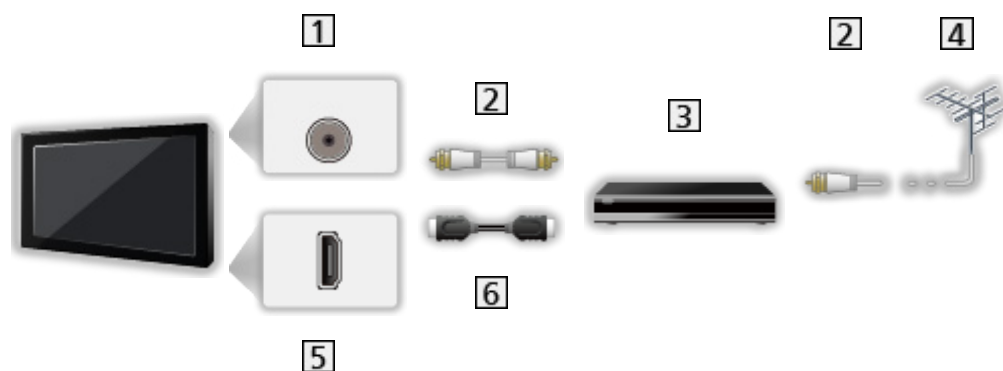
2 RF cable

3 Aerial

- Keep the space between the TV and RF cable to prevent distorted image.
 - Do not put the RF cable close to the mains lead to avoid noise.
 - Do not place the RF cable under the TV.
 - An aerial, correct cable (75 Ω coaxial) and correct terminating plug are required to obtain optimum quality picture and sound.
 - If a communal aerial system is used, you may require the correct connection cable and plug between the wall aerial socket and the TV.
 - Your local Television Service Centre or dealer may be able to assist you in obtaining the correct aerial system for your particular area and the accessories required.
 - Any matters regarding aerial installation, upgrading of existing systems or accessories required, and the costs incurred, are the responsibility of you, the Customer.
-

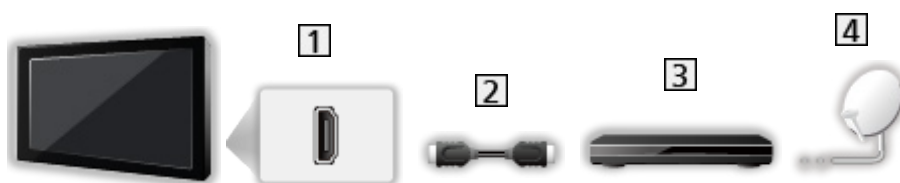
- Special notices for receiving digital terrestrial services
 - If you receive analogue and digital TV signals through two separate aerials, use an RF mixer to mix them.
 - If you receive analogue TV signals through a cable TV network, an aerial is required to receive digital TV signals. In this case, using an RF mixer is not recommended because the TV signals interfere with each other. An RF selector is available to switch analogue and digital TV signal.
 - If you use an RF selector, switch it whenever you select between Digital TV and Analogue TV.

■ DVD Recorder / Blu-ray Recorder, etc.



- 1 Aerial terminal
- 2 RF cable
- 3 DVD Recorder / Blu-ray Recorder, etc.
- 4 Aerial
- 5 HDMI terminal
- 6 HDMI cable

■ Set top box



1 HDMI terminal

2 HDMI cable

3 Set top box

4 Satellite dish

= Note =

- 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.
- Use a high speed HDMI cable for high resolution images.
- Use a Premium High Speed HDMI cable for HDR images.
- Use a Ultra High Speed HDMI cable and connect to HDMI1 or HDMI2 for 4K high frame rate (120 Hz) images.
- Check the terminal type and cable plugs are correct for connection.

Selecting channel

1. Select the mode with **TV**.

Digital TV / Analogue TV

- The selected mode is displayed on the top left of the screen.
- If you use an RF selector, switch it whenever you switch between Digital TV and Analogue TV.

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 **LIST**.
2. Select a channel from the list and press **OK** to watch.

■ 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

- Not valid in Analogue TV

1. Display **TV Guide** with **GUIDE**.
2. Select the current programme and press **OK** to access.
3. Select **View** and press **OK** to watch.

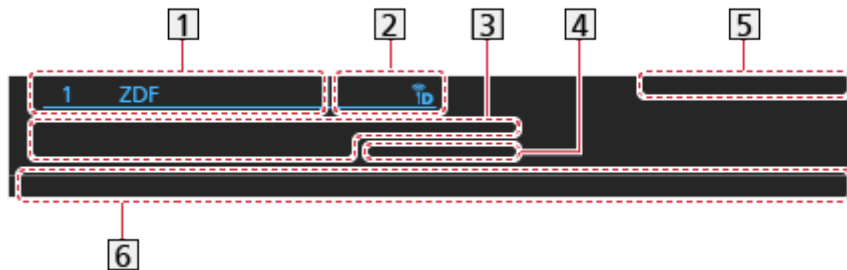
 → Watching > TV Guide > Using TV Guide



Information banner

Display information banner with .

- Also appears when changing a channel.

(Example)



- 1** Channel position and name
- 2** Channel type (Radio, etc.) / Encrypted channel () / TV mode ()
- 3** Programme
 - Start time / End time (Digital TV)
 - Channel position, etc. (Analogue TV)
- 4** Category
- 5** Date and time
- 6** Features available / message meanings

XXX ——— 1	1 Input mode
1 ——— 2	2 Channel position
CH08 ——— 3	3 Channel number
XXX ——— 4	4 Sound system
XXX ——— 5	5 Colour system
XXX ——— 6	6 Aspect ratio

- This banner is displayed depending on the country you select.

- The following icons and message are displayed on the bottom of the screen.

Rating:

Rating information

- For Thailand, Singapore, United Arab Emirates, Saudi Arabia, Kuwait

 → [Functions](#) > [Child Lock](#) > [Parental Rating](#)

Bad signal:

Poor quality TV signal

DD, DD+, DAC4, HE-AAC:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos 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



Multiple image or audio available



Teletext service available

∞, I, II, ▽ :

Audio mode

 → [Watching](#) > [For best audio](#) > [Advanced settings](#)



Data service (Hybrid Broadcast Broadband TV application) available













- For Singapore, Malaysia

 → [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

- Information on the next programme (Digital TV)

- Extra information (Digital TV)

 - Press again to hide the banner.
- To hide the banner

- To update the TV software (if available)
 (red)
- To select a favourite list (Digital TV)
 → Home > Live TV > Option menu
 - If the favourite list is created in [Favourites Edit](#).
 → Watching > Tuning and editing channels > Favourites Edit
- To adjust banner timeout, set [Banner Display Timeout](#).
 - 1) Display the menu with , select [Main Menu](#) and press  to access.
 - 2) Select [Setup](#) > [Display Settings](#) > [Banner Display Timeout](#) and press  to access.
 - 3) Set the item and press  to store.


AV Options

Confirm or change the current status.

- Display the image full-screen to use this function.
1. Display the option menu with **OPTION**.
 2. Select **AV Options** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
[Audio Description](#) / [Multi Video](#) / [Multi Audio / AD](#) / [Dual Audio](#) / [Subtitle Language](#) / [Teletext Character Set](#) / [MPX](#) / [Volume Correction](#)
 - The function items vary depending on the TV mode.
 4. Set the item and press **OK** to store.
-

Audio Description

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

- For Digital TV
 - 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 Digital TV
-

Multi Audio / AD

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 Digital TV
-

Dual Audio

Selects stereo / monaural (if available).

- For Digital TV
-

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 Digital TV
-

Teletext Character Set

Sets the teletext language font.

 → Watching > Teletext > Teletext Character Set

MPX

Selects multiplex sound mode (if available).

 → Watching > For best audio > Advanced settings

- For Analogue TV
-

Volume Correction

Adjusts the volume of each individual channel or input mode.

Subtitle

Display / hide subtitles (if available) with **STTL**.

- You can also display / hide subtitles from **Subtitle** in the menu.
 - 1) Display the menu with **MENU**.
 - 2) Select **Subtitle**, press **OK** and follow the on-screen instructions.
- For Digital TV
- To select the preferred language for digital TV subtitles (if available), set **Preferred Subtitles**.

 → **Watching > Basic > Language**

- For Thailand, Singapore, Vietnam, Malaysia, Indonesia, Myanmar

- To select the preferred subtitle type
 - 1) Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 - 2) Select **Setup > Display Settings > 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 digital channel subtitles (depending on the broadcaster).
- **Preferred Subtitles 1 / 2** in Language are given priority.

 → **Watching > Basic > Language**

- For United Arab Emirates, Saudi Arabia, Kuwait

= 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.

Off Timer


Switch to TV Standby mode automatically after a fixed period.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
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.

■ On Timer

1. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
2. Select [Timer](#) > [On Timer](#) and press **OK** to access.
3. Set [On Timer](#) to [Off](#) to continue the settings.
4. Set the item and press **OK** to store.

[On Timer](#)

Automatically turns the TV on at the set time with the preset channel, volume, etc.

Set to [Off](#) to edit the timer details or disable this function.

- LED lights orange in Standby mode when [On Timer](#) is set to [On](#).

[Repeat](#)

Selects the day to repeat the set timer function.

- To cancel the repeat, disable all days.

[Time](#)

Sets the time to turn the TV on.

[Time Voice Guidance](#)

Sets the voice guidance of timer function.

Volume

Sets the volume when the TV is turned on by the set timer function.

my Scenery/TV/Input

Selects TV mode when the TV is turned on by the set timer function.

Channel

Selects a channel when the TV is turned on by the set timer function.

= Note =

- TV turns on at the set time and turns off automatically after 60 minutes by off timer function. Set **Off Timer** to **Off** to keep watching the TV.
- The timer function is activated every day of the week which is set in **Repeat**. When **Repeat** is not set, **On Timer** switches to **Off** after TV is turned on automatically.
- This function is not available when the TV is turned off with Mains Power On / Off switch.

■ Auto Standby

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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**, select **Main Menu** and press **OK** to access.
 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

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Setup > Eco Navigation** and press **OK** to access.
 3. Select **Set to Eco** and press **OK** to set.
-

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.

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

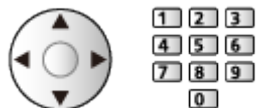
Adjusting time

Settings for the system time of this TV

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Timer** > **Clock Settings** and press **OK** to access.
3. Select one of the following items and press **OK** to access.

Mode / Date / Time / Time Zone

4. Set with **Cursor buttons** or **Numeric buttons**, and press **OK** to store.



Mode

(Auto / Manual)

Selects the clock setting mode for this TV.

- Set to **Auto** to adjust the time automatically using the time information from the digital broadcast. Set to **Manual** to adjust manually.

Date

Sets the current date manually.

Time

Sets the current time manually.

Time Zone

Adjusts the time data.

- The time data are corrected based on GMT.

Language

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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](#) / [Preferred Audio 1 / 2](#) / [Preferred Subtitles](#) / [Preferred Subtitles 1 / 2](#) / [Preferred Guide Language](#)
 4. Set the item and press **OK** to store.
-

OSD Language

Changes language for on-screen displays.

Preferred Audio

Selects the preferred language for digital channel multi audio (depending on the broadcaster).

- For Thailand, Singapore, Vietnam, Malaysia, Indonesia, Myanmar
-

Preferred Audio 1 / 2

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

- For United Arab Emirates, Saudi Arabia, Kuwait
-

Preferred Subtitles

Selects the preferred language for digital channel subtitles (depending on the broadcaster).

- To display subtitles

 → **Watching > Basic > Subtitle**

- For Thailand, Singapore, Vietnam, Malaysia, Indonesia, Myanmar
-

Preferred Subtitles 1 / 2

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

- To display subtitles

 → **Watching > Basic > Subtitle**

- For United Arab Emirates, Saudi Arabia, Kuwait
-

Preferred Guide Language

Selects the preferred language for the information banner and TV Guide (if available).

- For Singapore

EWS Settings

The EWS (Early Warning System) sends the information for disasters based on the postcode via broadcasting.

- Indonesia only

■ EWS Postcode

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Setup** > **EWS Settings** > **EWS Postcode** and press **OK** to access.
3. Enter the postcode (5 digits) with **Numeric buttons**.



4. Press **BACK** to store.

4K resolution

4K-compatible equipment

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

- For details of valid 4K format

 → [Watching > 4K resolution > Valid 4K format](#)

- Connect the 4K-compatible equipment to HDMI terminal using a 4K-compatible cable and you can watch content in 4K format.
- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting cables.

■ 4K-compatible equipment



1 HDMI terminal

2 HDMI cable

3 4K-compatible equipment

- Check the terminal type and cable plugs are correct for connection.
- Use a fully wired HDMI compliant cable.
- Use a high speed HDMI cable for high resolution images.
- Use a Premium High Speed HDMI cable for HDR images.
- Use a Ultra High Speed HDMI cable and connect to HDMI1 or HDMI2 for 4K high frame rate (120 Hz) images.

HDMI Auto Setting

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Setup > HDMI Auto Setting** and press **OK** to access.
 3. Set the item and press **OK** to store.
-

HDMI Auto Setting

([Mode1](#) / [Mode2](#) / [Mode3](#))

Reproduces the image more precisely with the expanded colour gamut and more smoothly with the high frame rate when connecting the 4K-compatible equipment. [Mode2](#) is a mode that supports higher definition signals than [Mode1](#). [Mode3](#) is a mode that supports higher frame rate signals than [Mode2](#). Set to [Mode1](#) when the image or sound in HDMI input is not played properly.

[Mode1](#):

For high compatibility. Set to [Mode1](#) when the image or sound in HDMI input is not played properly.

[Mode2](#):

For the 4K-compatible equipment that has the function to output the image precisely with the expanded colour gamut

[Mode3](#):

For the 4K 120 Hz-compatible equipment that has the function to output the high frame rate image (This mode is available for HDMI1 / HDMI2.)

- The setting can be stored for each HDMI input.
- Valid format (4K)
 - [Mode1](#): 4:4:4 / 4:2:2 (30p, 25p, 24p), 4:2:0 (60p, 50p)
 - [Mode2](#): 4:4:4 / 4:2:2 (30p, 25p, 24p), 4:4:4 / 4:2:2 / 4:2:0 (60p, 50p)
 - [Mode3](#): 4:4:4 / 4:2:2 (30p, 25p, 24p), 4:4:4 / 4:2:2 / 4:2:0 (120p, 100p, 60p, 50p)

Valid 4K format

■ Valid 4K format (HDMI)

- 4K UHD

3 840 × 2 160 (120p, 100p, 60p, 50p, 30p, 25p, 24p)

- Aspect is fixed to **16:9**.
-

= Note =

- The above signals are reformatted for optimal viewing on your display.
- Use HDMI1 / HDMI2 for the following 4K format.
 - 4K UHD 50 Hz / 60 Hz 4:4:4 (10 bit / 12 bit)
 - 4K UHD 100 Hz / 120 Hz
- For details of aspect

 → [Watching > For best picture > Aspect](#)

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

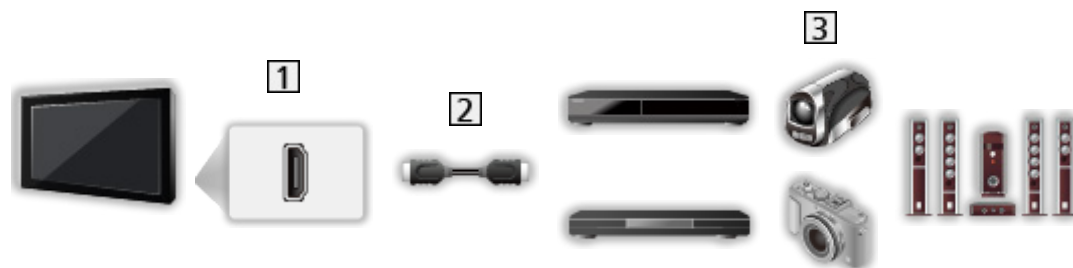
 → [Watching > Basic > Basic connection](#)

- To use the specific devices supporting Bluetooth wireless technology

 → [Functions > Bluetooth devices](#)

- Check the terminal type and cable plugs are correct for connection.
- External equipment and cables shown are not supplied with this TV.
- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting cables.

■ HDMI equipment



1 HDMI terminal

2 HDMI cable

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

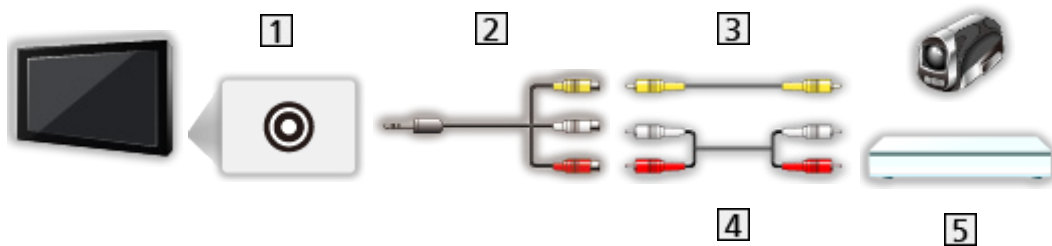
= Note =

- Use a fully wired HDMI compliant cable.
- Use a high speed HDMI cable for high resolution images.
- Use a Premium High Speed HDMI cable for HDR images.
- Use a Ultra High Speed HDMI cable and connect to HDMI1 or HDMI2 for 4K high frame rate (120 Hz) images.
- For details of VIERA Link connections

 → [Functions > VIERA Link "HDAVI Control™" > Summary of VIERA Link](#)

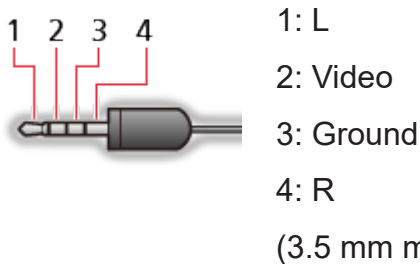
- Use HDMI2 to connect the TV to an amplifier which has eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel) function.
- Use HDMI1 / HDMI2 to connect the device that supports 4K high frame rate (120 Hz), VRR (Variable Refresh Rate), AMD FreeSync Premium function.

■ AV devices connecting to TV with AV (VIDEO) adaptor (not supplied)



1 AV IN (VIDEO) terminals

2 AV (VIDEO) adaptor (Shielded / not supplied)



3 Composite cable (Shielded)

- Use shielded composite cable.

4 Audio cables (Shielded)

- Use shielded audio cables.

5 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 1 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 OUT

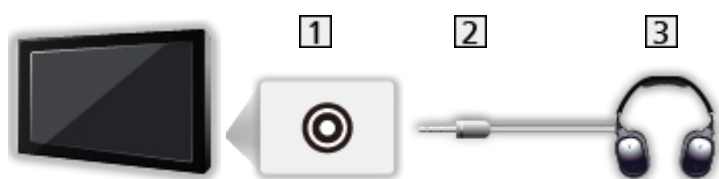
2 Optical digital audio cable

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 the volume, set [TV Speaker Setting](#).

 → [Watching > For best audio > Volume settings](#)




■ Headphones



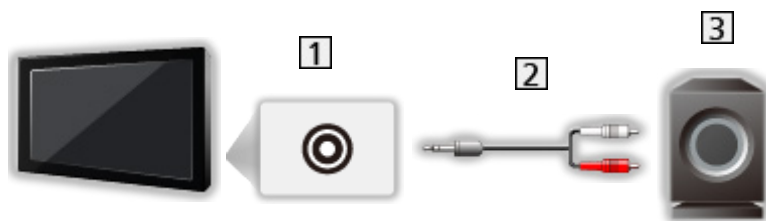
1 Headphone / Subwoofer jack

2 3.5 mm stereo mini plug

3 Headphones

- To use headphones, set [Headphone Terminal Output](#) to [Headphone](#).
 → [Watching > For best audio > Headphone terminal output setting](#)
- Do not connect a sub woofer while [Headphone Terminal Output](#) is set to [Headphone](#).
- To adjust the volume, set [Headphone Volume](#).
 → [Watching > For best audio > Headphone terminal output setting](#)
- To select the sound output to adjust the volume, set [TV Speaker Setting](#).
 → [Watching > For best audio > Volume settings](#)



■ Sub woofer



1 Headphone / Subwoofer jack

2 Audio cable (3.5 mm stereo mini plug - audio pin plug)

3 Sub woofer

- To use a sub woofer, set [Headphone Terminal Output](#) to [Sub Woofer](#).
 → [Watching > For best audio > Headphone terminal output setting](#)
- Do not connect headphones while [Headphone Terminal Output](#) is set to [Sub Woofer](#).
- To adjust the volume, set [Sub Woofer Adjustment](#).
 → [Watching > For best audio > Headphone terminal output setting](#)
- The volume of the sub woofer can be also controlled when adjusting the volume of this unit with this TV's remote control.

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 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**, select [Main Menu](#) and press **OK** to access.
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](#).

■ Playing Time Display

Set to **On** to display a time period of continuous use in Game Mode on the top right of the screen every 30 minutes.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Setup** > **Display Settings** > **Playing Time Display** and press **OK** to access.
3. Select **On / Off** and press **OK** to set.
 - This function is available when **Game Mode** is set to **On**.

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)

Press and hold to search backward (DVD / video content)



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

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

Press and hold to 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, in-house streaming 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:

LPCM, Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby TrueHD), Dolby Atmos

- 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
- Deep Colour
- eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel)
 - eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel) are functions to send digital sound signals via an HDMI cable.
- x.v.Colour™
- 4K

 → [Watching > 4K resolution > Valid 4K format](#)

- VRR (Variable Refresh Rate) / AMD FreeSync Premium

- VRR (Variable Refresh Rate) / AMD FreeSync Premium provides smoother gaming experience with low latency and without image stuttering or tearing.

- For HDMI1 / 2

■ 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.

- Depending on the model, AV (VIDEO) adaptor (not supplied) may be necessary to connect to the audio input 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 analogue input terminals to receive analogue signals.
- This TV incorporates HDMI™ technology.

HDMI HDR Setting

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Setup > HDMI HDR Setting** and press **OK** to access.
 3. Set the item and press **OK** to store.
-

HDR Setting

(Dynamic / Static / Off)

Set to **Dynamic** or **Static** when the HDR device is connected to the TV.

- Please turn **Off** this function if the image looks unnatural. This may occur in some cases such as compatibility with the connected device or source images.
 - Image may disappear for a few seconds when the setting is changed.
 - For HDMI
-

HDR Dynamic Setting

HDR10+ Functionality

(On / Off)

Enables the HDR10+ function for HDMI input signal.

Dolby Vision

(Mode1 / Mode2 / Off)

Mode1:

Allows Dolby Vision processing to occur either on the TV or the source device mainly.

Mode2:

Allows Dolby Vision processing to occur mainly on the source device.

Off:

Disables Dolby Vision functionality.

= Note =

- Supporting HDR does not increase the peak brightness capabilities of the TV panel.

HDMI Signal Power Link Setting

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Setup** > **HDMI Signal Power Link Setting** and press **OK** to access.
 3. Set the item and press **OK** to store.
-

HDMI Signal Power Link Setting

Power on Link

(On / Off)

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

Power off Link

(On / Off)

When the connected equipment of the current input is turned off, the TV is turned off automatically.

Link Terminal

Selects HDMI terminal to use the power link function.

Valid input signals

■ HDMI

Signal name
525 (480) / 60p
625 (576) / 50p
750 (720) / 60p, 50p
1 125 (1 080) / 60i, 50i
1 125 (1 080) / 120p, 100p, 60p, 50p, 24p
3 840 × 2 160 / 120p, 100p, 60p, 50p, 30p, 25p, 24p

= Note =

- Signals other than those above may not be displayed properly.
- The above signals are reformatted for optimal viewing on your display.
- For details of valid 4K format

 → [Watching > 4K resolution > Valid 4K format](#)

For best picture

Viewing Mode

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Picture > Viewing Mode** and press **OK** to access.
 3. Select the mode and press **OK** to set.
-

Viewing Mode

([Dynamic](#) / [Auto AI](#) / [Normal](#) / [Professional Photo](#) / [Cinema](#) / [Filmmaker](#) / [True Cinema](#) / [Custom](#) / [Professional1](#) / [Professional2](#) / [Sport](#) / [Game](#) / [Dolby Vision Vivid](#) / [Dolby Vision IQ](#) / [Dolby Vision Dark](#))

Selects your favourite picture mode for each input.

[Dynamic](#):

Improves contrast and sharpness for viewing in a bright room.

[Auto AI](#):

Adjusts the luminance, colour temperature, shades of black, etc. to suit your watching environment.

- To adjust the effect level, set [Auto AI – Picture Effect Level](#).

[Normal](#):

Normal use for viewing in a normal lighting condition.

[Professional Photo](#):

Reproduces the original image for photo.

- For photo content

[Cinema](#):

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

[Filmmaker](#):

Reproduces the original image quality precisely. Reacts to room brightness.

[True Cinema](#):

Reproduces the original image quality precisely without any revision.

[Custom](#):

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

Professional1 / 2:

Allows you to set and lock the professional picture settings.

 → Watching > For best picture > Advanced Settings

- If a certified professional dealer sets these modes, **Professional1** and **Professional2** may be displayed as **isf Day** and **isf Night**.

Sport:

Improves picture quality for watching sports, etc.

- The sound mode is automatically set to **Stadium** when **Viewing Mode** is set to **Sport**. To cancel the linkage of the sound and viewing mode, set **Sport Link** to **Off**.

 → Watching > For best audio > Basic settings

Game:

Improves picture quality for playing games, etc.

- For HDMI, AV
- **Game Mode** is automatically set to **On** when **Viewing Mode** is set to **Game**.

 → Watching > For best picture > Option Settings

Dolby Vision Vivid:

Reproduces Dolby Vision content precisely in a bright room.

Dolby Vision IQ:

Automatically adjusts to reproduce Dolby Vision content according to the content, lighting condition, etc.

Dolby Vision Dark:

Reproduces Dolby Vision content precisely in a darkened room.

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

Luminance Level / Contrast / Brightness / Colour / Tint / Sharpness / Colour Temperature / Colour Remaster / Rec.2020 Colour Remaster / Ambient Sensor / Noise Reduction / MPEG Remaster / Resolution Remaster / Dynamic Range Remaster / Intelligent Frame Creation

- This function can be memorised respectively for input or TV mode.
- **Viewing Mode** is fixed to **my Scenery** when my Scenery is displayed.

■ Netflix Calibrated Mode

Reproduces the image quality based on the professional monitor settings while watching Netflix.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Picture** > **Netflix Calibrated Mode** and press **OK** to access.
3. Select **On / Off** and press **OK** to set.
 - **Ambient Sensor** is not available and **Viewing Mode** is fixed to **Netflix** when **Netflix Calibrated Mode** is set to **On**.
 - For Netflix content

■ Auto AI – Picture Effect Level

Adjusts the effect level when **Viewing Mode** is set to **Auto AI**. The effect level is automatically higher when setting high.

- This function is available when **Viewing Mode** is set to **Auto AI**.
1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Picture** > **Auto AI – Picture Effect Level** and press **OK** to access.
 3. Set the item and press **OK** to store.

■ To change the viewing mode with **PICTURE**

You can change the viewing mode easily only by pressing **PICTURE**.

1. Display **Viewing Mode** with **PICTURE**.
2. Select the mode and press **OK** to set.
 - You can also change the mode by pressing **PICTURE**.
(Press repeatedly until you reach the desired mode.)
 - To set the viewing mode selection
 - 1) Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 - 2) Select **Picture** > **PICTURE Button Setting** and press **OK** to access.
 - 3) Select the viewing mode to set.

Aspect

Changes the aspect ratio (image size).

■ To change the aspect ratio manually

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Picture** > **Screen Settings** and press **OK** to access.
3. Select **Aspect** and press **OK** to access.
4. Set the item and press **OK** to store.

Auto:

The best ratio is selected automatically (if available).

16:9:

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

14:9:

Displays the image at the standard 14:9 without distortion.

- Malaysia only

Just:

Displays a 4:3 image full-screen. Stretching is only noticeable at right and left edges.

4:3:

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

Zoom:

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

4:3 Full:

Displays a 4:3 image enlarged horizontally to fit the screen.

= Note =

- Display the image 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 **Auto** when **Viewing Mode** is set to **Filmmaker**.
- Aspect is fixed to **16:9** in the following conditions:
 - **Game Mode** is set to **On**.
 - **1080p Pure Direct** is set to **On**.
 - **4K Pure Direct** is set to **On**.

Basic settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Picture** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
[Luminance Level](#) / [Contrast](#) / [Brightness](#) / [Colour](#) / [Tint](#) / [Sharpness](#) / [Colour Temperature](#) / [Colour Remaster](#) / [Rec.2020 Colour Remaster](#) / [Resolution Remaster](#) / [Dynamic Range Remaster](#) / [Intelligent Frame Creation](#)
 4. Set the item and press **OK** to store.
-

[Luminance Level](#), [Contrast](#), [Brightness](#), [Colour](#), [Tint](#), [Sharpness](#)

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

- [Sharpness](#) is not available when [Viewing Mode](#) is set to [Dolby Vision IQ](#).
-

[Colour Temperature](#)

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

- Not valid when [Viewing Mode](#) is set to [Dolby Vision IQ](#)
-

[Colour Remaster](#)

([Max](#) / [Min](#) / [Off](#))

Displays the vivid images with the expanded colour gamut.

- Not valid when [Viewing Mode](#) is set to the mode of [Dolby Vision](#)
-

[Rec.2020 Colour Remaster](#)

([On](#) / [Off](#))

Displays the vivid images with the suitable colour gamut.

- Not valid when [Viewing Mode](#) is set to the mode of [Dolby Vision](#)
 - This function is available only for Rec. 2020 and displayed instead of [Colour Remaster](#).
-

[Resolution Remaster](#)

([Auto](#) / [Max](#) / [Mid](#) / [Min](#) / [Off](#))

Enhances picture resolution to make the image sharper.

- Not valid when [Viewing Mode](#) is set to [Dolby Vision IQ](#)
-

Dynamic Range Remaster

(On / Off)

Enhances bright areas of the image closer to the original luminance making improved picture impact.

- Not valid in the following conditions:
 - HDR video signal
 - **Viewing Mode** is set to **Sport** or the mode of Dolby Vision.
-

Intelligent Frame Creation

(Custom / Max / Mid / Min / Off)

Automatically compensates the picture frame rate and removes juddering movements to make the images smooth.

- Depending on the content, images may be noisy. To prevent the noise, change the setting.
- Select **Custom** to set **Intelligent Frame Creation** manually.

Blur Reduction:

Adjusts the smoothness of camera content to minimise blur.

Film Smooth:

Adjusts the smoothness of film content.

Reset to Defaults:

Resets items for **Intelligent Frame Creation**.

- Not valid in the following conditions:
 - **Game Mode** is set to **On**.
 - **1080p Pure Direct** is set to **On**.
 - **4K Pure Direct** is set to **On**.
 - Photo content
 - **Viewing Mode** is set to **Dolby Vision IQ**.
 - 120 Hz video signal from 120 Hz-compatible equipment

Black Frame Insertion:

Makes the blurring image clearer for video content, etc.

- When **Game Mode** is set to **On** in HDMI input with the equipment supporting VRR function, the input lag may occur.
- Not valid in the following conditions:
 - Photo content
 - **VRR** is set to **On**.

Ambient Sensor

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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.

- This function may not be available when **Viewing Mode** is set to the mode of Dolby Vision.
- Not valid for HDR video signal

Noise reduction settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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 in the following conditions:
 - **Game Mode** is set to **On**.
 - **1080p Pure Direct** is set to **On**.
 - **4K Pure Direct** is set to **On**.
 - **Viewing Mode** is set to **Dolby Vision IQ**.
-

MPEG Remaster

(Auto / Max / Mid / Min / Off)

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

- Not valid in the following conditions:
 - **Game Mode** is set to **On**.
 - **1080p Pure Direct** is set to **On**.
 - **4K Pure Direct** is set to **On**.
 - **Viewing Mode** is set to **Dolby Vision IQ**.

Advanced Settings

You can adjust and set up the detailed picture settings when **Viewing Mode** is set to **Professional Photo**, **Cinema**, **Filmmaker**, **True Cinema**, **Custom**, **Professional1 / 2**, **Game**, **Dolby Vision IQ** or **Dolby Vision Dark**.

 → **Watching > For best picture > Viewing Mode**

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

Professional Photo / Cinema / Filmmaker / True Cinema / Custom / Professional1 / Professional2 / Game / Dolby Vision IQ / Dolby Vision Dark

■ Adjust the detailed picture settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
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 / Photo Colour Gamut / White Balance / Colour Management / Gamma / Dynamic HDR Effect / HDR Tonemap / 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.

- Not valid in the following conditions:
 - **Viewing Mode** is set to **Filmmaker**.
 - **Tonemap** is set to **Off**.

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 / Photo Colour Gamut

Colour Gamut

([Native](#) / [Rec. 709](#) / [SMPTE-C](#) / [EBU](#) / [Rec. 2020](#) / [DCI-P3](#))

Reproduces image colour precisely according to the colour gamut standards.

Native:

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

Rec. 709:

Standard for HD (High definition)

SMPTE-C:

Standard for NTSC

EBU:

Standard for PAL

Rec. 2020:

Provides the suitable colour gamut for [Rec. 2020](#).

DCI-P3:

Provides the suitable colour gamut for DCI.

- Set [Colour Remaster](#) to [Off](#) to use this function.
- Set [Rec.2020 Colour Remaster](#) to [Off](#) to use this function for the Rec. 2020 signal.
- Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision

Photo Colour Gamut

(Auto / sRGB / Adobe / Rec. 2020)

Auto:

Automatically adjusts the colour gamut according to the input signal.

sRGB:

Standard for sRGB

Adobe:

Standard for AdobeRGB

Rec. 2020:

Provides the suitable colour gamut for Rec. 2020.

- Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision

■ White Balance

R-Gain / G-Gain / B-Gain

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

R-Cutoff / G-Cutoff / B-Cutoff

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

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 components.

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.

[C-Luminance / M-Luminance / Y-Luminance:](#)

Adjusts the luminance 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.

■ Dynamic HDR Effect

Dynamic HDR Effect

([On](#) / [Off](#))

Automatically adjusts the luminance according to an HDR video signal.

- Not valid in the following conditions:
 - [Viewing Mode](#) is set to the mode of Dolby Vision.
 - [Tonemap](#) is set to [Off](#).

■ HDR Tonemap

Tonemap

(On / Off)

Automatically controls tonemap with content meta data.

- Not valid when [Viewing Mode](#) is set to [Dolby Vision IQ](#) or [Dolby Vision Dark](#)
-

Clipping Threshold

Adjust clipping luminance (nit) of tonemap.

Reset to Defaults

Resets [HDR Tonemap](#) to the default settings.

■ Reset to Defaults

Reset to Defaults

Resets [Advanced Settings](#) to the default settings.

Option Settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Picture** > **Option Settings** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
Game Mode / ALLM / VRR / Film Cadence Mode / 1080p Pure Direct / 4K Pure Direct / HDMI Content Type / HDMI EOTF Type / HDMI Colorimetry Type / HDMI RGB Range / HDMI YCbCr Range / EOTF Type / AV Colour System / 3D-COMB
 4. Set the item and press **OK** to store.
-

Game Mode

(On / Off)

Provides suitable images for fast response signals when playing games.

- To display a continuous record of time spent using Game Mode, set **Playing Time Display**.
 - Not valid in the following conditions:
 - TV mode
 - **1080p Pure Direct** is set to **On**.
 - **4K Pure Direct** is set to **On**.
 - **Viewing Mode** is set to **Dolby Vision IQ**.
 - **VRR** is set to **On**. (**Game Mode** is fixed to **On**.)
-

ALLM

(On / Off)

Automatically switches the TV to Game Mode according to the ALLM information when using this TV in single window mode.

- Not valid in the following conditions:
 - **HDMI Auto Setting** is set to **Mode1**.
-

VRR

(On / Off)

Provides smoother gaming experience with low latency and without image stuttering or tearing. Set to **On** to enable VRR (Variable Refresh Rate) and AMD FreeSync Premium function when the equipment supporting VRR / AMD FreeSync Premium function is connected to this TV.

- For HDMI1 / 2
 - Not valid in the following conditions:
 - **HDMI Auto Setting** is set to **Mode1** or **Mode2**.
 - **Viewing Mode** is set to **Dolby Vision Vivid**, **Dolby Vision IQ** or **Dolby Vision Dark**.
-

Film Cadence Mode

(Auto / On / Off)

Improves vertical resolution for movie images.

- This function is available for interlaced signals (except in Network services or when **Game Mode** is set to **On**).
-

1080p Pure Direct

(On / Off)

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

- Not valid in the following conditions:
 - **Game Mode** is set to **On**.
 - **Viewing Mode** is set to the mode of Dolby Vision.
-

4K Pure Direct

(On / Off)

Reproduces the original image quality in detail for 4K (HDMI) input signal.

- Not valid in the following conditions:
 - **Game Mode** is set to **On**.
 - **Viewing Mode** is set to the mode of Dolby Vision.
 - 4K 120 Hz 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
 - Not valid when [Viewing Mode](#) is set to [Professional Photo](#) or the mode of Dolby Vision
-

HDMI EOTF Type

([Auto](#) / [Traditional gamma](#) / [HLG](#) / [PQ](#))

Selects the EOTF type for each HDMI input. Set to [Auto](#) for general use.

- For HDMI
 - HDR10+ function is available when [HDMI EOTF Type](#) is set to [Auto](#).
 - Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision
-

HDMI Colorimetry Type

([Auto](#) / [Rec. 601](#) / [Rec. 709](#) / [Rec. 2020](#))

Selects the colourimetry type for each HDMI input.

- For HDMI
 - Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision
-

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
 - Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision
-

HDMI YCbCr Range

(Full / Normal)

Adjusts the black level of the image in the YCbCr signal for each HDMI input.

- For HDMI
 - Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision
-

EOTF Type

(Auto / Traditional gamma / HLG / PQ)

Selects the EOTF type of broadcast or video content.

It works correctly only when the signal corresponds to each EOTF type. Set to [Auto](#) for general use.

- Automatically switches to [Auto](#) for broadcast each time another input / channel is selected.
 - For Digital TV, video content
 - HDR10+ function is available when [EOTF Type](#) is set to [Auto](#).
 - Not valid when [Viewing Mode](#) is set to the mode of Dolby Vision
-

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 analogue connection

Screen Settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Picture > Screen Settings** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
Aspect / 16:9 Overscan / Zoom Adjustments / Screen Display / Pixel Orbiter / Logo Luminance Control / Panel Maintenance / Panel Maintenance Message
 4. Set the item and press **OK** to store.
-

Aspect

Changes the aspect ratio (image size).

 → **Watching > For best picture > Aspect**

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 in the following conditions:
 - Photo content
 - **Game Mode** is set to **On**.
 - 4K content
 - **1080p Pure Direct** is set to **On**.
 - **4K Pure Direct** is set to **On**.
-

Zoom Adjustments

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

- Not valid for 4K content
-

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.
-

Pixel Orbiter

(On / Off)

Sets the pixel shifting of the image to prevent panel “image retention”.

Logo Luminance Control

(Max / Mid / Min)

Adjusts the luminance level of the displayed logo to prevent panel “image retention”.

Panel Maintenance

Turns the screen off and perform the maintenance to prevent the panel “image retention”.

- It takes approx. 80 minutes to finish the maintenance.
 - LED lights orange during adjustment of the panel.
 - To cancel the maintenance, turn the TV on while the maintenance is in progress.
 - A white horizontal line appears on the screen for a while to adjust the panel. This is not a malfunction.
 - Completion message will be displayed when turning the TV on after panel maintenance.
-

Panel Maintenance Message

(On / Off)

Enables to display the regular panel maintenance notification.

On:

The message automatically displays for maintenance when the TV is turned off with Standby On / Off switch of the TV’s remote control after watching for a certain period of time.

Off:

The message does not display. Select **Panel Maintenance** and perform the panel maintenance manually. (See above.)

Lock Settings

Locks the settings of [Professional1 / 2 / Dolby Vision IQ / Dolby Vision Dark](#) for each input.

- Select [Professional1 / Professional2 / Dolby Vision IQ / Dolby Vision Dark](#) in Viewing Mode in advance.

 → [Watching](#) > [For best picture](#) > [Viewing Mode](#)

1. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
2. Select [Picture](#) > [Lock Settings](#) 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.
4. Select [Adjustment Lock](#) and press **OK** to access.
 5. Select [On](#) and press **OK** to set.

- The following items can be locked.

[Luminance Level](#) / [Contrast](#) / [Brightness](#) / [Colour](#) / [Tint](#) / [Sharpness](#) /
[Colour Temperature](#) / [Resolution Remaster](#) / [Dynamic Range Remaster](#) /
[Black Frame Insertion](#) / [Advanced Settings](#) / [Reset to Defaults](#)

■ To change the PIN number

1. Select [Change PIN](#) and press **OK** to access.
2. Enter a new PIN number twice with **Numeric buttons**.



Copy Adjustment

Copies the picture settings of [Filmmaker](#), [True Cinema](#), [Custom](#), [Professional1](#), [Professional2](#), [Game](#), [Dolby Vision IQ](#) or [Dolby Vision Dark](#) to those of the other input mode or Viewing Mode.

1. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
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.
- You cannot copy to the locked mode.

For best audio

Sound mode

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

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

Mode

(Auto AI / Standard / Music / Speech / Stadium / User)

Selects your favourite sound mode for each input.

Auto AI:

Adjusts the sound quality to suit your watching environment.

- To adjust the effect level, set **Auto AI – Sound Effect Level**.

Standard:

Provides the suitable sound quality for all types of scenes.

Music:

Improves sound quality for watching music videos, etc.

Speech:

Improves sound quality for watching news, drama, etc.

Stadium:

Improves sound quality for watching sports, etc.

- The sound mode is automatically set to **Stadium** when **Viewing Mode** is set to **Sport**. To cancel the linkage of the sound and viewing mode, set **Sport Link** to **Off**.

 → **Watching > For best audio > Basic settings**

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.

■ Auto AI – Sound Effect Level

Adjusts the effect level when **Mode** is set to **Auto AI**. Setting low is close to the standard sound and high can provide a dynamic sound effect.

- This function is available when **Mode** is set to **Auto AI**.
1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** > **Auto AI – Sound Effect Level** and press **OK** to access.
 3. Set the item and press **OK** to store.

Basic settings

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

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
Bass / Treble / Equaliser / Balance / Dolby Atmos / Sound Field Creation / Voice Enhancer / Surround / Bass Boost / Sport Link
 4. Set the item and press **OK** to store.
-

Bass

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

- Not valid when **Mode** is set to **Auto AI**
-

Treble

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

- Not valid when **Mode** is set to **Auto AI**
-

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 the volume level of speakers.

L/R:

Adjusts the volume level of Front / Surround Left, Upward-firing Left speakers and Front / Surround Right, Upward-firing Right speakers.

Center:

Adjusts the volume level of centre speaker and other speakers.

Up/Down:

Adjusts the volume level of Upward-firing speakers and other speakers.

Reset to Defaults:

Resets **Balance** to the default settings.

- Not valid when **Mode** is set to **Auto AI**
-

Dolby Atmos

(On / Off)

Provides the precise sound of Dolby Atmos when playing Dolby Atmos content. Set to **On** for general use.

- Not valid when **Mode** is set to **Auto AI**
-

Sound Field Creation

(Talk / Standard / Theater / Live / Sport / Direct Through)

Selects your favourite sound field setting.

- Not valid in the following conditions:
 - Dolby Atmos content
 - **Mode** is set to **Auto AI** or **Music**.
-

Voice Enhancer

Adjusts the volume level for speech, etc. for inputs other than Dolby Atmos input.

- Not valid in the following conditions:
 - **Mode** is set to **Auto AI** or **Music**.
 - **Sound Field Creation** is set to **Direct Through**.
-

Surround

(Dolby Surround / Cinema Surround Pro / Cinema Surround / Stadium Surround / Off)

Selects surround sound settings.

Dolby Surround:

Provides a surround sound just like the Dolby Atmos content for all input.

Cinema Surround Pro:

Provides a more progressive sound for watching a film by improving spatial effects.

Cinema Surround:

Provides a suitable sound for watching a film by improving spatial effects.

Stadium Surround:

Provides a dynamic sound for watching sports by improving spatial effects.

- This function is effective only for the sound from TV speakers.
 - Not valid for Dolby Atmos content
-

Bass Boost

(On / Off)

Enhances the effect of bass sounds.

- This function is effective only for the sound from TV speakers.
 - Not valid when **Mode** is set to **Auto AI** or **Music**
-

Sport Link

(On / Off)

Automatically sets the sound mode to **Stadium** when **Viewing Mode** is set to **Sport**.

Volume settings

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

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
Space Tune Setting / Speaker Selection / TV Speaker Setting / Auto Gain Control / Volume Correction / Clear Sound Adjustment / Dialogue Enhancement
 4. Set the item and press **OK** to store.
-

Space Tune Setting

Adjusts the sound quality automatically according to the installation location or room condition.

Space Tune

(On / Off)

Enables the sound setting which has been adjusted by **Space Tune Adjustment**.

Space Tune Adjustment

Adjusts the sound setting with the Space Tune function.

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 the volume.

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

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.

Dialogue Enhancement

(On / Off)

Enhances the intelligibility of dialogue and commentary.

- Not valid when **Mode** is set to **Auto AI**

Headphone terminal output setting

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
Headphone Terminal Output / Headphone Volume / Sub Woofer Adjustment
 4. Set the item and press **OK** to store.
-

Headphone Terminal Output

(**Headphone / Sub Woofer**)

Selects the sound output from the headphone terminal.

Headphone:

The sound outputs for using headphones.

Sub Woofer:

The sound outputs for using sub woofer.

= Note =

- Normally set **Headphone Terminal Output** to **Headphone**.
 - When **Headphone Terminal Output** is set to **Sub Woofer**, the headphones cannot be used properly because only the low-frequency sounds are output.
 - The volume of the sub woofer can be also controlled when adjusting the volume of this unit with this TV's remote control.
-

Headphone Volume

Adjusts the volume of headphones.

Sub Woofer Adjustment

Adjusts the sound output of sub woofer.

Sub Woofer Volume:

Adjusts the volume of sub woofer.

- Confirm the actual sound volume from this TV and sub woofer and adjust the volume.

Cut Off Frequency:

Adjusts the cut-off frequency of sub woofer signal output.

- The frequency output to the sub woofer is less than the set cut-off frequency.
- The frequency can be adjusted from 100 Hz to 400 Hz.
- Confirm the actual sound volume from this TV and sub woofer and adjust the volume.

Reset to Defaults:

Resets [Sub Woofer Adjustment](#) to the default settings.

Voice Guidance Settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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**, select **Main Menu** and press **OK** to access.
2. Select **Sound** > **Audio Description** and press **OK** to access.
3. Select one of the following items and press **OK** to access.

Audio Description / Volume

4. Set the item and press **OK** to store.
 - For Digital TV
-

Audio Description

(On / Off)

Narration settings for visually impaired users

Set to **On** to activate the narration sound track when available from broadcast.

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

Volume

Adjusts the volume for Audio Description.

Advanced settings

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
MPX / Audio Preference / AV Sync / SPDIF Selection / HDMI Audio Format / PCM Optical Level / eARC / 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 TV
-

When you receive the stereo / bilingual sound system, sound output modes can be selected by using the **MPX** in the Sound Menu.

- Meanings of mode indicators

∞ : STEREO

I : MAIN I

II : SUB II

▽ : MONO

■ Available mode indicator for each type of broadcast

- NICAM - Used in New Zealand, Singapore, Hong Kong, etc.
 - Regular broadcast (Standard Audio): No indicator / ▽
 - Regular + NICAM MONO I (MAIN I): I / ▽
 - NICAM STEREO: ∞ / ▽
 - NICAM DUAL MONO (MAIN I / SUB II): I / II / ▽
- A2 (German) - Used in Australia, Malaysia, etc.
 - Regular broadcast (Standard Audio): No indicator / ▽
 - BILINGUAL or DUAL MONO (MAIN I / SUB II): I / II
 - STEREO: ∞ / ▽

= Note =

- If the stereo signal is poor or the receiving conditions are not optimum or if STEREO:MONO automatic switching occurs, it is recommended to switch from STEREO to MONO.
 - Selected mode is not affected when the contents of the receiving signal change.
 - When the receiving conditions deteriorate, listening will be easier if the mode is set to the MONO position.
 - DUAL, also known as DUAL MONO or as BILINGUAL is not currently transmitted in some countries.
-

Audio Preference

(Auto / MPEG)

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, Dolby AC-4), MPEG.

MPEG:

The priority is given to MPEG.

- Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4) and Dolby Atmos are the methods 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, Dolby AC-4), Dolby Atmos and HE-AAC are the technologies for HD (High definition) programmes.
 - Not valid in Analogue TV
-

AV Sync

(On / Off)

Delays the video signal to adjust the output timing difference between video and audio outputs.

- The output timing difference between video and audio outputs may not be adjusted correctly depending on the input signal and audio device used.
-

SPDIF Selection

(Auto / PCM / Dolby Audio)

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

- SPDIF is a standard audio transfer file format.

Auto:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

- Dolby Atmos may be output as Dolby Atmos Bitstream, Dolby Digital Plus, and Dolby AC-4 may be output as Dolby Digital Plus Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.

PCM:

Digital output signal is fixed to PCM.

Dolby Audio:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos, HE-AAC and AAC are output as Dolby Digital Bitstream or Dolby Digital Plus Bitstream.

- Dolby Atmos may be output as Dolby Atmos Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.
- eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel) are functions of digital audio output using HDMI cable.
- For Digital TV, video content

 → [Media Player > Playback > Audio output settings](#)

 → [Network > Videos > Audio output settings](#)

HDMI Audio Format

(Auto / PCM / Pass Through / Dolby Audio)

Selects the audio format for the HDMI input signal.

Auto:

Dolby Audio is output as Dolby Audio Bitstream. Other digital audio output signals are output as PCM. When the sound is delivered from theatre speakers, Dolby Audio is output with pass-through method.

PCM:

Digital audio signal is output as PCM.

Pass Through:

When the TV speakers are active, Dolby Audio is output as Dolby Audio Bitstream. Other digital audio output signals are output as PCM. When the sound is delivered from theatre speakers, the input signal is output as it is with pass-through method.

Dolby Audio:

When the TV speakers are active, Dolby Audio is output as Dolby Audio Bitstream. Other digital audio output signals are output as PCM. When the sound is delivered from theatre speakers, Dolby Audio is output with transcoding method.

PCM Optical Level

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

eARC

(On / Off)


Set to **On** to enable the eARC (Enhanced Audio Return Channel) function when the equipment supporting eARC function is connected to this TV.

- The ARC (Audio Return Channel) function is enabled only when the connected equipment supports the ARC function.
 - Use HDMI2 to connect the TV to an amplifier which has eARC / ARC function.
 - Use an HDMI cable supporting eARC function or HEC (HDMI Ethernet Channel) function.
-

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

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 TV

1. Select **Digital TV** with **TV**.

- If you use an RF selector, switch it whenever you switch between Digital TV and Analogue TV.

2. Display **TV Guide** with **GUIDE**.

(Example)

	11:00	11:30	12:00	12:30	1:00
1	xxxx	Das Erste	DIY SOS	The Bill	Red Cap
7	xxxx	Hot Wars	Holiday Program		Live junction
14	xxxx	Emmerdal	Coronation Street	The Bill	Drama
70	xxxx	10 O'clock News	Pepsi Char.	Good bye	NEWS
72	xxxx	Panorama	Spring watch	Coast	
85	xxxx	Shopping	Topics	Cinema	Live

1 Date / Search(EPG) / Favourites

2 Time

3 Programme

4 Channel position and name

- To watch the programme

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

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 view a channel list of the selected type
 - 1) Display the type list with  (yellow).
 - 2) Select the type and press **OK** to view.
- To view a channel list of the selected favourite list

 → Home > Live TV > Option menu

 - To list favourite channels, set [Favourites Edit](#).

 → Watching > Tuning and editing channels > Favourites Edit
- To view more details of the programme
 - 1) Select the programme.
 - 2) Press **i** 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.
- This function may not be available in some countries or regions.

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.
 - To check / change / cancel a timer event
 → [Recording > Timer Programming > Editing Timer Programming](#)
 - LED lights orange in Standby mode when [Timer Programming](#) is set.
 - To return to [TV Guide](#)
BACK
 - 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 when [Timer Programming](#) is set.

= Note =

- Not valid in Analogue TV
- [Timer Programming](#) only works reliably if correct time information is received via the signal from the broadcaster or service provider.
- Other channels in the same frequency band can be selected while the 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     (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    ).





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**, select **Main Menu** and press **OK** to access.
 2. Select **Setup > Display Settings > Teletext** and press **OK** to access.
 3. Select **TOP (FASTEXT) / 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.)

■ FASTEXT mode (For FASTEXT broadcasting)

In FASTEXT 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**, select **Main Menu** and press **OK** to access.
2. Select **Setup > Display Settings > Teletext Character Set** and press **OK** to access.
3. Select the font and press **OK** to set.

Tuning and editing channels

Setting menu

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

1. Select the mode with **TV**.

[Digital TV](#) / [Analogue TV](#)

- If you use an RF selector, switch it whenever you switch between Digital TV and Analogue TV.

2. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
3. Select [Setup](#) > [Tuning Menu](#) and press **OK** to access.

[Digital TV Tuning Menu](#) / [Analogue TV Tuning Menu](#)

- The menu name varies depending on the TV mode.
4. Select one of the functions and press **OK** to access.

[Favourites Edit](#) / [Channel List](#) / [Auto Tuning](#) / [Manual Tuning](#) / [Update Channel List](#) / [New Channel Message](#) / [Signal Condition](#) / [Add TV Signal](#)

- The function items vary depending on the TV mode.

Favourites Edit




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


■ List favourite digital TV channels

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



1. Select [Favourites Edit](#) and press **OK** to access.
2. Select a channel to list from all digital TV channels.
 -  appears when the channel is encrypted.
 - To display other favourites
 -  (green)
3. Press **OK** to add it to favourites list.
 - To add all channels to the list
 -  (yellow)
4. Press **BACK** and **OK** to store.

■ Edit 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** or **Numeric buttons**.

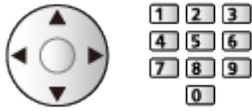


- 4) Press  (green) to store.
- To delete the channel
 - 1) Select the channel.
 - 2) Press **OK** to delete.
 - Press  (yellow) to delete all channels.

- 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** to store.

= Note =

- Channel numbers are defined by the broadcaster and cannot be changed.
- Hidden channels can be selected but not viewed.

Channel List

■ Skip unwanted 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)

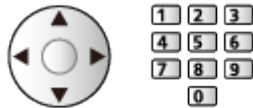
 (yellow)

■ Edit channels

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


1) Press  (green) to edit.

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



- To retune each channel (**Manual Tuning**)

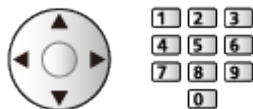
 (red)

 → **Watching > Tuning and editing channels > Manual Tuning**

- To rename the channel name (Analogue TV)

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** to store.

= Note =

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

Auto Tuning

Automatically retunes the channels received in the area.

- All the previous tuning settings are erased.
- Search begins in the order from the lower channels to the higher channels.
- Child Lock PIN number is required to retune locked channels.

 → Functions > Child Lock > PIN number

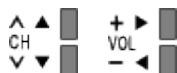
- If tuning has not been done completely, set [Manual Tuning](#).

 → Watching > Tuning and editing channels > Manual Tuning

1. Select [Auto Tuning](#) and press **OK** to access.
2. A confirmation screen is displayed and press **OK** to start [Auto Tuning](#).
(Settings are made automatically.)
 - When the operation is completed, the channel at the lowest position will be displayed.
 - This setting is applicable only for the selected TV mode.

■ Auto Tuning using the buttons on the TV

1. Press and hold INPUT/OK/HOLD for MENU button for 3 seconds to display the main menu.
2. Set [Auto Tuning](#) 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

■ Digital TV

Normally use [Auto Tuning](#) or [Update Channel List](#) to retune Digital TV channels.

If tuning has not been done completely or for adjusting the direction of the aerial, use this function.

- All Digital TV channels found are added to [Channel List](#).

1. Select frequency and offset.
2. Press **OK** to search.

■ Analogue TV

Set Analogue TV channel manually after [Auto Tuning](#).

- Set [Sound System](#) and [Colour System](#), and then perform this function. Normally set [Colour System](#) to [Auto](#).

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](#).

Update Channel List

By updating the channel list of digital broadcasting, 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 [Favourites Edit](#), [Channel List](#), [Child Lock](#), etc.
- Depending on the signal condition, the update may not work properly.

Signal Condition

Selects a channel and checks the signal condition with indicators.

- A good Signal Strength is not an indication of suitable signal reception.
- To change the channel



- Not valid in Analogue TV

Other settings

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

New Channel Message

Selects whether to receive a notification message when a new digital TV channel is found or not.

- When a notification message appears, you can perform [Update Channel List](#) pressing **OK**.
 - This function may not be available in some countries or regions.
-

Add TV Signal

Adds the TV mode.

- Allows you to add any TV mode which was skipped during initial [Auto Tuning](#).

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.
- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting cables.
- Connect the USB HDD to the USB 1 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, 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.
- 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**, select **Main Menu** and press **OK** to access.
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



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** 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

- 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**, select **Main Menu** and press **OK** to access.
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 in the same frequency band can 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 on Media Player.

1. Display Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select USB HDD for recording 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.)

Timer Programming

Setting Timer Programming

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

- Not valid in Analogue TV
1. Select **Digital TV** with **TV**.
 2. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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 **D**: Digital TV

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**, select **Main Menu** and press **OK** to access.
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

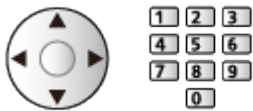
1) Press  (red).

2) Press **OK** to delete.

■ To adjust the clock

If you cannot get the time information, set **Clock Settings** manually.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Timer > Clock Settings > Mode** and press **OK** to access.
3. Select **Manual** and press **OK** to set.
4. Set **Date / Time** with **Cursor buttons** or **Numeric buttons**.



- **Clock Settings** are reset when the TV is turned off with Mains Power On / Off switch.

 → **Watching > Basic > Adjusting time**



■ To play back or delete the recorded content

Recorded TV programmes can be played back on Media Player.

1. Display Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select USB HDD for recording 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.
- Other channels in the same frequency band can be selected while recording of [Timer Programming](#) is in progress.
- Recording an encrypted (copy-protected) programme may not be possible.
- 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 lights orange in Standby mode when [Timer Programming](#) is set.
- “!” identifies that two or more timer events are overlapped. As for the overlapped recording events, the first event starts and finishes as programmed. The next event can then start.
- The recording of [Timer Programming](#) automatically changes the channel to the programmed channel a few seconds before the start time.
- 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 6 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.

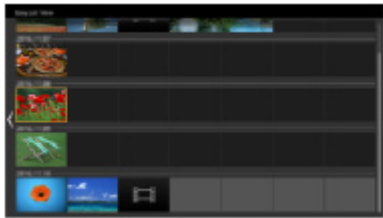
Media Player

Using Media Player

Information

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

(Example)



Easy List View:

Still pictures / moving pictures recorded with digital camera or digital video camera are played back.

Mix Folder View:

All files grouped by folder are displayed.

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 OUT and HDMI2 (eARC / ARC function) terminals. But no video signals are output. To use HDMI2 with eARC / ARC function, connect an amplifier that has eARC / ARC function and set to use theatre speakers.

 → [Functions > VIERA Link "HDAVI Control™"](#)

- 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




- Depending on the model, it may be necessary to remove the terminal cover / cable cover before inserting or removing 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**, select [Main Menu](#) and press **OK** to access.
 - 2) Select [Setup > USB Device Setup](#) and press **OK** to access.
 - 3) Select the device and press **YELLOW** (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

2. Display Home with **HOME**.
3. Select **Devices** and press **OK** to access.
4. Select the device (USB Flash Memory / USB HDD) and press **OK** to access.
5. Select **Easy List View** / **Mix Folder View** / **Recorded TV** and press **OK** to access.

Easy List View

 → Media Player > Easy List View

Mix Folder View

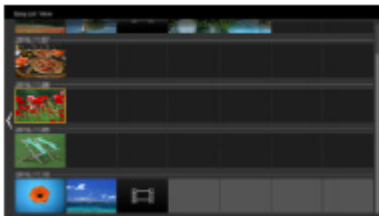
 → Media Player > Mix Folder View

Recorded TV

 → Media Player > Recorded TV mode

6. The thumbnail view is displayed.

(Example)



- To display / hide information of the highlighted content



= Note =

- **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

Easy List View




Selecting file

Still pictures / moving pictures recorded with digital camera or digital video camera are played back.


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

- If a file or folder is edited or renamed by digital camera, digital video camera, PC, etc., the thumbnail may not be displayed properly.

 : Error display

- To sort by month
 - 1) Display the option menu with **OPTION**.
 - 2) Select **Calendar** and press **OK** to access.
- 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**.
 - 1) Display the option menu with **OPTION**.
 - 2) Select  and press **OK** to access.
 - 3) Select **Video Setup** > **Video Preview** and press **OK** to access.
 - 4) Select **On / Off** and press **OK** to set.
 - 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.
- For details of supported file formats
 → **Media Player > Supported format**
- To play back the file
 → **Media Player > Playback > Playback**

■ Settings

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

[Play Select](#) / [Repeat](#) / [Shuffle](#)

4. Set the item and press **OK** to store.
-

[Play Select](#)

Settings for playback file selection

[Repeat](#)

([Folder](#) / [File Repeat](#) / [Off](#))

Repeat the playback.

[Folder](#):

Repeat the playback within the selected folder.

[File Repeat](#):

Repeat the playback of the selected one file.

[Shuffle](#)

([On](#) / [Off](#))

Files are played back at random.

Filtering files

You can filter the files as the content type. (Photo / Video)

1. Display the option menu with **OPTION**.
 2. Select **Filter** and press **OK** to access.
 3. Select **Photo / Video** and press **OK** to set.
 4. Select **OK** and press **OK** to change.
- To select the music file


 → [Media Player > Mix Folder View > Filtering files](#)




Mix Folder View

Selecting file


Displays the thumbnail of all files which are grouped by folder.

Select the folder / file and press **OK** to start playback.

 : Error display

- 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](#).
 - 1) Display the option menu with **OPTION**.
 - 2) Select  and press **OK** to access.
 - 3) Select [Video Setup](#) > [Video Preview](#) and press **OK** to access.
 - 4) Select [On](#) / [Off](#) and press **OK** to set.
 - 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.
- For details of supported file formats
 → [Media Player > Supported format](#)
- To play back the file
 → [Media Player > Playback > Playback](#)

■ Settings

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

[Play Select](#) / [Repeat](#) / [Shuffle](#)

4. Set the item and press **OK** to store.
-

[Play Select](#)

Settings for playback file selection

[Repeat](#)

([Folder](#) / [File Repeat](#) / [Off](#))

Repeat the playback.

[Folder](#):

Repeat the playback within the selected folder.

[File Repeat](#):

Repeat the playback of the selected one file.

[Shuffle](#)

([On](#) / [Off](#))

Files are played back at random.

Filtering files

You can filter the files as the content type. (Photo / Video / Music)

1. Display the option menu with **OPTION**.
2. Select **Filter** and press **OK** to access.
3. Select **Photo / Video / Music** and press **OK** to set.
4. Select **OK** and press **OK** to change.

Sorting files

You can sort the files in alphabetical / date order.

1. Display the option menu with **OPTION**.
2. Select **Sort** and press **OK** to access.
3. Select **Alphabet(A...Z)** / **Alphabet(Z...A)** / **Date(1...9)** / **Date(9...1)** and press **OK** to change.

Playback

Playback

■ Photo playback



To the previous photo



To the next photo



Stop



Switch the playback mode (Single view / Slideshow).



Rotate



Display / hide the operation guide.



Return to thumbnail.

■ Video / Music playback



Rewind



Fast forward



Stop



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

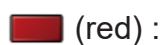
Press ◀ / ▶:

Search approx. 10 seconds

Press and hold ◀ / ▶:

Search rapidly

- 3) Jump to the specified time point with **OK**.



To the previous title / scene / track



To the next title / scene / track



Display / hide the operation guide.



Return to thumbnail.

= Note =

- To set [Repeat](#) / [Shuffle](#) for playback

 → [Media Player > Easy List View > Selecting file](#)

 → [Media Player > Mix Folder View > Selecting file](#)

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 / 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.

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 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.
Multi Audio / Dual Mono Audio / Subtitle Settings
 - Menu items and selectable options vary depending on the content.
 4. Set the item and press **OK** to store.
-

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.
 - Dual mono of Dolby Audio (Dolby Digital, Dolby Digital Plus) is not supported.
-

Subtitle Settings

Sets the subtitle setting.

- This function is available during playback.

Subtitle:

Displays / hides 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 OUT or HDMI2 (eARC / ARC function) terminal.

- To confirm or change the current sound status

 → Media Player > Playback > Video Setup

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** > **SPDIF Selection** and press **OK** to access.
 3. Select **Auto** / **PCM** / **Dolby Audio** and press **OK** to set.
-

SPDIF Selection

(Auto / PCM / Dolby Audio)

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

- SPDIF is a standard audio transfer file format.

Auto:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

- Dolby Atmos may be output as Dolby Atmos Bitstream, Dolby Digital Plus, and Dolby AC-4 may be output as Dolby Digital Plus Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.

PCM:

Digital output signal is fixed to PCM.

Dolby Audio:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos, HE-AAC and AAC are output as Dolby Digital Bitstream or Dolby Digital Plus Bitstream.

- Dolby Atmos may be output as Dolby Atmos Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.
- eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel) are functions of digital audio output using HDMI cable.

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
 -  : Programme with parental rating

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

Watching recorded TV

■ 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

 : Pause (displays the time seek bar) / Playback



- To jump to the specified time point

1) Display the time seek bar with .

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 .

- To display / hide the operation guide and information banner



- 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
- To display the subtitle (if available)

STTL


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

 → [Watching > Basic > AV Options](#)

- To return to list

BACK

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.

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  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 OUT or HDMI2 (eARC / ARC function) terminal.

- To confirm or change the current sound status

 → Media Player > Playback > Video Setup

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** > **SPDIF Selection** and press **OK** to access.
 3. Select **Auto** / **PCM** / **Dolby Audio** and press **OK** to set.
-

SPDIF Selection

(Auto / PCM / Dolby Audio)

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

- SPDIF is a standard audio transfer file format.

Auto:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

- Dolby Atmos may be output as Dolby Atmos Bitstream, Dolby Digital Plus, and Dolby AC-4 may be output as Dolby Digital Plus Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.

PCM:

Digital output signal is fixed to PCM.

Dolby Audio:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos, HE-AAC and AAC are output as Dolby Digital Bitstream or Dolby Digital Plus Bitstream.

- Dolby Atmos may be output as Dolby Atmos Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.
- eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel) are functions of digital audio output using HDMI cable.

Other settings

USB Sharing

You can copy the content from one device to another using the USB ports.

- To enable this function, connect the source drive and destination drive to the TV.




 → [Media Player > Using Media Player > Information](#)

Source drive:

USB device which contains the data to be copied.

Destination drive:

USB device to which the data is copied.

1. Display Home with **HOME**.
2. Select [Apps](#) and press **OK** to access.
3. Select [USB Sharing](#) and press **OK** to access.
4. Select the drive from [Source drive](#) and press **OK** to access.
5. Select the folder or file to copy and press  (red) to set.
 - To select all folders or files at once
 (green)
6. Press  to go to [Destination drive](#).
7. Select the drive and press **OK** to access.
 - You cannot select the source drive as the destination drive.
8. Select [Copy Here](#) and press **OK** to access.
9. When a confirmation screen is displayed, select [Yes](#) and press **OK** to start copying.
 - The copy progress is shown on the top right of the TV screen. When copying has finished, [Complete!!](#) is displayed.
 - To cancel the copying, select [USB Sharing](#) from [Apps](#) again.
 - To watch TV while data copying is in progress, press **TV**.

■ Create a folder or delete a folder

You can create a new folder or delete an old folder while the cursor is in [Destination drive](#).

- To create a new folder
 - 1) Display the option menu with **OPTION**.
 - 2) Select [Create Folder](#) and press **OK** to access.
 - 3) Enter characters (maximum of 16 characters) with **Cursor buttons** or **Numeric buttons**, and press **OK** to set.



- 4) Press **BACK** to store.
- To delete an old folder
 - 1) Select the folder.
 - 2) Display the option menu with **OPTION**.
 - 3) Select [Delete](#) and press **OK** to access.
 - 4) When a confirmation screen is displayed, select [Yes](#) and press **OK** to delete.

= Note =

- Some files may not be copied properly.
- Please note there may be a risk of file corruption due to power failure or sudden shutdown during [USB Sharing](#) process.
- In consideration of possible loss of the data contained in your USB devices for any reasons, Panasonic recommends you to store or back up the data included in the USB devices in other locations (storage mediums) before inserting the same in the USB port, and please do not turn the TV off during data communication / transfer.

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 6 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

- HLG Photo (.hsp)
 - CTA-2072 standard
 - Still pictures recorded with HLG standard are supported.
-

- 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, Dolby AC-4), Dolby Atmos, 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, Dolby AC-4), Dolby Atmos, HE-AAC, MP3

- WebM (.webm)

Video codec:

VP9

Audio codec:

Vorbis

■ Supported Subtitles formats

- MicroDVD, SubRip, TMLPlayer (.srt, .sub, .txt)
 - The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
 - If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: “.srt”, “.sub”, “.txt”.
-

= 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](#).

(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](#)

■ Browser

You can browse websites.

- Some internet services may not be available or may not be displayed properly depending on the website.

Selecting internet content

1. Display Home with **HOME**.
2. Select **Apps** and press **OK** to access.

- For details of **Apps**

 → Home > Apps

- Depending on the usage conditions, it may take a while to read all the data.

3. Select the desired item and press **OK** to access.

(Example)



- To exit **Apps**

EXIT

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

 → Functions > Bluetooth devices

 → Functions > Keyboard

Note

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

 → Network > Network connections

 → Network > Network settings

- The 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](#). You can update the software later manually.

 → Network > Network settings > Software Update

- The services through [Apps](#) are operated by their service providers and such service may be discontinued either temporarily or permanently without notice. 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.

Home network

In-House streaming

Some features are not available on all models.

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

 → [Network > Network connections](#)

 → [Network > Network settings](#)

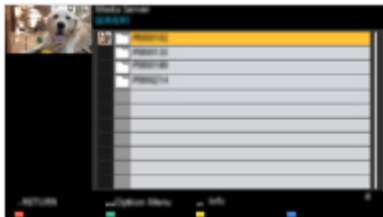
= Note =

- The delivering content may be obtained by a third party due to an unauthorised access. If the TV connects to the network environment such as office, hotel, room without router, etc., make sure to check the network connection.

■ Playback of sharing content stored in the media server

Store photo, video or music content into the 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 > Home network > Preparations](#)

- 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 this TV 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
- Current digital TV programme
- TV programmes recorded on USB HDDs with this TV

Available network equipment:

- TV supporting home network function
- Smartphone, etc.
- To use this function with your smartphone, you need to install the application for controlling this TV on your smartphone.

 → [Support > FAQs > Detailed information](#)

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

- To use this function with another TV, set [Network Link Settings](#) of this TV.

 → [Network > Network settings > Network Link Settings](#)

- Sharing the current programme may not be available when selecting radio channels, encrypted (copy-protected) programmes or when the broadcast prohibits the output of video and audio.
- Display the TV full-screen for sharing the TV programme with another piece of network equipment.
- 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.
- This function may not be available in the following condition of this TV:
 - While the recording is in progress

Preparations

To use in-house streaming features, ensure the preparations of the media server, network connections and network settings are completed.

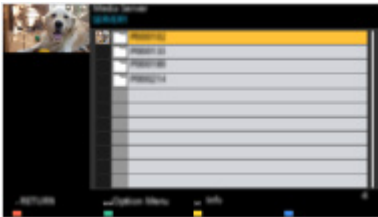
 → Network > Home network > In-House streaming

 → Network > Network connections

 → Network > Network settings

1. Display Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select the media server and press **OK** to access.
 - To display / hide information of the highlighted media server
 - 1) Display the option menu with **OPTION**.
 - 2) Select **Show Info.** and press **OK** to access.
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



= 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.

- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting the LAN cable.
- 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

Home network connection

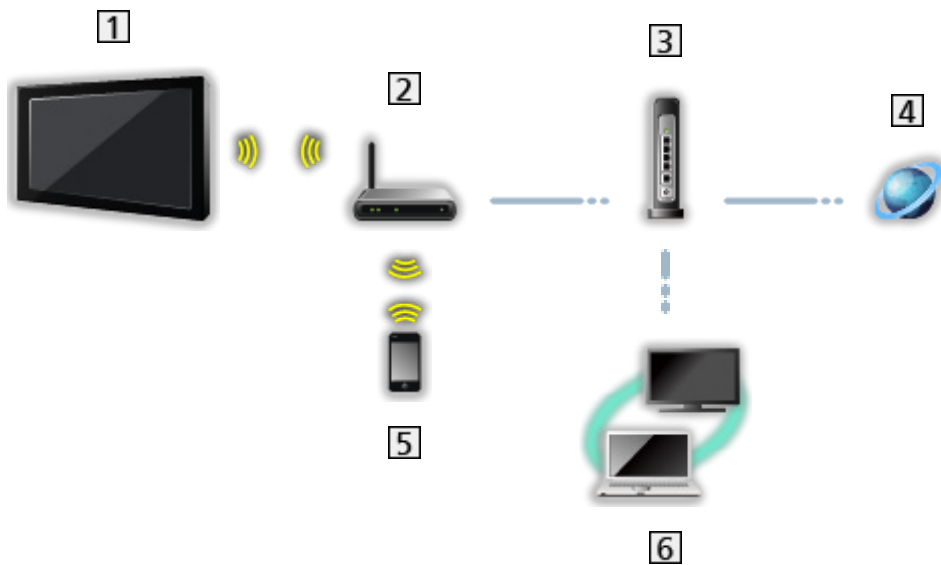
To use in-house streaming features, you need a home network environment and you can operate the features without a broadband network environment.

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

 → Network > Network connections > Internet connection

- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting the LAN cable.

■ Wireless connection (For home network and internet service)



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

2 Access point

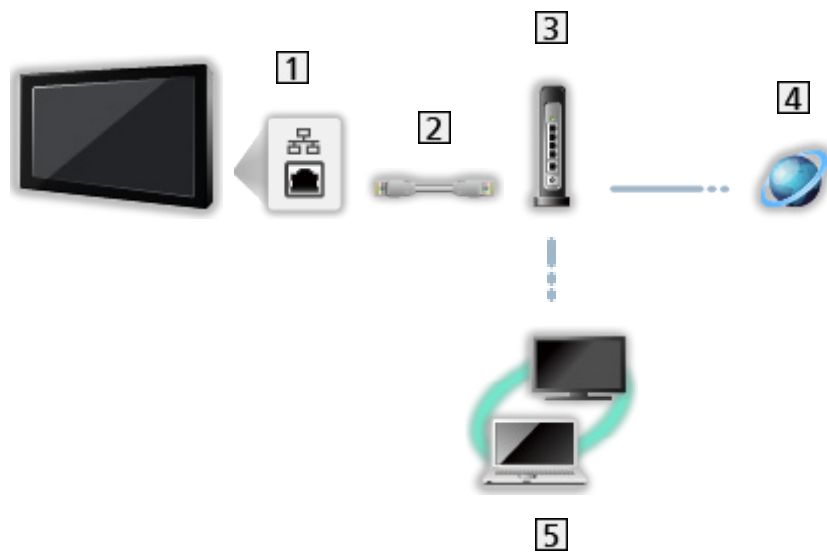
3 Hub / Router

4 Internet environment

5 Smartphone, etc.

6 Media server (PC, etc.)

■ Wired connection (For home network and internet service)



1 ETHERNET terminal

2 LAN cable (Shielded)

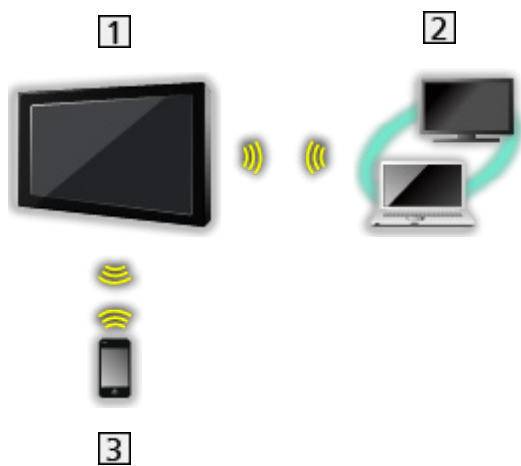
- Use Shielded Twist Pair (STP) LAN cable.

3 Hub / Router

4 Internet environment

5 Media server (PC, etc.)

■ Wireless connection (For home network)



1 TV

- To use the TV as a wireless access point

 → [Network > Network settings > Custom - Wireless Access Point](#)

2 Media server (PC, etc.)

3 Smartphone, etc.

Note

- For secure connection, it is recommended to use a device supporting WPA2 / WPA3 as wireless LAN type. The encryption type depends on the connected device.
- 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.
- In case the password of the registered device or user is known by a third party, there is a risk of unauthorised entries. Keep your password safe. Panasonic will make no warranty for the unauthorised entries.
- To prevent a risk of interception, unauthorised entries and hacking, set up the proper security settings (encryption setting).


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**, select **Main Menu** and press **OK** to access.
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** 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**, select **Main Menu** and press **OK** to access.
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 the wireless network, perform the following procedure to turn off the wireless network.
 - 1) Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 - 2) Select **Network** > **Network Connection** > **Custom** and set to **Wired**.
 - 3) Select **Network** > **Mirroring Settings** > **Easy Mirroring** and set to **Off**.

Custom - Wireless

Ensure the connections are completed before starting network setup.

 → Network > Network connections

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
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** 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**.
-

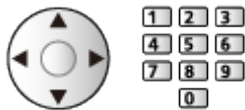
Proxy Settings

- 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** 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** 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**, select **Main Menu** and press **OK** to access.
 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**.
-

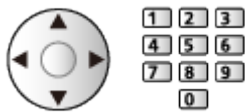
Proxy Settings

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- 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** 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** 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 the wireless network, perform the following procedure to turn off the wireless network.
 - 1) Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 - 2) Select **Network > Network Connection > Custom** and set to **Wired**.
 - 3) Select **Network > Mirroring Settings > Easy Mirroring** and set to **Off**.

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**, select **Main Menu** and press **OK** to access.
 2. Select **Network** > **Network Connection** > **Custom** > **Wireless Access Point** and press **OK** to access.
 3. Select **Connect to device** and press **OK** to access.
 - To set manually, select **Change settings** (see below).
 4. Select and set **Push button / PIN code** and press **OK** to access.

Push button:

Set up the equipment for **Push button**. For details, read the manual of the equipment.

PIN code:

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** 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**

Network Status

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

1. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
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](#).

TV Name

Sets your favourite name for this TV.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Network > TV 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

Some features are not available on all models.

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

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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 / Wake on LAN / Wireless LAN / Home Streaming / Device to upload contents / Delete All Pairings
 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 lights orange in Standby mode when **Powered On by Apps** is set to **On**.
-

Wake on LAN / Wireless LAN

(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 lights 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.).

Delete All Pairings

Delete the pairing information for all paired devices.

= 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 this TV 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

Some features are not available on all models.

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

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Network** > **Network Link Settings** and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
[Home Network Server](#) / [Registration Type](#) / [Remote Device List](#)
 4. Set the item and press **OK** to store.
-

Home Network Server

([On](#) / [Off](#))

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

- To use this function with another TV, select the name of this TV from the media server list of another TV, and then select the content to share. Also read the manual of another TV.
- To use this function with your smartphone, you need to install the application for controlling this TV 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 lights orange in Standby mode when [Home Network 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.

Smart Speaker Settings

Controls this TV such as selecting a channel, changing volume, etc. with the smart speaker function.

- Ensure the network connections and network settings are completed.

 → [Network > Network connections](#)

 → [Network > Network settings](#)

1. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
2. Select [Network](#) > [Smart Speaker Settings](#) and press **OK** to access.
3. Follow the on-screen instructions.

- For the operations, refer to the support information.

 → [Support > FAQs > Detailed information](#)

Mirroring Settings

Settings for the mirroring function

 → [Functions](#) > [Mirroring](#) > [Mirroring Settings](#)

VOD Content Refresh

Selects whether to update the VOD content to the latest even when the TV is in Standby mode.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Network** > **VOD Content Refresh** and press **OK** to access.
3. Select **On / Off** and press **OK** to access.
 - Changing the default configuration may result in higher energy consumption of the product.
 - LED lights orange while updating in Standby mode when **VOD Content Refresh** is set to **On**.

Software Update

Updates the TV's software if any updates are available.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
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 receive a notification message when new software is found via network or not.

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

IPv6

Enables the IPv6 function for the network connections.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Network** > **IPv6** and press **OK** to access.
3. Select **On / Off** and press **OK** to set.

= Note =

- The IPv6 function may not be available for all combinations of an application and network. If an application does not work properly, set **IPv6** to **Off** and turn the TV off, then turn it on again.

Terms of Service and Settings

Displays the terms of service and settings.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Network** > **Terms of Service and Settings** and press **OK** to access.
3. Follow the on-screen instructions.

Photos

Selecting file

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

 → Network > Home network > In-House streaming

 → Network > Network connections

 → Network > Network settings

1. Display Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select the media server and press **OK** to access.
 - To display / hide information of the highlighted media server
 - 1) Display the option menu with **OPTION**.
 - 2) Select **Show Info.** and press **OK** to access.
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



= 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

Using Slideshow

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

 - To pause (return to Single view)
OK
 - To return to list
BACK

■ 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](#))

Repeat the slideshow.

[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 > Home network > In-House streaming

 → Network > Network connections

 → Network > Network settings

1. Display Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select the media server and press **OK** to access.
 - To display / hide information of the highlighted media server
 - 1) Display the option menu with **OPTION**.
 - 2) Select **Show Info.** and press **OK** to access.
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



= Note =

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

Watching video

■ 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

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



- To jump to the specified time point

1) Display the time seek bar with .

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 .

- To display / hide the operation guide and information banner



- To the previous content

 (red)

- To the next content

 (green)

- To change aspect
 - 1) Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 - 2) Select **Picture** > **Screen Settings** > **Aspect** and press **OK** to access.
 - 3) Select the mode and press **OK** to set.

Aspect1:

Displays the content in original size.

Aspect2:

Displays the content enlarged without distortion.

- Aspect cannot be changed depending on the content.

- To return to list

BACK

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.
 - Dual mono of Dolby Audio (Dolby Digital, Dolby Digital Plus) is not supported.
-

Repeat

(On / Off)

Repeat the playback 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

Some features are not available on all models.

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

- To confirm or change the current sound status

 → Network > Videos > Video Setup

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Sound** > **SPDIF Selection** and press **OK** to access.
 3. Select **Auto** / **PCM** / **Dolby Audio** and press **OK** to set.
-

SPDIF Selection

(Auto / PCM / Dolby Audio)

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

- SPDIF is a standard audio transfer file format.

Auto:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.

- Dolby Atmos may be output as Dolby Atmos Bitstream, Dolby Digital Plus, and Dolby AC-4 may be output as Dolby Digital Plus Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.

PCM:

Digital output signal is fixed to PCM.

Dolby Audio:

Dolby Audio (Dolby Digital, Dolby Digital Plus, Dolby AC-4), Dolby Atmos, HE-AAC and AAC are output as Dolby Digital Bitstream or Dolby Digital Plus Bitstream.

- Dolby Atmos may be output as Dolby Atmos Bitstream from HDMI2 (eARC / ARC function) terminal depending on the connected equipment.
 - eARC (Enhanced Audio Return Channel) / ARC (Audio Return Channel) are functions of digital audio output using HDMI cable.
-

= Note =

- During the operation, audio signal is output from DIGITAL AUDIO OUT and HDMI2 (eARC / ARC function) terminals. But no video signals are output. To use HDMI2 with eARC / ARC function, connect an amplifier that has eARC / 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 > Home network > In-House streaming

 → Network > Network connections

 → Network > Network settings

1. Display Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select the media server and press **OK** to access.
 - To display / hide information of the highlighted media server
 - 1) Display the option menu with **OPTION**.
 - 2) Select **Show Info.** and press **OK** to access.
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



= 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



- To the previous track

■ (red)

- To the next track

■ (green)

- To return to list

BACK

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:

Repeat the playback within the selected folder.

One:

Repeat the playback 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, Dolby AC-4), Dolby Atmos, 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, Dolby AC-4), Dolby Atmos, HE-AAC

- WebM (.webm)

Video codec:

VP9

Audio codec:

Vorbis

■ Supported Subtitles formats

- MicroDVD, SubRip, TMLPlayer (.srt, .sub, .txt)
 - The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
 - If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: “.srt”, “.sub”, “.txt”.
-

= 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

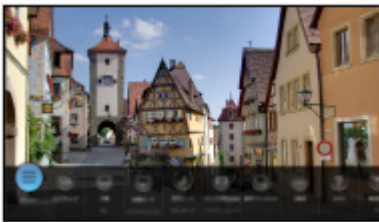
Menu

How to use

You can access various features such as main menu, viewing mode, subtitles, etc. from the menu screen.

1. Display the menu with **MENU**.

(Example)



2. Select a feature and press **OK** to access.
 - To set the main menu, select [Main Menu](#).
 - To edit / move / hide the menu, select [Edit](#).
 - To exit the menu, press **BACK**.

= Note =

- The design and specifications are subject to change without notice.

Voice Control

Information

The Google Assistant function allows you to operate the TV (e.g. selecting a channel), search the content from various features, etc. with your speech while this unit is connected to the internet.

- When the Google Assistant function is in preparation, the function will be available after the preparation is complete. The Google Assistant function may not be available depending on the country, area or broadcaster.
- The Voice Control function service may be discontinued either temporarily or permanently without notice depending on the service provider. Panasonic will make no warranty for the content or the continuity of the service.
- 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](#)

- Confirm the remote control is registered to this TV with Bluetooth wireless technology before using.

 → [Functions > Voice Control > Settings](#)

How to use

1. Press .
2. Say a key word to the microphone of the remote control.
 - Follow the on-screen instructions.

Settings

■ Pairing

The registration starts automatically when you press any buttons after installing batteries for the first time after purchasing. To register again, take the following steps.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 2. Select **Setup > System Menu > Remote Control Settings** and press **OK** to access.
 - Select **Unpair** to cancel the pairing and delete the Bluetooth remote control information.
 3. Set the item and press **OK** to store.
-

Pairing


Registration setting of the remote control for Voice Control function

Unpair

Unpair the registered remote control and delete the Bluetooth information of the remote control.

■ Voice Control

Selects the voice service for Voice Control function.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Setup > Voice Control** and press **OK** to access.
3. Select the service for Voice Control to use.
 - Select  to disable the Voice Control function.

Note

- When you start the Voice Control function, the sound level of the TV becomes low.
- The Voice Control function may not work properly in the following conditions:
 - Not pronouncing words clearly and correctly
 - Speaking too loudly or too quietly.
 - Surrounded by loud background noise.
- It is recommended to speak within approx. 15 cm from the microphone of the remote control.
- The design and specifications are subject to change without notice.
- The operations and services available for this unit may differ from the Google Assistant function using smartphone, smart speakers, etc.
- A broadband network environment is required to use this function because this function accesses the speech recognition server with the internet connection. Even if you have the internet environment, this function may not be available depending on the proxy setting. Please connect to the internet without proxy settings. (Proxy settings are not required for normal household use. For details of the internet environment, consult your Internet Service Provider (ISP) or telecommunications company.)
- If using the 2.4 GHz band on the wireless router, simultaneous use with the remote control may result in connection interruptions. If your wireless router supports 5 GHz band, try using the 5 GHz band. If you have a wired LAN connection, try using the wired LAN connection.

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 Home with **HOME**.
2. Select **Devices** and press **OK** to access.
3. Select **Mirroring** and press **OK**.
4. 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**, select [Main Menu](#) and press **OK** to access.
 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 the wireless network, perform the following procedure to turn off the wireless network.
 - 1) Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
 - 2) Select [Network](#) > [Network Connection](#) > [Custom](#) and set to [Wired](#).
 - 3) Select [Network](#) > [Mirroring Settings](#) > [Easy Mirroring](#) and set to [Off](#).
 - 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 lights 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.

VIERA Link “HDAVI Control™”

Summary of VIERA Link

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

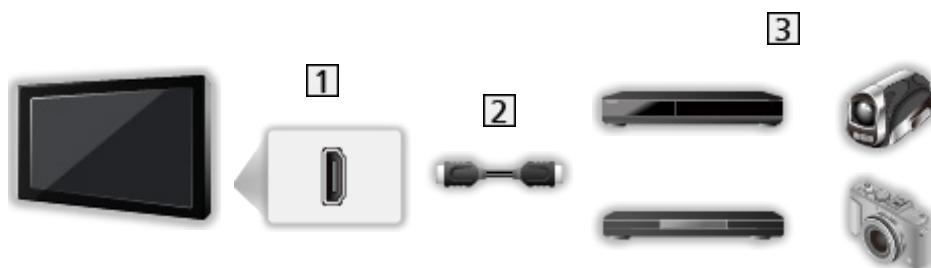
VIERA Link (HDAVI Control) connects the TV and the equipment with VIERA Link function, and enables easy control, playback, energy saving, creating home theatre, etc. without complicated settings. Connections to the equipment (DVD Recorder, HD Video Camera, Player theatre, Amplifier, etc.) with HDMI cable 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)

- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting cables.
- 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

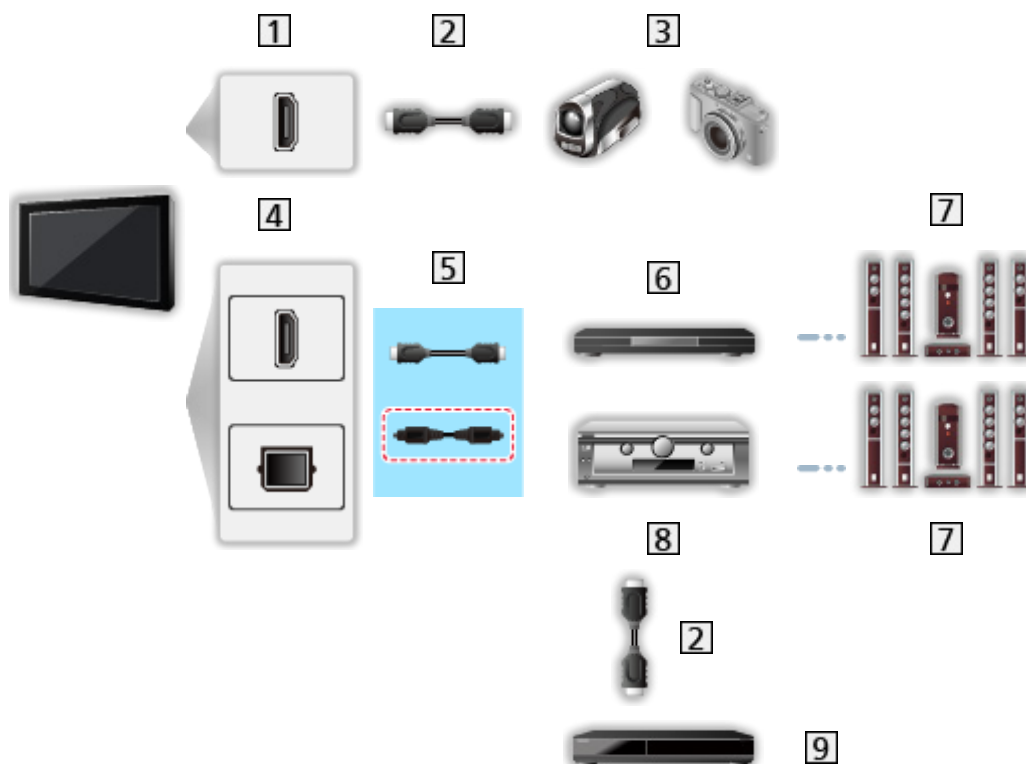
- Easy playback
 - Power on Link
 - Power off Link
 - VIERA Link Control*¹
-

*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)

- Depending on the model, it may be necessary to remove the terminal cover / cable cover before connecting or disconnecting cables.
- 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

2 HDMI cable

3 HD Video Camera / LUMIX Camera with VIERA Link function

4 HDMI terminal / DIGITAL AUDIO OUT

5 HDMI cable (Optical digital audio cable*)

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

7 Speaker system

8 Amplifier with VIERA Link function

9 DVD Recorder 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 it at the TV's signal receiver.

1. Display Home with **HOME**.
2. Select **Apps** and press **OK** to access.
3. Select **VIERA Link** and press **OK** to access.
4. Select **VIERA Link Control** and press **OK** to access.
5. 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.
6. 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 HDMI2 and HDMI3, the recorder connected to HDMI2 is displayed as **Recorder1**, and the recorder connected to HDMI3 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 Home with **HOME**.
2. Select **Apps** and press **OK** to access.
3. Select **VIERA Link** and press **OK** to access.
4. Select **Speaker Selection** and press **OK** to access.
5. 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**, select **Main Menu** and press **OK** to access.
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.
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 lock all
 (green)
 - To cancel all locks
 (yellow)
 - To jump to the head of the next channel / input group
 (blue)

■ Show Adult App

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

= Note =

- For internet content

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 digital TV programme that has rating information on the selected age, enter the PIN number (depending on the broadcaster).

- For Thailand, Singapore, United Arab Emirates, Saudi Arabia, Kuwait
1. Select **Parental Rating** and press **OK** to access.
 2. Select an age for the restriction of programmes and press **OK** to set.

■ Meaning of rating

For Singapore

No Block: Not classified

R21: Restricted 21

M18: Mature 18

NC16: No Children under 16

PG13: Parental Guidance 13

PG: Parental Guidance

G: General

= Note =

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

Power LED Indicator

Using Power LED Indicator

Selects the power LED indication mode.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Setup > Other Settings** and press **OK** to access.
3. Select **Power LED Indicator** and press **OK** to access.
4. Select **On / On(Standby Only) / Off** and press **OK** to set.

On:

The power LED indicator illuminates continuously.

On(Standby Only):

The power LED indicator illuminates only when the TV is turned off with Standby On / Off switch of the TV's remote control.

Off:

The power LED indicator is turned off.

= Note =

- The power LED indicator may light when switching the TV status or activating some functions.
- The TV may not display any image on the screen depending upon the input source after setting. This may make it impossible to know whether the TV is turned on or not.

In particular, when **Off** is selected, notifications whilst the TV is in standby, cannot be provided, such as USB recording in progress. If a USB device in recording is removed accidentally in such a condition, a device malfunction or data destruction may result.

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.







- For Singapore, Malaysia
1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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** 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**, select **Main Menu** and press **OK** to access.
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 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.

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**, select [Main Menu](#) and press **OK** to access.
2. Select [Setup](#) > [System Menu](#) > [Shipping Condition](#) and press **OK** to access.
3. When a confirmation screen is displayed, select [Yes](#) and press **OK** to set.
4. Follow the on-screen instructions.
 - [Auto Tuning](#) automatically starts.

= Note =

- To retune TV channels only (e.g. after moving house), set [Auto Tuning](#).

 → [Watching > Tuning and editing channels > Auto Tuning](#)

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 download

 OK

– Press **EXIT** when not downloading.

- To update via the internet



→ [Network > Network settings > Software Update](#)

= Note =

- Software updating may result in higher energy consumption of the product.

Auto update

You can update new software automatically.

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
2. Select **Setup > System Menu > System Update > Auto Update Search in Standby** and press **OK** to access.
3. Select **Immediately / 1 hour after / Off** and press **OK** to set.
 - 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**.
 - Every time you set, the TV automatically performs search in Standby and downloads an update if any software updates are available.
 - The automatic updating cannot be performed in the following conditions:
 - TV turned off with Mains Power On / Off switch
 - Recording is in progress.

= 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**, select **Main Menu** and press **OK** to access.
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.

Bluetooth devices

Bluetooth Setup

You can use Bluetooth keyboards*1, Bluetooth mice*1 and Bluetooth audio devices*2 (headphones, smartphone, etc.) with this TV by setting [Bluetooth Setup](#) in the Setup Menu.

*1 : HID (Human Interface Device Profile) and HOGP (Human interface device Over Generic attribute Profile) compliant keyboards and mice can be used.

*2 : A2DP (Advanced Audio Distribution Profile) and AVRCP (Audio Video Remote Control Profile) compliant audio devices can be used.

1. Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
 2. Select [Setup](#) > [Bluetooth Setup](#) and press **OK** to access.
 3. Select one of the following items and press **OK** to access.
[Devices](#) / [Bluetooth Audio Mode Setting](#) / [Bluetooth Audio Settings](#)
 4. Set the item and press **OK** to store.
-

Devices

Searches the available device and displays the status.

- Place the device within 50 cm from the TV while registration is in progress.
- Turn the device on for registering. The setup for registration may be required depending on the device. Read the manual of the device.

Not paired:

The device is not registered. Register the device by following the on-screen instructions to use with this TV.

Connected:

The device is registered and you can use with this TV.

Not connected:

The device is already registered, but not connected to this TV. Check the device is turned on and set within the available range.

Bluetooth Audio Mode Setting

(Transmitter / Receiver)

Selects the TV's Bluetooth audio mode.

Transmitter:

Connects an audio device such as headphones, speaker, etc.

- When the mode is set to **Transmitter**, connect audio devices such as headphones, speaker, etc. from **Devices**.

Receiver:

Connects an audio device such as a smartphone, audio player, etc.

Bluetooth Audio Settings

Adjusts the volume for an audio device, etc. in the transmitter mode.

Audio Output:

Sets to **Bluetooth only** to mute the TV speakers automatically when using a Bluetooth audio device. And you can adjust the volume of the device using **Volume Up / Down**.

Sets to **All** to activate both TV speakers and Bluetooth audio device.

Volume:

Adjusts the volume of a Bluetooth audio device.

Audio Control:

Sets to control a Panasonic Bluetooth audio device with this TV.

- Settings on a Panasonic Bluetooth audio device are also required to use this audio control function.

Dual Audio:

Sets to **On** to use two audio devices simultaneously.

- If the sound interruption occurs, set to **Off** and use one device only.

Audio Bit Rate:

Sets to **High** normally when using two audio devices simultaneously.

- Setting to **Low** may resolve the sound interruption.
-

- Settings in the Sound Menu may not be effective for the Bluetooth audio devices.
- You can use the Bluetooth audio device such as a smartphone, headphones, speaker, etc. connected with this TV by pressing **AUDIO LINK**.
 - 1) Display [Audio Link](#) with **AUDIO LINK**.
 - 2) Select the audio mode.
 - 3) Follow the on-screen instructions.
 - You can also select [Audio Link](#) from [Apps](#).
 - This function is available only for Bluetooth audio devices.
 - For more information about connected device, please refer to the manual of the equipment.
- This setup is not designed for the remote control supporting Bluetooth wireless technology.
- For secure connection, it is recommended to use a device supporting Bluetooth 4.2 or later. The encryption type depends on the connected device.
- If using the 2.4 GHz band on the wireless router, simultaneous use with Bluetooth device may result in connection interruptions. If your wireless router supports 5 GHz band, try using the 5 GHz band. If you have a wired LAN connection, try using the wired LAN connection.

Also try to set [Unpair](#) in [Remote Control Settings](#) to cancel the pairing and delete the Bluetooth remote control information. (Voice control function using the microphone of the remote control is only disabled.)

 → [Functions](#) > [Voice Control](#) > [Settings](#)

- If the sound interruption occurs, place Bluetooth device closer to the TV.
- When a Bluetooth device is connected to the TV, it is possible that the Bluetooth audio output may not be synchronised (i.e. be delayed) with relation to the images on the screen. This is not a defect of the TV or the device. The delay time will differ depending on the device.

Keyboard

Keyboard

- Keyboards requiring the drivers are not supported.
- To change the language type, set [Keyboard Layout](#).
 - 1) Display the menu with **MENU**, select [Main Menu](#) and press **OK** to access.
 - 2) Select [Setup](#) > [System Menu](#) > [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
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**, select **Main Menu** and press **OK** to access.
 - 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 \triangle / ∇ and press **OK** to set.
 - You can adjust using the slide bar with $\triangleleft / \triangleright$ 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** 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

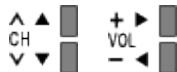
= Note =

- Menu items and selectable options vary depending on the mode (TV mode, Media Player, Network services, etc.).
- Some settings in Picture menu may also affect the menu screen when watching content in 4K format.
- Depending on the model, the initial setting value of [Viewing Mode](#) may differ between [Home](#) and [Shop](#) even when selecting the same viewing mode.

The setting value can be adjusted by pressing **MENU** and selecting [Picture](#).

■ Using control panel buttons

1. Press and hold INPUT/OK/HOLD for MENU button for 3 seconds to display the main 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

[Luminance Level](#), [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](#)

Colour Remaster

Displays the vivid images with the expanded colour gamut.

 → [Watching](#) > [For best picture](#) > [Basic settings](#)

Rec.2020 Colour Remaster

Displays the vivid images with the suitable colour gamut.

 → [Watching](#) > [For best picture](#) > [Basic settings](#)

Resolution Remaster

Enhances picture resolution to make the image sharper.

 → [Watching](#) > [For best picture](#) > [Basic settings](#)

Dynamic Range Remaster

Enhances bright areas of the image closer to the original luminance making improved picture impact.

 → [Watching](#) > [For best picture](#) > [Basic settings](#)

Intelligent Frame Creation

Automatically compensates the picture frame rate and removes juddering movements to make the images smooth.

 → [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

Game Mode

Provides suitable images for fast response signals when playing games.

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

ALLM

Automatically switches the TV to Game Mode according to the ALLM information when using this TV in single window mode.

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

VRR

Provides smoother gaming experience with low latency and without image stuttering or tearing.

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

Film Cadence Mode

Improves vertical resolution for movie images.

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

1080p Pure Direct

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

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

4K Pure Direct

Reproduces the original image quality in detail for 4K (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 EOTF Type

Selects the EOTF type for each HDMI input. Set to [Auto](#) for general use.

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

HDMI Colorimetry Type

Selects the colourimetry type for each HDMI input.

 → [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](#)

HDMI YCbCr Range

Adjusts the black level of the image in the YCbCr signal for each HDMI input.

 → [Watching](#) > [For best picture](#) > [Option Settings](#)

EOTF Type

Selects the EOTF type of broadcast or video content.

 → [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

Aspect

Changes the aspect ratio (image size).

 → [Watching](#) > [For best picture](#) > [Aspect](#)

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 [Just](#) or [Zoom](#).

 → [Watching](#) > [For best picture](#) > [Screen Settings](#)

Screen Display

Turns the screen off when you select [Off](#).

 → [Watching](#) > [For best picture](#) > [Screen Settings](#)

Pixel Orbiter

Sets the pixel shifting of the image to prevent panel “image retention”.

 → [Watching](#) > [For best picture](#) > [Screen Settings](#)

Logo Luminance Control

Adjusts the luminance level of the displayed logo to prevent panel “image retention”.

 → [Watching](#) > [For best picture](#) > [Screen Settings](#)

Panel Maintenance

Turns the screen off and perform the maintenance to prevent the panel “image retention”.

 → [Watching](#) > [For best picture](#) > [Screen Settings](#)

Panel Maintenance Message

Enables to display the regular panel maintenance notification.

 → [Watching](#) > [For best picture](#) > [Screen Settings](#)

PICTURE Button Setting

Sets the viewing mode selection when pressing **PICTURE**.

 → Watching > For best picture > Viewing Mode

Lock Settings

Locks the settings of [Professional1 / 2 / Dolby Vision IQ / Dolby Vision Dark](#) for each input.

 → [Watching](#) > [For best picture](#) > [Lock Settings](#)

Copy Adjustment

Copies the picture settings of [Filmmaker](#), [True Cinema](#), [Custom](#), [Professional1](#), [Professional2](#), [Game](#), [Dolby Vision IQ](#) or [Dolby Vision Dark](#) 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

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

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 the volume level of speakers.

 → [Watching](#) > [For best audio](#) > [Basic settings](#)

Dolby Atmos

Provides the precise sound of Dolby Atmos when playing Dolby Atmos content. Set to [On](#) for general use.

 → [Watching](#) > [For best audio](#) > [Basic settings](#)

Sound Field Creation

Selects your favourite sound field setting.

 → [Watching](#) > [For best audio](#) > [Basic settings](#)

Voice Enhancer

Adjusts the volume level for speech, etc. for inputs other than Dolby Atmos input.

 → [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](#)

Sport Link

Automatically sets the sound mode to [Stadium](#) when [Viewing Mode](#) is set to [Sport](#).

 → [Watching](#) > [For best audio](#) > [Basic settings](#)

Volume settings

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

Space Tune Setting

Adjusts the sound quality automatically according to the installation location or room condition.

 → Watching > For best audio > 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 the volume.

 → 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

Dialogue Enhancement

Enhances the intelligibility of dialogue and commentary.

 → Watching > For best audio > Volume settings

Headphone terminal output setting

Sets the sound output from the headphone terminal.

 → [Watching > For best audio > Headphone terminal output setting](#)

Voice Guidance Settings

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

Audio Description

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](#)

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](#)

AV Sync

Delays the video signal to adjust the output timing difference between video and audio outputs.

 → [Watching > For best audio > Advanced settings](#)

SPDIF Selection

Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI2 (eARC / 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 OUT and HDMI2 (eARC / ARC function) terminals to equalise with that of the other audio types.

 → [Watching > For best audio > Advanced settings](#)

eARC

Set to **On** to enable the eARC (Enhanced Audio Return Channel) function when the equipment supporting eARC function is connected to this TV.

 → [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](#)

TV Name

Sets your favourite name for this TV.

 → [Network](#) > [Network settings](#) > [TV Name](#)

TV Remote App Settings

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

 → [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](#)

Smart Speaker Settings

Controls this TV such as selecting a channel, changing volume, etc. with the smart speaker function.

 → [Network](#) > [Network settings](#) > [Smart Speaker Settings](#)

Mirroring Settings

Settings for the mirroring function

 → [Functions](#) > [Mirroring](#) > [Mirroring Settings](#)

Other settings

VOD Content Refresh

Selects whether to update the VOD content to the latest even when the TV is in Standby mode.

 → Network > Network settings > VOD Content Refresh

Software Update

Updates the TV's software if any updates are available.

 → Network > Network settings > Software Update

New Software Message

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

 → Network > Network settings > New Software Message

IPv6

Enables the IPv6 function for the network connections.

 → Network > Network settings > IPv6

Terms of Service and Settings

Displays the terms of service and settings.

 → Network > Network settings > Terms of Service and Settings

Timer

On Timer

Automatically turns the TV on at the set time with the preset channel, volume, etc.

 → [Watching](#) > [Basic](#) > [Energy saving functions](#)

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](#)

Clock Settings

Mode

Selects the clock setting mode for this TV.

 → [Watching](#) > [Basic](#) > [Adjusting time](#)


Date

Sets the current date manually.

 → [Watching](#) > [Basic](#) > [Adjusting time](#)

Time

Sets the current time manually.

 → [Watching](#) > [Basic](#) > [Adjusting time](#)

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

Voice Control

Selects the voice service for Voice Control function.

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](#)

Bluetooth Setup

Settings for the specific devices supporting Bluetooth wireless technology

 → [Functions](#) > [Bluetooth devices](#) > [Bluetooth Setup](#)

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.

Favourites Edit

Creates a list of favourite channels.

 → Watching > Tuning and editing channels > Favourites Edit

Channel List

Skips unwanted channels or edits channels.

 → Watching > Tuning and editing channels > Channel List

Auto Tuning

Automatically searches for receivable channels.

 → Watching > Tuning and editing channels > Auto Tuning

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

New Channel Message

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

 → Watching > Tuning and editing channels > Other settings

Signal Condition

Checks the signal condition.

 → Watching > Tuning and editing channels > Signal Condition

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. ([Digital TV Tuning Menu](#) / [Analogue TV Tuning Menu](#))

Language

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

OSD Language

Changes language for on-screen displays.

 → Watching > Basic > Language

Preferred Audio

Selects the preferred language for digital channel multi audio (depending on the broadcaster).

 → Watching > Basic > Language

Preferred Audio 1 / 2

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

 → Watching > Basic > Language

Preferred Subtitles

Selects the preferred language for digital channel subtitles (depending on the broadcaster).

 → Watching > Basic > Language

Preferred Subtitles 1 / 2

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

 → Watching > Basic > Language

Preferred Guide Language

Selects the preferred language for the information banner and TV Guide (if available).

 → Watching > Basic > Language

Display Settings

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](#)

Playing Time Display

Set to [On](#) to display a time period of continuous use in Game Mode on the top right of the screen every 30 minutes.

 → [Watching](#) > [External equipment](#) > [Watching external input](#)

Notification

([On](#) / [Off](#))

Displays a notification message.


Dolby Notification

([On](#) / [Off](#))

Displays a Dolby notification.

HDMI Auto Setting

Set to **Mode1** when the image or sound in HDMI input is not played properly.

 → [Watching > 4K resolution > HDMI Auto Setting](#)

HDMI HDR Setting

Settings for input signal from the connected HDR device

 → [Watching](#) > [External equipment](#) > [HDMI HDR Setting](#)

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](#)

HDMI Signal Power Link Setting

Power on Link

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

 → Watching > External equipment > HDMI Signal Power Link Setting

Power off Link

When the connected equipment of the current input is turned off, the TV is turned off automatically.

 → Watching > External equipment > HDMI Signal Power Link Setting

Link Terminal

Selects HDMI terminal to use the power link function.

 → Watching > External equipment > HDMI Signal Power Link Setting

EWS Settings

Settings for EWS (Early Warning System) function

- Indonesia only

 → [Watching](#) > [Basic](#) > [EWS Settings](#)

Data Service Application

This feature is available depending on your model.

Service

Sets to use Hybrid Broadcast Broadband TV application.

 → [Functions > Data Service Application > Using Data Service Application](#)

Privacy Setting

Settings for the privacy in the interactive data services

 → [Functions > Data Service Application > Privacy Setting](#)

Home Settings

Auto Pin

Selects whether to automatically add a shortcut for a feature frequently used on Home.

 → [Home](#) > [Home](#) > [How to use](#)

System Menu

Keyboard Layout

Selects the language that your USB or Bluetooth Keyboard supports.

 → [Functions](#) > [Keyboard](#) > [Keyboard](#)

Remote Control Settings

Settings for the remote control mode of the TV and remote control

 → [Functions](#) > [Voice Control](#) > [Settings](#)

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](#)

 → [Functions](#) > [Updating the TV Software](#) > [Manual update](#)

Licence Menu

Displays the software licence information.

Other Settings

Power Save

(On / Off)

Reduces brightness of the picture to economise on power consumption.

Power LED Indicator

Selects the power LED indication mode.

 → [Functions > Power LED Indicator > Using Power LED Indicator](#)

Support

Help menu

Using Help menu

1. Display the menu with **MENU**, select **Main Menu** and press **OK** to access.
 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.

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.
- Is [Luminance Level](#), [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 Tuning](#)

White spots or shadow images (noise)

- Check the position, direction and connection of the aerial.
 - Keep the space between the TV and RF cable.
-

There may be a short black image

- A black image is displayed to avoid picture distortion when an input signal changes.
-

There may be white, red, blue, green and black spots on the screen

- This is a characteristic of the panels and is not a problem. The 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 white, red, green, blue or black. Please note this does not affect the performance of the panel.
-

A white horizontal line appears in Standby mode

- A white horizontal line may appear on the screen for a while to adjust the panel. This is not a malfunction.

Digital 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.

- Due to the digital reception technologies involved, quality of the Digital TV signals may be relatively low in some cases, despite good reception of Analogue TV channels.
-


Unable to receive signals with a high-performance aerial

- Install an aerial individually for the TV and VCR (or use a splitter).
-

Unable to receive TV signals

- Check the RF cable connection. Refer to “Special notices for receiving digital terrestrial services”.
 → [Watching > Basic > Basic connection](#)
 - If you use an RF selector, confirm that the correct TV signal is selected.
-

Interference or frozen / disappearing image

- Check [Signal Condition](#). If the level of [Signal Quality](#) is low, check aerial.
 → [Watching > Tuning and editing channels > Signal Condition](#)
- Turn the TV off with Mains Power On / Off switch, then turn it on again.

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 TV)

 → [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

- Set **HDMI Auto Setting** in the Setup Menu to **Mode1**.

 → Watching > 4K resolution > HDMI Auto Setting

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.

- Set **HDMI Auto Setting** in the Setup Menu to **Mode1**.

 → Watching > 4K resolution > HDMI Auto Setting

- The valid 4K format varies depending on the HDMI terminal.






 → Watching > 4K resolution > Valid 4K format

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 in-house streaming operations

- Is media server of the connected equipment prepared?
 → [Network > Home network > 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.
-

Voice Control function does not work

- Confirm the remote control is paired with this TV. If the remote control is not paired, set [Remote Control Settings](#) in [Setup](#).

 → [Functions > Voice Control > Settings](#)

- Voice Control function may not work properly depending on the pronunciation, noise and network environment.

- For details of the Voice Control function

 → [Functions > Voice Control](#)

- Check the connections and settings.

 → [Network > Network connections](#)

 → [Network > Network settings](#)

LED does not light

- Set [Power LED Indicator](#) in the Setup Menu to [On](#).

 → [Functions > Power LED Indicator > Using Power LED Indicator](#)

LED does not light red in Standby mode

- LED lights orange in Standby mode in the following conditions:
 - [On Timer](#) is set to [On](#).
 - Recording is in progress.
 - [Timer Programming](#) is set.
 - [Home Network Server](#) is set to [On](#).
 - [Powered On by Apps](#) is set to [On](#).
 - [Home Streaming](#) is set to [Always](#).
 - [VOD Content Refresh](#) is set to [On](#) and VOD content is updated.
 - [Powered On by Easy Mirroring](#) is set to [On](#).
 - LED lights orange during adjustment of the panel (approx. 10 minutes to maximum 80 minutes). LED lights orange again in standby mode when the TV is turned on / off before the panel adjustment is completed. (Be sure to turn the TV off with the remote control to adjust the panel.)
-

The panel maintenance notification is displayed when turning the TV off with Standby On / Off switch of the TV's remote control

- Perform the panel maintenance. Select **Turn the TV off now** and press **OK** to start the panel maintenance.
 - The panel maintenance is interrupted when selecting **Don't start panel maintenance this time** or turning the TV off while the notification is displayed.
-

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.

<https://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.

