PHILIPS

Television

7608 Series

User Manual

43PUS7608
50PUS7608
55PUS7608

Register your product and get support at
www.philips.com/TVsupport

Contents

1 Home Screen Overview 4
2 Get Support 5
2.1 Identify and Register your TV 5
2.2 TV Help and User Manual 5
2.3 TV Diagnose and Self-diagnose 5
2.4 Consumer Care / Repair 5
3 Quick Guide 7
3.1 Remote Control 7
3.2 IR sensor 9
3.3 Batteries and Cleaning 9
3.4 Joystick - Local Control 9
4 Setting Up 10
4.1 Read Safety 10
4.2 TV Placement 10
4.3 Turn on TV 10
5 Connections 12
5.1 Connectivity guide 12
5.2 Antenna 12
5.3 Satellite 12
5.4 Video Device 12
5.5 Audio Device 12
5.6 Mobile Device 13
5.7 Other Device 14
5.8 Computer 15
6 Switch Source 16
6.1 Source List 16
6.2 Rename Device 16
7 Channels 17
7.1 About Channels and Switch Channels 17
7.2 Install Channel 17
7.3 Channel List 22
7.4 Favourite Channels 23
7.5 Text / Teletext 24
8 TV Guide 25
8.1 What You Need 25
8.2 Using the TV Guide 25
9 Freeview Play (for UK models) 26
9.1 About Freeview Play 26
9.2 Using Freeview Play 26
9.3 TV Guide on Freeview Play 26
10 Videos, Photos and Music 27
10.1 From a USB Connection 27
10.2 From a Computer or NAS 27
10.3 Photos 27
10.4 360° Photo 27
10.5 Videos 28
10.6 Music 29
11 Open TV Setting Menus 30
11.1 Qucik Menu and Frequent Settings 30
11.2 All Settings 30
12 Gaming Control Bar 42
13 Wireless and Networks 43
13.1 Home Network 43
13.2 Connect to Network 43
13.3 Wireless and Network Settings 43
14 Smart TV and Apps 45
14.1 Setup Smart TV 45
14.2 Store of Apps 45
15 Netflix 46
16 Rakuten TV 47
17 Amazon Prime Video 48
18 YouTube 49
19 Alexa 50
19.1 About Alexa 50
19.2 Using Alexa 50
20 Google Assistant 51
21 Software 52
21.1 Update Software 52
21.2 Software Version 52
21.3 Automatic Software Update 52
21.4 View Software Update History 52
22 Environmental 54
22.1 European Energy Label 54
22.2 End of Use 54
22.3 UK Declaration of Conformity 54
23 Specifications 55
23.1 Power 55
23.2 Reception 55
23.3 Display Resolution 55
23.4 Supported Input Resolution 55
23.5 Sound 55
23.6 Multimedia 55
23.7 Connectivity 56
24 Troubleshooting 57
24.1 Tips 57
24.2 Switch On 57
24.3 Remote Control 57
24.4 Channels 57
24.5 Satellite 58
24.6 Picture 58
24.7 Sound 59
24.8 HDMI - UHD 59
24.9 USB 60
24.10 Wi-Fi and Internet 60
24.11 Wrong Menu Language 60
25 Safety and Care 61
25.1 Safety 61
25.2 Screen Care 62

26 Terms of Use 63
27 Copyrights 64
27.1 HDMI 64
27.2 HEVC Advance 64
27.3 Dolby Vision and Dolby Atmos 64
27.4 Wi-Fi Alliance 64
27.5 Other Trademarks 64
28 Open Source 65
28.1 Open Source Software 65
28.2 Open Source License 65
29 Disclaimer regarding services and/or software offered by third parties 69
Index 70

1

Home Screen Overview

To enjoy the benefits of your Smart TV, connect the TV to the Internet. Press (Home) on your remote control to get your Home screen. Like on your smartphone or tablet, the Home screen is the centre of your TV. From the Home screen you can decide what to watch by browsing entertainment options from apps and live TV.

The Home screen is organized in rows to let you discover great contents from your favourite apps. Apps may populate their recommendation (if available) according to their own choice as an individual rows in the home screen.

Highlights on your home screen

With multiple tabs like **Home**, **Apps** and **Search** , you can discover movies and shows from your services and popular apps.The **Apps** tab is an app collection to let you rent movies online, read newspapers, watch videos and listen to music, also shop online, or watch TV programmes when it suits you with On-line TV. You can also trigger input field for searching with **Search** tab.

Favorite Apps

Your favourite Apps are placed on the first row. This row contains number of apps pre-installed. The order of these apps are according to business agreements with content service providers. In this row you will also find the Apps, like **Watch TV**, **Internet Browser**, **Media** and others.

Live TV

Live TV row shows the currently running programmes from the installed channels.

YouTube and Netflix

This row contains your Recommended, Subscriptions or Trending YouTube and Netflix videos.

Accessing settings from Home

You can access **All Settings** menu via the icon at the top right corner. You can also find the **Frequent settings** and **Quick menu** with common settings in the Philips TV Menu, which can be invoked directly from the remote control.

TV Guide

Select **TV Guide** to open the TV Guide of your installed TV channels.

Sources

Select **SOURCES** to view and change to available sources in this TV.

Note: If your installed country is Germany, there will be additional **Public Value** tab on home screen to list **Featured** apps.

2

Get Support

2.1

Identify and Register your TV

Identify your TV - TV model number and serial number

You might be asked to provide the TV product model number and serial number. Find these numbers on the packaging label or on the type label on the back or bottom of the TV.

Register your TV

Register your TV and enjoy a range of benefits including full support (including downloads), privileged access to information about new products, exclusive offers and discounts, the chance to win prizes and even participate in special surveys about new releases.

Go to www.philips.com/TVsupport

2.2

TV Help and User Manual

(Home) > Settings > Help

You can use Help function to diagnose and get more information about your TV.

· TV information - View the Model name, Serial number and Software version of your TV.

· How to - You can see instructions on how to install channels, sort channels*, update TV software, connect external devices and use Smart functions on your TV.

· TV diagnose - Run the TV diagnose to check the condition of your TV.
· Self-diagnose - You can check if the picture, sound, network and other settings are working fine.
· Update software - Check available software updates.
· User manual - Read the user manual for TV information.
· Troubleshooting - Find a solution for frequent ask questions.
· Factory settings - Reset all settings to factory settings.
· Reinstall TV - Reinstall and redo the complete TV installation.
· Contact info - Show the telephone number or web address for your country or region.

* Sorting channels is only applicable for certain countries.

** Ambilight setting is only for models which support Ambilight function.

2.3

TV Diagnose and Self-diagnose

TV diagnose

You can run the TV diagnose test to check the condition of your TV. At the end of the diagnose, TV will clear the cache memory and close any unused apps to continue the smooth functioning of your TV.

To run the TV diagnose test:

1 - Select Quick Menu > Help > TV diagnose and press OK.
2 - Select Start to run a series of diagnostic tests.
3 - When the test completed, you can view the status of following items.
- Power
- Picture
- Sound
- Connect external devices
- Network
- TV tuner
- Clear cache memory
- Apps
4 - Select OK to close the result page and go back to TV diagnose wizard.
5 - Press Back to exit from TV diagnose, select Self-diagnose to do other diagnostic check, select View results to view the result page again.

Self-diagnose

Self-diagnose can help you to do troubleshooting of your TV by checking the configurations of the TV.

To run the Self-diagnose:

1 - Select Quick Menu > Help > Self-diagnose and press OK.
2 - Select following items to check the configurations.
· Check the TV - You can check if the picture, sound and other settings are working fine..
· Check the network - Check the network connection.
· Check the remote control - Perform the test to verify the TV bundled remote control functionality.
· View weak signal history - Display the list of channel numbers that were automatically saved when signal strength was weak.
· Optimize internal storage - Free up space in TV's internal storage for optimal performance.

2.4

Consumer Care / Repair

For support and repair, call the Consumer Care hotline in your country. Our service engineers will take care of a repair, if necessary.

Find the telephone number in the printed documentation that came with the TV.
Or consult our website www.philips.com/TVsupport and select your country if needed.

TV model number and serial number

You might be asked to provide the TV product model number and serial number. Find these numbers on the packaging label or on the type label on the back or bottom of the TV.

Warning

Do not attempt to repair the TV yourself. This may cause severe injury, irreparable damage to your TV or void your warranty.

3

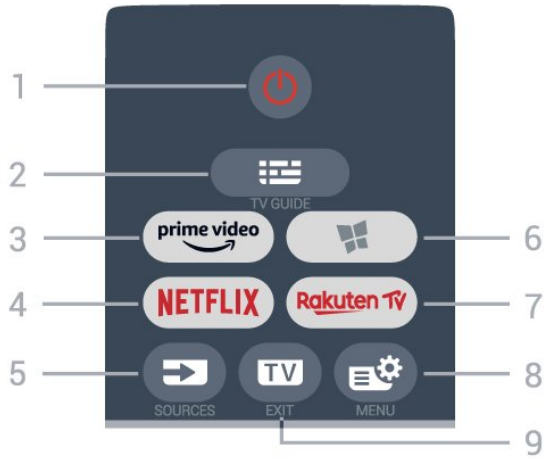
Quick Guide

3.1

Remote Control

Key Overview

Top



1 - Standby / On
To switch the TV on or back to Standby.

2 - TV Guide
To open or close the TV Guide.

3 - prime video
To launch the Amazon prime video App.

4 - NETFLIX
To open the Netflix App directly. With the TV switched on or from standby.

• If you have a Netflix membership subscription, you can enjoy Netflix on this TV. Your TV must be connected to the Internet.
• To open Netflix, press NETFLIX to open the Netflix App. You can open Netflix immediately from a TV in standby.
www.netflix.com

5 - SOURCES
To open or close the Sources menu.

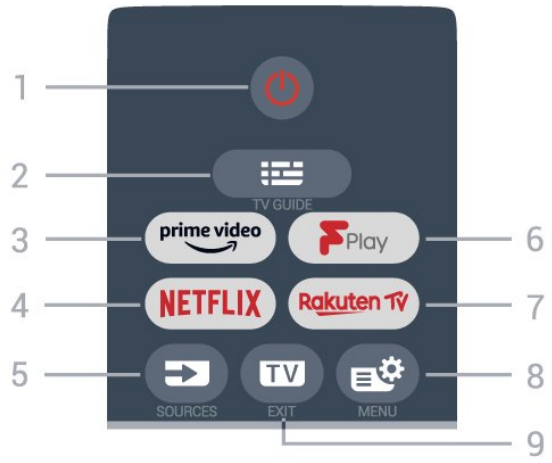
6 - Apps
To open the **Apps** tab for Apps on Home screen.

7 - Rakuten TV
To launch the **Rakuten TV** App.

8 - Quick Menu/MENU
To open the Quick Menu with typical TV functions. Hold the **MENU** key to show the Gaming control bar when game signal detected and game mode enabled.

9 - TV - EXIT
To switch back to watch TV or to stop an interactive TV application.

Top (for UK models)



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To launch **Freeview Play**.

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To open the Quick Menu with typical TV functions. Hold the **MENU** key to show the Gaming control bar when game signal detected and game mode enabled.

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To switch back to watch TV or to stop an interactive TV application.

Middle

1 - OK key
To confirm a selection or setting. To open the channel list while watching TV.

2 - ← Back
To switch back to the previous channel you selected.
To return to previous menu.
To go back to the previous App/Internet page.

3 - OPTIONS
To open or close the options menu.

4 - Colour keys
Direct selection of options. Blue key, opens **Help**.

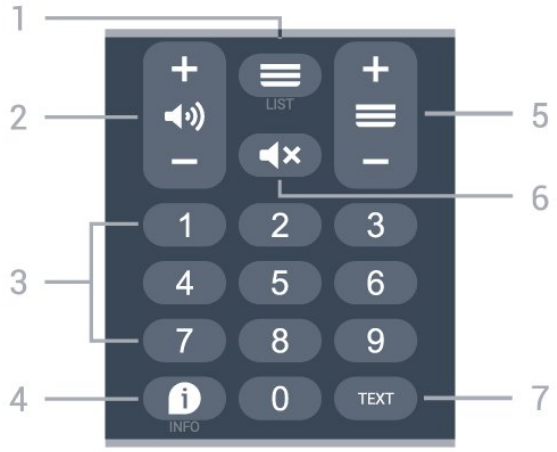
5 - Arrow / navigation keys
To navigate up, down, left or right.

6 - Home
To open the Home menu.

7 - Search
To open the **Search** tab on Home screen.

8 - Playback
- Play ▶, to playback.
- Pause ⏸, to pause playback
- Stop ■, to stop playback
- Rewind ◀◀, to rewind
- Fast forward ▶▶, to go fast forward

Bottom



1 - Channel list
To open the channel list.

2 - Volume
Press + or - to adjust the volume level.

3 - Number keys
To select a channel directly.

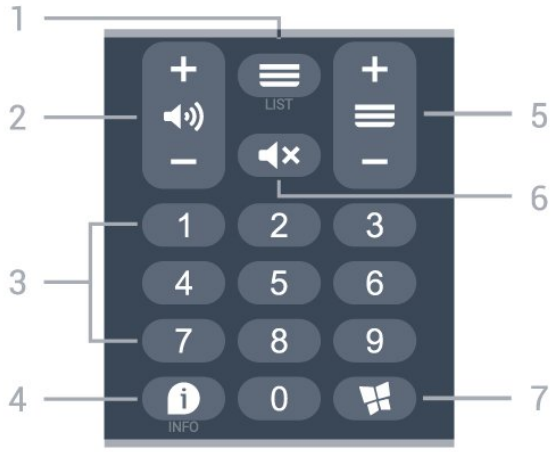
4 - INFO
To open or close programme info.

5 - Channel
Press + or - to switch to the next or previous channel in the channel list. To open the next or previous page in Text/Teletext.

6 - Mute
To mute the sound or to restore it.

7 - TEXT
To open or close Text/Teletext.

Bottom (for UK models)



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6 - Mute
To mute the sound or to restore it.

7 - Apps
To open the **Apps** tab for Apps on Home screen.

3.2

IR sensor

The TV can receive commands from a remote control that uses IR (infrared) to send commands. If you use such a remote control, always make sure you point the remote control at the infrared sensor on the front of the TV.

Warning

Do not put any objects in front of IR sensor of the TV, it may block the IR signal.

3.3

Batteries and Cleaning

Replace batteries

Refer to the **Quick Start Guide** in your product package for detailed information about the remote control batteries.

If the TV does not react on a key press on the remote control, the batteries might be empty.

To replace the batteries, open the battery compartment on the back of the remote control.

1 - Slide the battery door in the direction shown by the arrow.
2 - Replace the old batteries with new batteries. Make sure the + and the - ends of the batteries line up correctly.
3 - Reposition the battery door and slide it back until it clicks.
• Remove the batteries if you are not using the remote control for a long time.
• Safely dispose of your old batteries according to the end of use directions.

For more information, in **Help**, select **Keywords** and look up **End of use**.

Cleaning

Your remote control is treated with a scratch-resistant coating.

To clean the remote control, use a soft damp cloth. Never use substances such as alcohol, chemicals or household cleaners on the remote control.

3.4

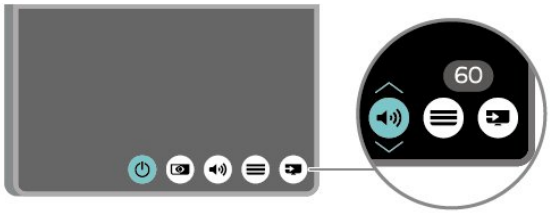
Joystick - Local Control

Keys on TV

If you lost the remote control or its batteries are empty, you can still do some basic TV operations.

To open the basic menu...

1 - With the TV switched on, press the joystick key on the bottom of the TV to bring up the basic menu.
2 - Press left or right to select Volume, Channel or Sources. Select Demo, to start a demo movie.



3 - Press up or down to adjust the volume or tune to the next or previous channel. Press up or down to go through the list of sources, including the tuner selection.

The menu will disappear automatically.

4

Setting Up

4.1

Read Safety

Read the safety instructions first before you use the TV.

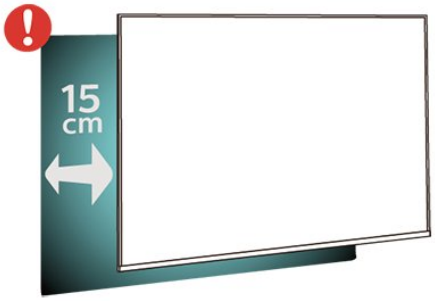
To read the instructions, in **Help** > **User manual**, press the colour key **Keywords** and look up **Safety and Care**.

4.2

TV Placement

Tips on Placement

• Position the TV where light does not shine directly on the screen.
• The ideal distance to watch TV is 2 to 5 times its diagonal screen size. When seated, your eyes should be level with the centre of the screen.
• When wall mounted, position the TV up to 15 cm away from the wall.



Note:

Please keep the TV away from dust-producing sources such as stoves. It is suggested to clean the dust regularly to avoid getting dust into the TV.

TV Stand

You can find the instructions for mounting the TV stand in the Quick Start Guide that came with the TV. In case you lost this guide, you can download it from www.philips.com/TVsupport.

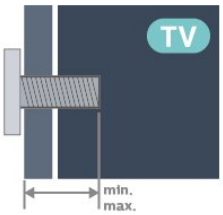
Use the model number of the TV to look for the **Quick Start Guide** to download.

Wall Mounting

Your TV is also prepared for the wall mount bracket (sold separately).

The wall mount size may vary depending on different type of back cases; refer to the **Quick Start Guide** in your product package to see which size is applied to your TV.

Use the following wall mount dimension when purchasing the wall mount.



• 43PUS7608
200x100, M6 (min.: 8 mm, max: 10 mm)
• 50PUS7608
200x100, M6 (min.: 8 mm, max: 10 mm)
• 55PUS7608
200x100, M6 (min.: 8 mm, max: 10 mm)
• 65PUS7608
400x300, M8 (min.: 12 mm, max: 22 mm)
• 75PUS7608
400x300, M8 (min.: 12 mm, max: 22 mm)

Caution

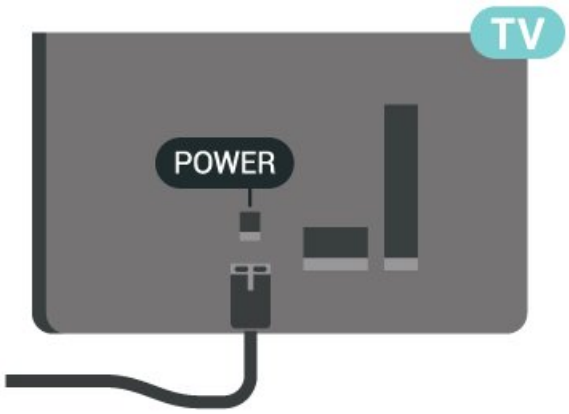
Wall mounting the TV requires special skills and should only be performed by qualified personnel. The TV wall mounting should meet safety standards according to the TVs weight. Also read the safety precautions before positioning the TV.
TP Vision Europe B.V. bears no responsibility for improper mounting or any mounting that results in accident or injury.

4.3

Turn on TV

Connect Power Cable

• Insert the power cable into the **POWER** connector on the back of the TV.
• Make sure the power cable is securely inserted in the connector.
• Make sure that the power plug, in the wall socket, is accessible at all times.
• When you unplug the power cable, always pull the plug, never pull the cable.



Although this TV has a very low standby power consumption, unplug the power cable to save energy if you do not use the TV for a long period of time.

On or Standby

Before you switch on the TV, make sure you plugged in the mains power in the POWER connector on the back of the TV.

Switch On

Press the small joystick key on the bottom of the TV.

Switch to standby

To switch the TV to standby, press ⏻ on the remote control. You can also press the small joystick key on the bottom of the TV.

In standby mode, the TV is still connected to the mains power but consumes very little energy.

To switch off the TV completely, disconnect the power plug.
When disconnecting the power plug, always pull the power plug, never the cord. Ensure that you have full access to the power plug, power cord and outlet socket at all times.

5

Connections

5.1

Connectivity guide

Always connect a device to the TV with the highest quality connection available. Also, use good quality cables to ensure a good transfer of picture and sound.

When you connect a device, the TV recognizes its type and gives each device a correct type name. You can change the type name if you wish. If a correct type name for a device is set, the TV automatically switches to the ideal TV settings when you switch to this device in the Sources menu.

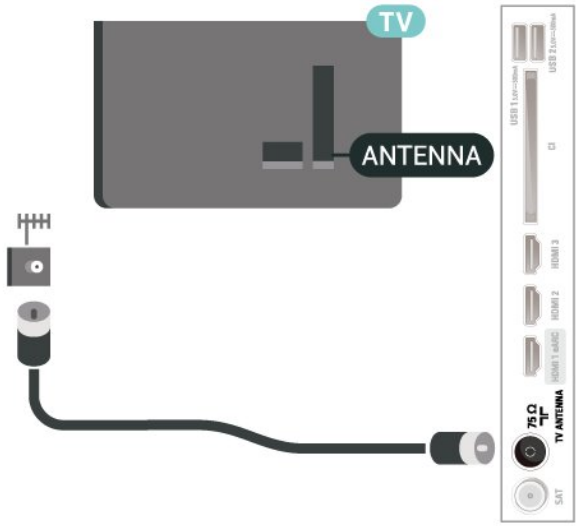
5.2

Antenna

Insert the antenna plug firmly into the **Antenna** socket at the back of the TV.

You can connect your own antenna or an antenna signal from an antenna distribution system. Use an IEC Coax 75 Ohm RF antenna connector.

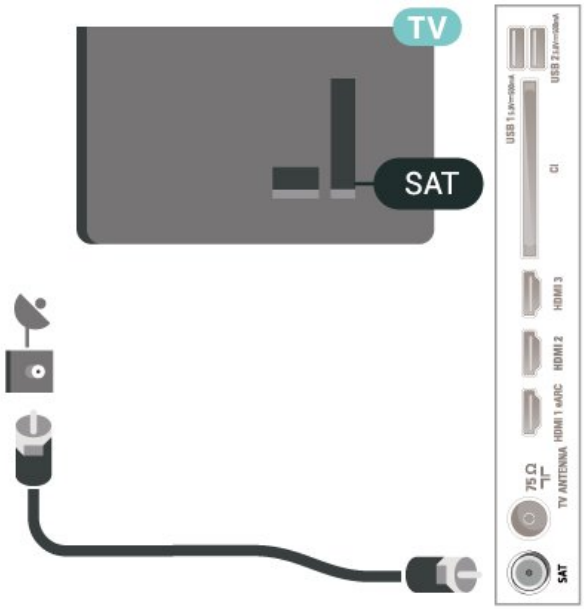
Use this antenna connection for DVB-T and DVB-C input signals.



5.3

Satellite

Attach the satellite F-type connector to the satellite connection **SAT** at the back of the TV.



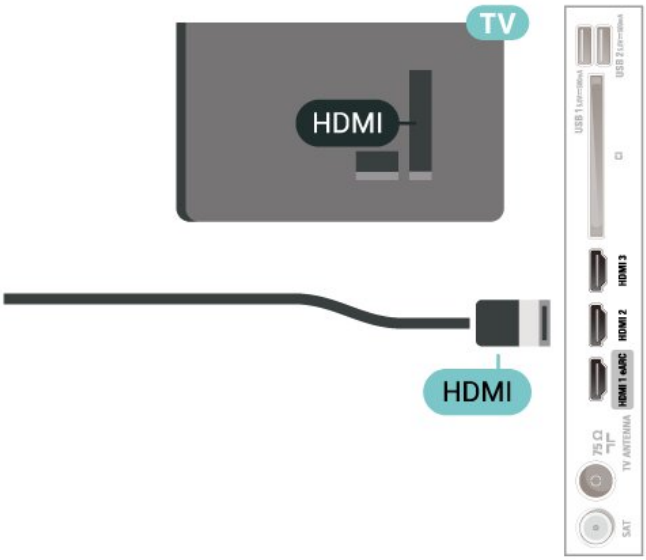
5.4

Video Device

HDMI

An HDMI connection has the best picture and sound quality.

For best signal quality transfer, use a High speed HDMI cable and do not use an HDMI cable longer than 5 m, and also connect devices supporting HDR on any one of HDMI connections.



Copy protection

HDMI ports support HDCP (High-bandwidth Digital Content Protection). HDCP is a copy protection signal that prevents copying content from a DVD disc or Blu-ray Disc. Also referred to as DRM (Digital Rights Management).

5.5

Audio Device

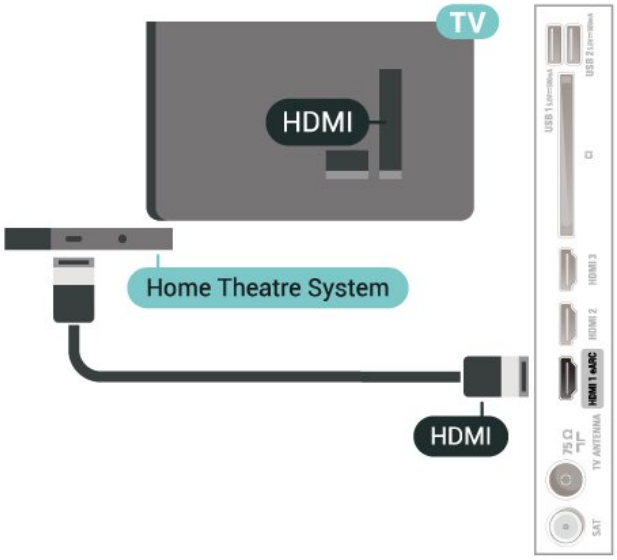
HDMI ARC/eARC

Only **HDMI 1** on the TV have **HDMI ARC** (Audio Return Channel).

If the device, typically a Home Theatre System (HTS), also has the HDMI ARC connection, connect it to any of the HDMI connections on this TV. With the HDMI ARC connection, you do not need to connect the extra audio cable that sends the sound of the TV picture to the HTS. The HDMI ARC connection combines both signals.

HDMI eARC (Enhanced Audio Return Channel) is an advancement over the previous ARC. It supports the latest high-bitrate audio formats up to192kHz, 24-bit, and uncompressed 5.1 and 7.1, and 32-channel uncompressed audio.

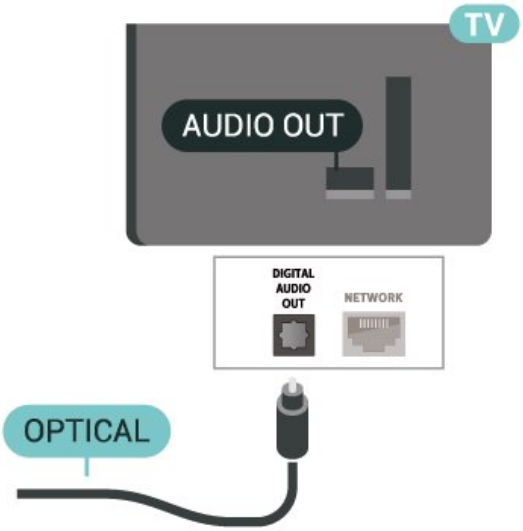
Note: **HDMI eARC** is only available on **HDMI** 1.
Use **Ultra High-speed HDMI cable** for eARC. Only one eARC device is available at a time.



Digital Audio Out - Optical

Audio Out - Optical is a high quality sound connection.

This optical connection can carry 5.1 audio channels. If your device, typically a Home Theatre System (HTS), has no HDMI ARC connection, you can use this connection with the Audio In - Optical connection on the HTS. The Audio Out - Optical connection sends the sound from the TV to the HTS.



5.6

Mobile Device

Screen Mirroring

About Screen Mirroring

You can view your photos or play your music and videos from a mobile device on your TV with Screen Mirroring. The mobile device and the TV should be within range, which usually means being in the same room.

Using Screen Mirroring

Switch on Screen Mirroring

Press **SOURCES** > **Screen Mirroring**

Share a Screen on TV

1 - Activate Screen mirroring on your mobile device.
2 - On your mobile device, select the TV. (This TV will be displayed as TV model name)
3 - Select the TV name on your mobile device, after connection, you can enjoy using Screen Mirroring.

Stop Sharing

You can stop sharing a screen from the TV or from the mobile device.

From the device

With the application you use to start Screen Mirroring, you can disconnect and stop watching the screen of the device on TV. The TV will switch back to the last selected programme.

From the TV

To stop watching the screen of the device on TV, you can . . .

- press TV EXIT to watch a TV broadcast
- press (Home) to start another activity on TV
- press SOURCES to open the Sources menu and select a connected device.

Block a Device

The first time you receive a request to connect from a device, you can block the device. The request from this device and all its requests in the future, will be ignored.

To block a device...

Select Block... and press OK.

Unblock all devices

All previously connected and also blocked devices are stored in the Screen Mirroring list of connections. If you clear this list, all blocked devices will be unblocked.

To unblock all blocked devices...

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Reset Screen Mirroring connections.

Blocking a previously connected device

If you want to block a device that you previously connected, you need to clear the Screen Mirroring connections list first. If you clear this list, you will have to confirm or block the connection for every device again.

Reset Screen Mirroring connections

All previously connected devices are stored in the Screen Mirroring list of connections.

To clear all connected Screen Mirroring devices:

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Reset Screen Mirroring connections.

Screen Delay

The normal delay when sharing a screen with Screen Mirroring is about 1 second. The delay might be longer if you are using older devices with less processing power.

Apps - Philips TV Remote App

The Philips TV Remote App on your smartphone or tablet is your new TV buddy. The app lets you switch channels and adjust the volume — just like a remote control.

Download the Philips TV Remote App from your favourite app store today.

The Philips TV Remote App is available for iOS and Android and is free of charge.

Alternatively, you can go (Home) > Settings > Wireless & networks > Wired or Wi-Fi > Remote app QR code and press OK; a QR code will be presented on TV screen. Scan the QR code with your mobile device and follow the instruction to download and install the Philips TV Remote App. When using the app, your mobile device and Philips TV need to connect to the same Wi-Fi network.

5.7

Other Device

CAM with Smart Card - CI+

About CI+

This TV is ready for the CI+ Conditional Access.

With CI+ you can watch premium HD programmes, like movies and sports, offered by digital TV operators in your region. These programmes are scrambled by the TV operator and descrambled with a prepaid CI+ module.
Digital TV operators provide a CI+ module (Conditional Access Module - CAM) and an accompanying smart card, when you subscribe to their premium programmes. These programmes have a high level of copy protection.

Contact a digital TV operator for more information on terms & conditions.

Smart Card

Digital TV operators provide a CI+ module (Conditional Access Module - CAM) and an accompanying smart card, when you subscribe to

their premium programmes.

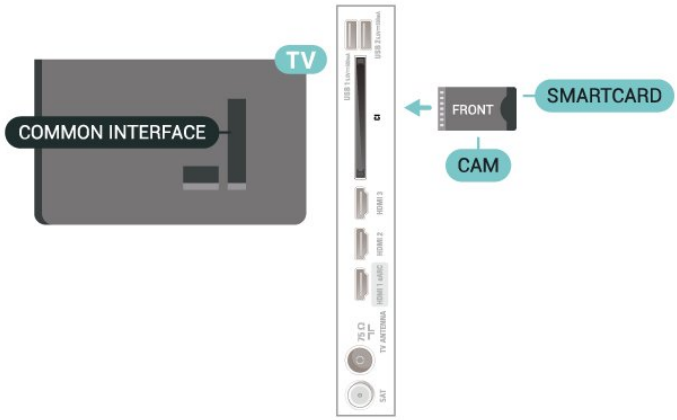
Insert the smart card into the CAM module. See the instruction you received from the operator.

To insert the CAM in the TV...

1. Look on the CAM for the correct method of insertion. Incorrect insertion can damage the CAM and TV.
2. While looking at the back of the TV, with the front of the CAM facing towards you, gently insert the CAM into the slot COMMON INTERFACE.
3. Push the CAM in as far as it will go. Leave it in the slot permanently.

When you switch on the TV, it may take a few minutes before the CAM is activated. If a CAM is inserted and subscription fees are paid (subscription methods can differ), you can watch the scrambled channels supported by the CAM smart card.

The CAM and smart card are exclusively for your TV. If you remove the CAM, you will no longer be able to watch the scrambled channels supported by the CAM.



Set Passwords and PIN Codes

For some CAMs, you must enter a PIN code to watch its channels. When you set the PIN code for the CAM, we recommend you to use the same code you are using to unlock the TV.

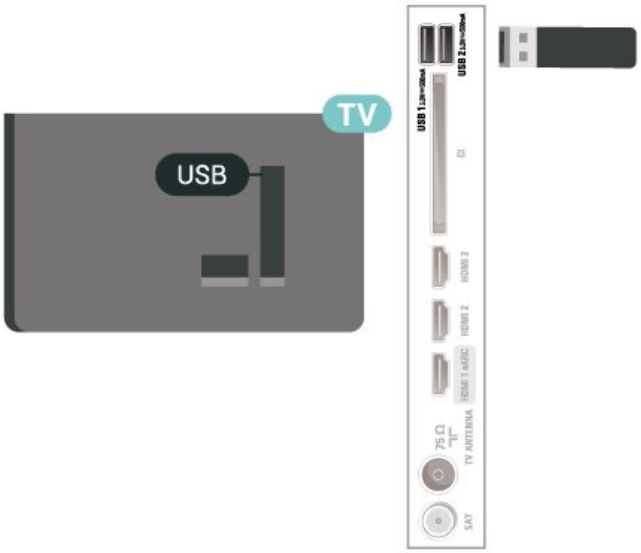
To set the PIN code for the CAM...

1. Press SOURCES .
2. Select the channel type you are using the CAM for.
3. Press OPTIONS and select Common Interface.
4. Select the TV operator of the CAM. The following screens come from the TV operator. Follow the on-screen instruction to look up the PIN code setting.

USB Flash Drive

You can view photos or play your music and videos from a connected USB flash drive. Insert a USB flash drive in one of the USB connections on the TV while the TV is switched on.

The TV detects the flash drive and opens a list showing its content.
If the contents list does not appear automatically, press SOURCES and select USB.



For more information on watching or playing content from a USB flash drive, in Help, press the colour key Keywords and look up Photos, Videos and Music.

5.8

Computer

You can connect your computer to the TV using a high quality HDMI cable and use the TV as a PC monitor.

* Note for Nvidia Graphics card users:
If you connect your computer to TV via HDMI, Nvidia card may automatically output Variable Refresh Rate (VRR) video to TV when TV's HDMI Ultra HD setting is Optimal (Auto Game). Please always ensure to turn off VRR function in graphics card before you change TV's HDMI Ultra HD to Optimal or Standard, the TV UI selection Optimal or Standard will turn off VRR support in TV.

* Note for AMD Graphics card users:
If you connect your computer to TV via HDMI, please ensure following settings in graphics card used to have proper performance.
- If graphics card output video is 4096 x 2160p or 3840 x 2160p and RGB pixel format is used, RGB 4:4:4 pixel format studio (limited RGB) shall be set in computer graphic card.

6

Switch Source

6.1

Source List

• To open the sources menu, press SOURCES .
• To switch to a connected device, select the device with the **Arrow / navigation** keys and press **OK**.
• To view the technical information of the connected device you are watching, press OPTIONS and **select Device info**.
• To close the source menu without switching to a device, press SOURCES again.

6.2

Rename Device

(Home) > Settings > General settings > Edit input sources > Source

1 - Select one of the device icons, the preset name appears in the typing fieldand select.
2 - Select **Rename** to open on-screen keyboard.
3 - Use navigation keys to select characters.
4 - Select **Close** when complete the editing.

7

Channels

7.1

About Channels and Switch Channels

To watch TV channels
• Press TV. The TV tunes to the TV channel you last watched.
• Press (Home) > TV > Channels and press OK.
• Press ≡ + or ≡ - to switch channels.
• If you know the channel number, type in the number with the number keys. Press OK after you entered the number to switch channels.
• To switch back to the previously tuned channel, press ← Back .

To switch to a channel from a channel list
• While watching a TV channel, press OK to open the channel lists.
• The channel list can have several pages with channels. To view the next or previous page, press ≡ + or ≡ -.
• To close the channel lists without switching channels, press ← Back or TV EXIT .

Channel icons

After an Automatic channel update of the channel list, newly found channels are marked with a ★ (star). If you lock a channel, it will be marked with a 🔒 (lock).

Radio channels

If digital broadcasting is available, digital radio stations are installed during installation. Switch to a radio channel just like you switch to a TV channel.

This TV can receive digital television standard DVB. TV may not work properly with some operators of digital television , non-compliance with requirements of the standard in full.

7.2

Install Channel

Antenna and Cable

Manually Search for Channels and Channel Settings

Search for Channels

Update channels

(Home) > Settings > Install Channels > Antenna/Cable installation > Search for channels

1 - Select Start now and press OK.
2 - Select Update channels to only add new digital channels.
3 - Select Start and press OK to update channels. This can take a few minutes.

Quick reinstall

(Home) > Settings > Install Channels > Antenna/Cable installation > Search for channels

1 - Select Start now and press OK.
2 - Select Quick reinstall to install all channels again with default settings.
3 - Select Start and press OK to update channels. This can take a few minutes.

Advanced reinstall

(Home) > Settings > Install Channels > Antenna/Cable installation > Search for channels

1 - Select Start now and press OK.
2 - Select Advanced reinstall to do a full re-installation which takes you through each step.
3 - Select Start and press OK to update channels. This can take a few minutes.

Channel Settings

(Home) > Settings > Install Channels > Antenna/Cable installation > Search for channels > Advanced reinstall

1 - Select Start now and press OK.
2 - Select Advanced reinstall to do a full re-installation which takes you through each step.
3 - Select Start and press OK.
4 - Select the country where you are now and press OK.
5 - Select Antenna (DVB-T) or Cable (DVB-C) , and select one item you need to re-install.
6 - Select Digital and analogue channels, Only digital channels, or Only analogue channels.
7 - Select Settings and press OK.
8 - Press Reset to reset, or press Done when complete the settings.

Frequency scan
Select the method of searching for channels.

• Quick: select the faster method and use the predefined settings used by most cable providers in your country.
• Full: If this results in having no channels installed or if some channels are missing, you can select the extended Full method. This method will take more time to search for and install channels.

• Advanced: If you received a specific network frequency value to search for channels,

select Advanced.

Frequency step size
The TV searches for channels in steps of 8MHz. If this results in having no channels installed or if some channels are missing, you can search in smaller steps of 1MHz. Using the 1MHz steps will take more time to search for and install channels.

Network frequency mode
If you intend to use the fast Quick method in Frequency scan to search for channels, select Automatic. The TV will use 1 of the predefined network frequencies (or HC - homing channel) as used by most cable providers in your country.
If you received a specific network frequency value to search for channels, select Manual.

Network frequency
With the Network frequency mode set to Manual, you can enter the network frequency value received from your cable provider here. To enter the value, use the number keys.

Network ID
Enter the network ID supplied by your cable provider.

Symbol rate mode
If your cable provider did not give you a specific symbol rate value to install the TV channels, leave the Symbol rate mode setting on Automatic. If you received a specific symbol rate value, select Manual.

Symbol rate
With the Symbol rate mode set to Manual, you can enter the symbol rate value by using the number keys.

Free / Scrambled
If you have a subscription and a CAM - Conditional Access Module for pay TV services, select Free + scrambled. If you did not subscribe to pay TV channels or services, you can select Free channels only .

Automatically Search for Channels

(Home) > Settings > Install Channels > Antenna/Cable installation > Automatic channel update

If you receive digital channels, you can set the TV to automatically update the list with new channels.

Alternatively, you can start a channel update yourself.

Automatic channel update

Once a day, at 6 AM, the TV updates the channels and stores new channels. New channels are stored in the All channels list but also in the New channels list. Empty channels are removed.
If new channels are found or if channels are updated or removed, a message is shown at TV start up. The TV must be in standby to automatically update channels.

Channel Update Message

(Home) > Settings > Install Channels > Antenna/Cable installation > Channel update message

When new channels are found or if channels are updated or removed, a message is shown at TV start up. To avoid this message to appear after every channel update, you can switch it off.

Digital: Reception Test

(Home) > Settings > Install Channels > Antenna/Cable installation > Digital: reception test

The digital frequency is shown for this channel. If the reception is poor, you can reposition your antenna. To check the signal quality of this frequency again, select Search and press OK.
To enter a specific digital frequency yourself, use the remote control digit keys. Alternatively, select the frequency, position the arrows on a number with < and > and change the number with ^ and v. To check the frequency, select Search and press OK.

Analogue: Manual Installation

(Home) > Settings > Install Channels > Antenna/Cable installation > Analogue: manual installation

Analogue TV channels can be manually installed, channel by channel.

· System
To set up the TV system, select System. Select your country or the part of the world where you are now and press OK.

· Search Channel
To find a channel, select Search Channel and press OK. You can enter a frequency yourself to find a channel or let the TV search for a channel. Press OK, select Search and press OK to search for a channel automatically. The found channel is shown on screen and if the reception is poor, press Search again. If you want to store the channel, select Done and press OK.

· Fine tune

To fine tune a channel, select Fine tune and press OK. You can fine tune the channel with ^ or v.
If you want to store the channel found, select Done and press OK.

• Store
You can store the channel on the current channel number or as a new channel number.
Select Store and press OK. The new channel number is shown briefly.

You can redo these steps until you have found all available analogue TV channels.

Satellite

Search for Satellite and Satellite Settings

(Home) > Settings > Install Channels > Satellite installation > Search for satellite

Re-install all channels

(Home) > Settings > Install Channels > Satellite installation > Search for satellite > Reinstall channels

• Select the group of channels you want to install.
• Satellite operators can offer channel packages that bundle free channels (free-to-air) and offer a sorting that suits a country. Some satellites offer subscription packages - a collection of channels you pay for.

Connection type
Select the number of satellites you want to install. The TV sets the appropriate connection type automatically.

• Up to 4 Satellites - You can install up to 4 satellites (4 LNBs) on this TV. Select the exact number of satellites you wish to install at the start of the installation. This will speed up the installation.
• Unicable - You can use an Unicable system to connect the antenna dish to the TV. You can select Unicable for 1 or for 2 satellites at the start of the installation.

LNB settings

In some countries, you can adjust the expert settings for homing transponder and each LNB. Only use or change these settings when a normal installation fails. If you have non-standard satellite equipment, you can use these settings to overrule the standard settings. Some providers might give you some transponder or LNB values which you can enter here.

• Universal or Circular - The general type of LNB, usually you can select this type for your LNB.

• Low LO Frequency / High LO Frequency - The local oscillator frequencies are set to standard values. Adjust the values only in case of exceptional equipment that needs different values.
• 22 kHz Tone - By default, the Tone is set to Automatic.
• LNB Power - By default, LNB Power is set to Automatic.

Automatically Search for Channels

(Home) > Settings > Install Channels > Satellite installation > Automatic channel update

If you receive digital channels, you can set the TV to automatically update the list with new channels.

Alternatively, you can start a channel update yourself.

Automatic channel update

Once a day, at 6 AM, the TV updates the channels and stores new channels. New channels are stored in the All channels list but also in the New channels list. Empty channels are removed.
If new channels are found or if channels are updated or removed, a message is shown at TV start up. The TV must be in standby to automatically update channels.

* Only available when Satellite channel list is set to From a sorted package

Channel Update Message

(Home) > Settings > Install Channels > Satellite installation > Channel update message

When new channels are found or if channels are updated or removed, a message is shown at TV start up. To avoid this message to appear after every channel update, you can switch it off.

Automatic Update Option

(Home) > Settings > Install Channels > Satellite installation > Automatic update option

Unselect a satellite if you do not want to update automatically.

* Only available when Satellite channel list is set to From a sorted package

Manual Installation

(Home) > Settings > Install Channels > Satellite installation > Manual installation

Manually install satellite.

• LNB - Select the LNB for which you want to add new channels.
• Polarisation - Select the polarisation you need.
• Symbol rate mode - Select Manual to enter symbol rate.
• Frequency - Enter the frequency for the transponer.
• Search - Search for transponder.

Satellite CAMs

If you use a CAM – a Conditional Access Module with a smart card – to watch satellite channels, we recommend to do the satellite installation with the CAM inserted in the TV.

Most CAMs are used to descramble channels.

CAMs (CI+ 1.3 with Operator Profile) can install all the satellite channels by themselves on your TV. The CAM will invite you to install its satellite(s) and channels. These CAMs not only install and descramble the channels but also handle regular channel updates.

Channel List Copy

Introduction

Channel list copy and Satellite list copy are intended for dealers and expert users.

With Channel list copy/Satellite list copy you can copy the channels installed on one TV onto another Philips TV of the same range. You can avoid the time-consuming channel search by uploading a predefined channel list on a TV.

Conditions
• Both TVs are from the same year range.
• Both TVs have the same hardware type. Check the hardware type on the TV type plate on the back of the TV.
• Both TVs have compatible software versions.
• Use a USB flash drive of minimum 1 GB.

Copy a Channel List, Check Channel List Version

Copy a channel list to USB flash drive

To copy a channel list...

1 - Switch on the TV. This TV should have channels installed.
2 - Plug in a USB flash drive to USB 2* port.
3 - Select (Home) > Settings > Channels > Channel list copy or Satellite list Copy and press OK.
4 - Select Copy to USB and press OK.
5 - When copying is done, unplug the USB flash drive.

Now you can upload the copied channel list onto another Philips TV.

* Note: only the USB port that marked with USB 2 supports copying channel list operation.

Check channel list version

(Home) > Settings > Channels > Channel list copy or Satellite list Copy > Current version

Upload a Channel List

To not Installed TVs

Depending on whether your TV is already installed or not, you must use a different method to upload a channel list.

To a TV that is not yet installed
1 - Plug in the power plug to start the installation and select language and country. You can skip the channel search. Finish the installation.
2 - Plug in the USB flash drive that holds the channel list of the other TV.
3 - To start the channel list upload, select (Home) > Settings > Channels > Channel List Copy or Satellite list Copy > Copy to TV and press OK. Enter your PIN code if necessary.
4 - The TV notifies you if the channel list is copied to the TV successfully. Unplug the USB flash drive.

To Installed TVs

Depending on whether your TV is already installed or not, you must use a different method to upload a channel list.

To an already installed TV
1 - Verify the country setting of the TV. (To verify this setting, see chapter Re-install channels. Start this procedure until you reach the country setting. Press ← Back to cancel the installation.)
If the country is correct continue with step 2.
If the country is not correct, you need to start a reinstallation. See chapter Re-install channels and start the installation. Select the correct country and skip the channels search. Finish the installation. When done, continue with step 2.

2 - Plug in the USB flash drive that holds the channel list of the other TV.
3 - To start the channel list upload, select (Home) > Settings > Channels > Channel List Copy or Satellite list Copy > Copy to TV and press OK. Enter your PIN code if necessary.
4 - The TV notifies you if the channel list is copied to the TV successfully. Unplug the USB flash drive.

Channel Options

Open Options

While watching a channel, you can set some options.

Depending on the type of channel you are watching or depending on the TV settings you made, some options are available.

To open the options menu...

1 - While watching a channel, press OPTIONS.
2 - Press OPTIONS again to close.

Programme Info

Select Programme info to view the information of the programme you are watching.

To call up the details of the selected programme...

1 - Tune to the channel.
2 - Press INFO to open or close programme info.
3 - Alternatively, you can press OPTIONS, select Programme Info and press OK to open the programme info.
4 - Press Back to close the programme info.

Subtitles

To switch on Subtitles, press OPTIONS and select Subtitles.

You can switch subtitles Subtitle on or Subtitle off . Alternatively you can select Automatic.

Automatic

If language information is part of the digital broadcast and the broadcasted programme is not in your language (the language set on TV), the TV can show subtitles automatically in one of your preferred subtitle languages. One of these subtitle languages must also be part of the broadcast.

You can select your preferred subtitle languages in Subtitle language.

Subtitles Language

If none of the preferred subtitle languages are available, you can select another subtitle language if available. If no subtitle languages are available, you cannot select this option.

To read more information, in Help, press the colour key Keywords and look up Subtitle Language.

Audio Language

If none of the preferred audio languages are available, you can select another audio language if available. If no audio languages are available, you cannot select this option.

To read more information, in Help, press the colour key Keywords and look up Audio Language.

Dual I-II

If an audio signal contains two audio languages but one language or both has no language indication, this option is available.

Common Interface

If prepaid premium content is available from a CAM, you can set the provider settings with this option.

Mono / Stereo

You can switch the sound of an analogue channel to Mono or Stereo.

To switch to Mono or Stereo...

Tune to an analogue channel.

1 - Press OPTIONS, select Mono/Stereo and press > (right).
2 - Select Mono or Stereo and press OK.
3 - Press < (left) repeatedly if necessary, to close the menu.

Channel Info

Select Channel info to view the technical information of the channel.

To call up the details of the selected channel...

1 - Tune to the channel.
2 - Press OPTIONS, select Channel info and press OK to open the channel info.
3 - Press OPTIONS again or press Back to close the programme info.

HbbTV on This Channel

If you want to avoid access to HbbTV pages on a specific channel, you can block the HbbTV pages for this channel only.

1 - Tune to the channel of which you want to block the HbbTV pages.
2 - Press OPTIONS and select HbbTV on this channel and press > (right).
3 - Select Off and press OK.
4 - Press < (left) to go back one step or press ← Back to close the menu.

To block HbbTV on TV completely:

(Home) > Settings > Channels > HbbTV settings > HbbTV > Off

Universal Access

Only available when Universal access set to On.

(Home) > Settings > Universal access > Universal access > On.

To read more information, in Help, press the colour key Keywords and look up Universal Access.

7.3

Channel List

Open Channel List

To open the current channel list...

1 - Press TV, to switch to TV.
2 - Press OK to open the channel list if Interactive Service is not available, or press Channel list to open the channel list.
3 - Press OPTIONS > Select channel list.
4 - Select one channel list you want to watch.
5 - Press ← Back to close the channel list.

The channels displayed in All Channel list is listed based on genre*. For example: Premium, Premium News, Premium Local, Children, Sport and etc. The Premium genre are top broadcast channels positioned with market share above 3%.

* Note: The listed by genre function is only apply to Germany.

Channel List Options

Open Option Menu

To open the channel list option menu:

- Press TV, to switch to TV.
- Press Channel list to open the channel list.
- Press OPTIONS , and select one of options.
- Press ← Back to close the channel list.

Rename Channel

1 - Press TV, to switch to TV.
2 - Press Channel list to open the channel list..
3 - Select one channel you want to rename.
4 - Press OPTIONS > Rename channel, and press OK to open on-screen keyboard.
5 - Use navigation keys to select characters.
6 - Select Enter when complete the editing.
7 - Press ← Back to close the channel list.

* Note: Not available when UK Freeview Play is activated.

Select Channel Filter

1 - Press TV, to switch to TV.
2 - Press Channel list to open the channel list.
3 - Press OPTIONS > Digital/analogue, Free/scrambled
4 - Select one of channel combinations showing in the channel list.

Create or Edit Favourites Channel List

TV > OK > OPTIONS > Create favourites list

Select a channel then press OK to add in a favourites channel list, once completed, press Done.

TV > OK > OPTIONS > Edit favourites

Select a channel then press OK to add in or remove from a favourites channel list, once completed, press Done.

Select Channel Range

TV > OK > OPTIONS > Select channel range

Select a range of channels in a channel list. Press OK to mark the beginning of range and then press OK again to end the range selection. The selected channels will be marked as favourites.

Select Channel List

TV > OK > OPTIONS > Select channel list

Select one of channel lists that sorted by different kinds of channels.

Search Channels

TV > OK > OPTIONS > Search channel

You can search for a channel to find it in a long list of channels. The search will return the matching channel name with the result arranged in alphabetical order.

1 - Press TV, to switch to TV.
2 - Press Channel list to open the channel list.
3 - Press OPTIONS > Search channel, and press OK to open on-screen keyboard.
4 - Use navigation keys to select a character, then press OK.
5 - Select Enter when complete the input.
6 - Press Back to close the channel list.

Lock or Unlock Channel

TV > OK > OPTIONS > Lock channel, Unlock channel

To prevent children from watching a channel, you can lock a channel. To watch a locked channel, you must enter the 4 digit Child Lock PIN code first. You cannot lock programmes from connected devices.

The locked channel will have next to the channel logo.

Remove Favourite List

TV > OK > OPTIONS > Remove favourite list

To remove existing favourite list, select Yes.

7.4

Favourite Channels

About Favourite Channels

You can create a favourite channel list that only holds the channels you want to watch. With the Favourite channel list selected, you will only see your favourite channels when you switch through channels.

Create a Favourites List

1 - While watching a TV channel, press Channel list to open the channel list.
2 - Select the channel, and press Mark as favourites to mark as favourite.
3 - The selected channel is marked with a .
4 - To finish, press Back . The channels are added to the Favourites list.

Remove Channel from the Favourites List

To remove a channel from the favourites list, select the channel with , then press Unmark as favourite again to unmark as favourite.

Reorder Channels

You can reorder — reposition — channels in the Favourite channel list (only available for certain countries).

1 - While watching a TV channel, press OK > OPTIONS > Select channel list.
2 - Select Antenna favourite, Cable Favourite or Satellite favourite*, and press OPTIONS .
3 - Select Reorder channels, select the channel you want to reorder, and press OK.
4 - Press the Navigation buttons to move the highlighted channel to another location and press OK.
5 - Once completed, press Done.

* Satellite channel only can be searched on xxPxSxxxx TV models.

Favourites List on TV Guide

You can link the TV Guide for your Favourite List.

1 - While watching a TV channel, press OK > OPTIONS > Select channel list.
2 - Select Antenna favourite, Cable Favourite or Satellite favourite*, and press OK.
3 - Press TV GUIDE to open it.

With the TV Guide you can view a list of the current and scheduled TV programmes of your favourite channels. Along with your favourite channels, the first 3 most used channels from the broadcasters' default list will be appended after your favourite channels for your preview. You need to add these channels into your favourite list to enable its operation (refer to "TV Guide" chapter).

On each page of TV Guide, there is a "Did you know" grid inserted on your favourite channel list. The "Did you know"-channel provides useful tips to improve the way you use your TV.

* Satellite channel only can be searched on xxPxSxxxx TV models.

7.5

Text / Teletext

Subtitles from Text

If you tune to an analogue channel, you need to make the subtitles available for each channel manually.

1 - Switch to a channel and press TEXT to open Text.
2 - Enter the page number for subtitles, usually 888.
3 - Press TEXT again, to close Text.

If you select On in the Subtitle menu when watching this analogue channel, subtitles will be shown if available.

To know if a channel is analogue or digital, switch to the channel and press INFO .

Text Pages

To open Text/Teletext press TEXT, while you are watching TV channels.
To close Text, press TEXT again.

Select a Text page

To select a page . . .

1 - Enter the page number with the number keys.
2 - Use the arrow keys to navigate.
3 - Press a colour key to select a colour-coded subject at the bottom of the screen.

Text sub-pages

A Text page number can hold several subpages. The subpage numbers are shown on a bar next to the main page number.
To select a subpage, press < or >.

T.O.P. Text pages

Some broadcasters offer T.O.P. Text.
To open T.O.P. Text pages within Text, press OPTIONS and select T.O.P. overview.

* The teletext can only be reached when the channels are installed directly on the TV's internal tuner and the set is on TV mode. If a set-top box is being used, the teletext will be unavailable via TV. In that case, the set-top box's teletext can be used instead.

Text Options

In Text/Teletext, press OPTIONS to select the following...

· Freeze page
To stop the automatic rotation of subpages.
· Dual screen / Full screen
To show the TV channel and Text alongside each other.
· T.O.P. overview
To open T.O.P. Text.
· Enlarge
To enlarge the Text page for comfortable reading.
· Reveal
To unhide hidden information on a page.
· Language
To switch the group of characters that Text uses to display correctly.
· Text 2.5
To activate the Text 2.5 for more colours and better graphics.

Text Setup

Text language

Some digital TV broadcasters have several Text languages available.

Set teletext preference language

(Home) > Settings > Region and language > Language > Primary text, Secondary text

Text 2.5

If available, Text 2.5 offers more colours and better graphics. Text 2.5 is activated as a standard factory setting.
To switch off Text 2.5...

1 - Press TEXT.
2 - With Text/Teletext open on screen, press OPTIONS.
3 - Select Text 2.5 > Off.
4 - Press < (left) repeatedly if necessary, to close the menu.

8

TV Guide

8.1

What You Need

With the TV guide you can view a list of the current and scheduled TV programmes of your channels. Depending on where the TV guide information (data) is coming from, analogue and digital channels or only digital channels are shown. Not all channels offer TV guide information.

The TV can collect TV guide information for the channels that are installed on the TV (e.g the channels you watch with Watch TV). The TV cannot collect the TV guide information for channels viewed from a digital receiver.

8.2

Using the TV Guide

Open the TV Guide

To open the TV guide, press TV GUIDE.

Press TV GUIDE again to close.

The first time you open the TV Guide, the TV scans all TV channels for programme information. This may take several minutes. TV guide data is stored on TV.

Tune to a Programme

Switch to a programme

• From the TV guide, you can switch to a current programme.
• To select a programme, use the arrow keys to highlight the programme name.
• Navigate to the right to view programmes scheduled later that day.
• To switch to the programme (channel), select the programme and press OK.

View programme details

To call up the details of the selected programme, press INFO .

Update TV Guide

You can update the TV guide to get the latest programmes information.

To update the TV guide, press OPTIONS and select Update TV guide*. It may take few times to complete the update.

* Note: Not available when UK Freeview Play is activated.

Change Day

If the TV guide information comes from the broadcaster, you can press Channel up to view the schedule of one of the next days. Press Channel down to go back to the previous day.

Alternatively, you can press OPTIONS and select Change day.

Search by Genre

If the information is available, you can look up scheduled programmes by genre like movies, sports, etc.

To search for programmes by genre, press OPTIONS and select Search by genre*. Select a genre and press OK. A list with the found programmes appears.

* Note: Not available when UK Freeview Play is activated.

9

Freeview Play (for UK models)

9.1

About Freeview Play

To enjoy **Freeview Play***, you need to connect your TV to Internet first.

Freeview Play offers:

• Watch TV programmes you missed from the last seven days.
• Watch live TV and on demand, all in one place without entering an app, you can search Freeview Play programmes in TV Guide.
• Watch over 70 standard channels and upto 15 HD channels.
• Enjoy on demand services like BBC iPlayer, the ITV Hub, All 4, Demand 5, BBC NEWS and BBC SPORT.
• There are no contracts and no monthly costs, you're in control.

For detail, please visit: https://www.freeview.co.uk

* Freeview Play is only for UK models.

9.2

Using Freeview Play

To open **Freeview Play***...

1 - Press (Home) to open the home menu.
2 - Press > (right) to overview available Freeview players (apps) or select **Explore Freeview Play** to enter Freeview Play page.
3 - You can press **Search** or enter a keyword in search bar at the right-top to search channels.
4 - You can press **Recommendation** on TV Guide to sort different types of programmes on selecting a specific genre.
5 - Select a programme and press **Episodes Info** to view the details of the selected programme.
6 - Select a programme and press **OK** to start watching.
7 - Press **Back** to close.

* Freeview Play is only for UK models.

9.3

TV Guide on Freeview Play

When **Freeview Play*** is activated, press **TV GUIDE** can open the TV guide, press **TV GUIDE** again to close.

Change day

If the TV guide information comes from the broadcaster, you can press **Channel up** to view the schedule of one of the next days. Press **Channel down** to go back to the previous day.

Alternatively, you can press **OPTIONS** and select **Change day**.

Accessibility preferences

Press **OPTIONS** on TV guide and select **Accessibility preferences** to adjust the preference of sorting programmes:

• Show only programmes with audio description
• Show only programmes with subtitles
• Show only programmes with sign language

Privacy settings

Press **OPTIONS** on TV guide and select **Privacy settings** to view the Privacy Policy terms. You can select to decline the Privacy Policy terms and disable the **Freeview Play**; or select to accept the Privacy Policy terms and enable **Freeview Play**.

* Freeview Play is only for UK models.

10

Videos, Photos and Music

10.1

From a USB Connection

You can view your photos or play your music and videos from a connected USB flash drive or USB Hard Drive.

With the TV switched on, plug in a USB flash drive or a USB Hard Drive to one of the USB connections.

Press SOURCES, then select USB, you can browse your files in folder structure you have organised on the USB Hard Drive.

10.2

From a Computer or NAS

You can view your photos or play your music and videos from a computer or a NAS (Network Attached Storage) in your home network.

The TV and computer or NAS must be in the same home network. On your computer or NAS, you need to install Media Server Software. Your Media Server must be set to share your files with the TV. The TV shows your files and folders as they are organised by the Media Server or as they are structured on your computer or NAS.

The TV does not support subtitles on video streams from a computer or NAS.

If the Media Server supports searching for files, a search field is available.

To browse and play the files on your computer...

1 - Press SOURCES, select Network and press OK.
2 - Once a device is connected, the Network device item will be replaced by connected device name.
3 - You can browse and play your files.
4 - To stop playing videos, photos and music, press EXIT.

10.3

Photos

View Photos

1 - Press SOURCES, select USB and press OK.
2 - Select USB Flash Drive and then select the USB device you need.
3 - Select Photo, you can press Sort to browse your photos by day, month or year.
4 - Select one of photos, and press OK to view the selected photo.
• To view photos, select Photos in the menu bar, select a photo thumbnail and press OK.
• If there are several photos in the same folder, select a photo and press Slide show to start a slide show of all photos in this folder.
• Watch a photo and press INFO to show below: Progress bar, Playback control bar, ⏮ (Jump to the previous photo in a folder), ⏭ (Jump to the next photo in a folder), ▶ (Start slideshow playback), ⏸ (Pause the playback), (Start slideshow), (Rotate photo)

When viewing a photo file, press OPTIONS to...

Shuffle off, Shuffle on
View the pictures in sequential order, or at random.

Repeat, Play once
View the pictures repeatedly or once only.

Stop music
Stop the music if the music playback is in progress.

Slideshow speed
Set the speed of the slideshow.

Slideshow transitions
Set the transition from one picture to the next.

Photo Options

When browsing photo files, press OPTIONS to...

List/Thumbnails
View photos with list view or thumbnails view.

Shuffle off, Shuffle on
View the pictures in sequential order, or at random.

Repeat, Play once
View the pictures repeatedly or once only.

Stop music
Stop the music if the music playback is in progress.

Slideshow speed
Set the speed of the slideshow.

Slideshow transitions
Set the transition from one picture to the next.

10.4

360° Photo

View 360° Photos

1 - Press SOURCES, select USB and press OK.
2 - Select USB Flash Drive and then select the USB device you need.
3 - Select 360° Photos, you can press Sort to browse your 360° photos by date, month, year or alphabetically by name.
4 - Select one of 360° photos, and press OK to view the selected 360° photo.
• To view photos, select 360° Photos in the menu bar, select a photo thumbnail and press OK.
• If there are several 360° photos in the same folder, select a 360° photo and press Slide show to start a slide show of all 360° photos in this folder.
• Watch a photo and press INFO to show below: Progress bar, Playback control bar, ⏮ (Jump to the previous photo in a folder), ⏭ (Jump to the next photo in a folder), ▶ (Start slideshow playback), ⏸ (Pause the playback), (Play all/Play one), (Little Planet), (Auto Mode/Manual mode).

- Little Planet: Little Planet is an alternate and fun view of 360° photo. When Little Planet view is started, the 360° photo will be rendered in a wrapped around view like a planet.
- Auto Mode/Manual mode: when the 360° player is started, it will auto pan the selected 360° photo from left to right (0 to 360 degrees) in 360° view. When manual mode is entered, the 360° player will stop auto panning/rotating to allow manually panning/rotating with the remote control keys.

When viewing a 360° photo file, press OPTIONS to...

Shuffle off, Shuffle on
View the pictures in sequential order, or at random.

Repeat, Play once
View the pictures repeatedly or once only.

Reset view
Reset the angle of view.

Stop music
Stop the music if the music playback is in progress.

360° Photo Options

When browsing 360° photo files, press OPTIONS to...

List/Thumbnails
View 360° photos with list view or thumbnails view.

Shuffle off, Shuffle on
View the pictures in sequential order, or at random.

Repeat, Play once
View the pictures repeatedly or once only.

Stop music
Stop the music if the music playback is in progress.

10.5

Videos

Play Videos

To play a video on TV...

Select Videos , and select the file name and press OK.

• To pause the video, press OK. Press OK again to continue.
• To rewind or go fast forward, press ⏩ or ⏪. Press the keys several times to speed up - 2x, 4x, 8x, 16x, 32x.
• To jump to the next video in a folder, press OK to pause and select ⏭ on screen and press OK.
• To stop the video playback, press ■ (Stop).
• To go back to the folder, press ↩.

Open video folder
1 - Press SOURCES, select USB and press OK.
2 - Select USB Flash Drive and then select the USB device you need.
3 - Select Videos and select one of video, you can press OK to play the selected video.
• Select a video and press INFO to show file information.
• Playback a video and press INFO to show below:
Progress bar, Playback control bar, ⏮ (Jump to the previous video in a folder), ⏭ (Jump to the next video in a folder), ▶ (Playback), ⏪ (Rewind), ⏩ (Fast forward), ⏸ (Pause the playback), (Play all/Play one), (Shuffle on/Shuffle off)

During the video playback, press OPTIONS to...

Subtitles
Display the subtitles if available, select On, Off, or On during mute.

Subtitle language
Select subtitles language if available.

Character set
Select the character set if external subtitle is available.

Audio language
Select audio language if available.

Status
Display the information of the video file.

Repeat, Play once
Play videos repeatedly or once.

Subtitle settings
Set the Font size, Subtitle colour, Subtitle position and Time sync offset if the options are available.

Video Options

When browsing video files, press OPTIONS to...

List/Thumbnails
View video files with list view or thumbnails view.

Subtitles
Display the subtitles if available, select On, Off, or On during mute.

Shuffle off, Shuffle on
Play videos in sequential order, or at random.

Repeat, Play once
Play videos repeatedly or once.

10.6

Music

Play Music

Open music folder

1 - Press SOURCES, select USB and press OK.
2 - Select USB Flash Drive and press > (right) to select the USB device you need.
3 - Select Music and select one of music, you can press OK to play the selected music.
• Select a music and press INFO to show file information.
• Playback a music and press INFO to show below:
Progress bar, Playback control bar, ⏮ (Jump to the previous music in a folder), ⏭ (Jump to the next music in a folder), ▶ (Playback), ◀◀ (Rewind), ▶▶ (Fast forward), ⏸ (Pause the playback), — (Play all/Play one)

During the music playback, press OPTIONS to...

Repeat, Play once
Play songs repeatedly or once.

Music Options

When browsing music files, press OPTIONS to...

Shuffle off, Shuffle on
Play songs in sequential order, or at random.

Repeat, Play once
Play songs repeatedly or once.

11

Open TV Setting Menus

11.1

Qucik Menu and Frequent Settings

Press Quick Menu/MENU key on the remote control to find the Quick Menu, then press the arrows (Left) to find the Frequent settings.

Quick menu:
· Help - Diagnose and get more information about your TV.
· Install channels - Update channels or start a complete new channel installation.
· Update software - Check if there is newer TV software available to update for your TV.
· Watch TV - To switch back to watch TV.
· TV Guide - To open the TV Guide.
· Channels - To open the channel list.
· Sources - To open the Sources menu.
· Media - To launch media file player to play files from USB or network.
· Demo Me - To manage demo files.

Frquent settings:
· Picture style - Select one of preset picture styles for ideal picture viewing.
· Picture format - Select one of preset picture format which fits the screen.
· Sound style - Select one of preset sound styles for ideal sound settings.
· EasyLink 2.0 - Control and adjust settings of the EasyLink 2.0 compliant HDMI sound system.
· Audio out - Set the TV to play the sound on TV or on the connected audio system.
· Wireless and networks - Connect to your home network or adjust the network settings.
· Screen off - If you only listen to music on TV, you can switch off the TV screen.
· Sleep timer - Set the TV to switch to standby automatically after a preset time.
· All settings - View all settings menu.

All settings menu:

Press (Home) key on the remote control will go back to the Home screen. You can access Settings menu via the settings icon at the top right corner on Home screen.

11.2

All Settings

Picture Settings

Picture Style

Select a style

For easy picture adjustment, you can select a preset picture style.

(Home) > Settings > Picture > Picture style, press OK to change to next available option.

The available Picture styles are:

· Personal - The picture preferences you set during the first start up
· Vivid - Ideal for daylight viewing
· Natural - Natural picture settings
· ECO - Most energy conscious setting
· Movie - Ideal for watching movies with original studio effect
· Game - Ideal for gaming*
· Monitor - Ideal for computer monitor**

* Picture style - Game is not available for some video sources.
** Picture style - Monitor is only available when HDMI source video is applicable for PC application. HDR is not supported in Monitor mode. The TV is able to play HDR video in Monitor mode but no HDR processing will be applied.

Custom a style

You can adjust and store picture settings in in the currently selected picture style, like Colour, Contrast or Sharpness.

Restore a style

To restore the style to its original setting, go to (Home) > Settings > Picture > Picture style, then press Restore style.

· The TV can play HDR programmes from any one of HDMI connections, broadcasting, from an Internet source (e.g. Netflix) or from a connected USB memory device.
· The TV will automatically switched to HDR mode with indication. TV supports following HDR formats: Hybrid Log Gamma, HDR10, HDR10+, and Dolby Vision but it is subject to the availability of such HDR format in content providers.

For HDR content (Hybrid Log Gamma, HDR10 and HDR10+)

The styles for HDR (Hybrid Log Gamma, HDR10 and HDR10+) content are:

- HDR Personal
- HDR Vivid
- HDR Natural
- HDR Movie
- HDR Game

For Dolby Vision HDR content

The styles for Dolby Vision HDR content are:

- HDR Personal
- HDR Vivid
- Dolby Vision Bright
- Dolby Vision Dark
- Dolby Vision Game

Colour, Contrast, Sharpness, Black level

Adjust the picture colour

(Home) > Settings > Picture > Colour

Press the arrows > (Right) or < (Left) to adjust the colour saturation value of the picture.

Adjust the picture contrast

(Home) > Settings > Picture > Backlight contrast

Press the arrows > (Right) or < (Left) to adjust the contrast value of the picture.

You can decrease contrast value to reduce power consumption.

Adjust the picture sharpness

(Home) > Settings > Picture > Sharpness

Press the arrows > (Right) or < (Left) to adjust the sharpness value of the picture.

Adjust the black level of the picture

(Home) > Settings > Picture > Black level

Press the arrows > (Right) or < (Left) to set the black level of the picture signal.

Note: setting of black level much away from reference value (50) may result lower contrast.

Expert Mode Picture Settings

Colour Settings

(Home) > Settings > Picture > Expert mode settings

Adjust the colour enhancement

(Home) > Settings > Picture > Expert mode settings > Colour enhancement

Select Maximum, Medium, or Minimum to set the level of the colour intensity and the details in bright colours.

Note: Not available when Dolby Vision signal is detected.

Select the preset colour temperature

(Home) > Settings > Picture > Expert mode settings > Colour temperature

Select Normal, Warm, or Cool to set the colour temperature for your preference.

Customise colour temperature

(Home) > Settings > Picture > Expert mode settings > Custom colour temperature

Select Custom in Colour temperature menu to customise a colour temperature yourself. Press the arrows > (Right) or < (Left) to adjust the value.

Whitepoint alignment

(Home) > Settings > Picture > Expert mode settings > Whitepoint alignment

Customise the whitepoint alignment based on the selected colour temperature of the picture. Press the arrows > (Right) or < (Left) to adjust the value, press — Reset to reset the value.

Contrast Settings

Contrast Modes

(Home) > Settings > Picture > Expert mode settings > Contrast mode

Select Normal, Optimized for picture, Optimized for energy saving to set the TV automatically reduces the contrast, for best power consumption or for best picture experience, or select Off to switch off the adjustment.

HDR Settings

(Home) > Settings > Picture > Expert mode settings > HDR Plus

Set HDR Plus to Off, Minimum, Medium, Maximum or Automatic to set the level at which the TV automatically shows superior contrast and

brightness effect for HDR content.

Note: Available when High Dynamic Range (HDR) video is present in selected source except Dolby Vision case.

• The TV can play HDR programmes from any one of HDMI connections, broadcasting, from an Internet source (e.g. Netflix) or from a connected USB memory device.
• The TV will automatically switch to HDR mode with indication. TV supports following HDR formats: Hybrid Log Gamma, HDR10, HDR10+, and Dolby Vision but it is subject to the availability of such HDR format in content providers.

Dynamic Contrast

(Home) > Settings > Picture > Expert mode settings > Dynamic contrast

Select Maximum, Medium, or Minimum to set the level at which the TV automatically enhances the details in the dark, middle and light areas of the picture.

Video Contrast, Gamma

Video contrast

(Home) > Settings > Picture > Expert mode settings > Video contrast

Press the arrows > (Right) or < (Left) to adjust the video contrast level.

Gamma

(Home) > Settings > Picture > Expert mode settings > Gamma

Press the arrows > (Right) or < (Left) to set a non-linear setting for picture luminance and contrast.

Light Sensor

(Home) > Settings > Picture > Expert mode settings > Light sensor

To save energy, the built-in ambient light sensor lowers the brightness of the TV screen when the surrounding light darkens. The built-in light sensor automatically adjusts the picture to the lighting conditions of the room.

Super Resolution

(Home) > Settings > Picture > Expert mode settings > Super resolution

Select On to have a superior sharpness in line edges and details.

Picture Clean

Noise reduction

(Home) > Settings > Picture > Expert mode settings > Noise reduction

Select Maximum, Medium, Minimum to set the level for removing the noise in video content.
Noise is mostly visible as small moving dots in on-screen picture.

MPEG Artefact Reduction

(Home) > Settings > Picture > Expert mode settings > MPEG Artefact Reduction

Select Maximum, Medium, Minimum to have different degrees of smoothing the artefact in digital video content.
MPEG artefact is mostly visible as small blocks or jagged edges in on-screen images.

Picture Format

(Home) > Settings > Picture > Picture format

If the picture is not filling the whole screen, if black bars are showing on the top or bottom or at both sides, you can adjust the picture to fill the screen completely.

To select one of the basic settings to fill the screen...

• Wide screen – automatically zooms in the picture to 16:9 full screen. Picture content aspect ratio may change.
• Fill screen – automatically enlarges the picture to fill the screen. Picture distortion is minimal, subtitles remain visible. Not suitable for PC input. Some extreme picture formats can still show black bars. Picture content aspect ratio may change.
• Fit to screen – automatically zooms in the picture to fill the screen without distortion. Black bars may be visible. Not supported for PC input.
• Original – automatically zooms in the picture to fit the screen with original aspect ratio. No content lost visible.

(Home) > Settings > Picture > Picture format > Advanced

To format the picture manually...

• Shift – select on the arrows to shift the picture. You can only shift the picture when it is zoomed in.
• Zoom – select on the arrows to zoom in.
• Stretch – select on the arrows to stretch the picture vertically or horizontally.
• Undo – select to return to the picture format you started with.

Some Picture format setting selections may not be available in some conditions. For example, in video steaming, Android app application, gaming mode, etc.

Dolby Vision Notification

(Home) > Settings > Picture > Dolby Vision Notification

Switch On or Off the Dolby Vision notification when Dolby Vision content begins to play on your TV.

Quick Picture Settings

(Home) > Settings > Picture > Quick picture settings

• During the first installation, you did some picture settings in a few easy steps. You can redo these steps with Quick picture settings menu.
• Select the picture setting you prefer and go to the next setting.
• To do these steps, make sure the TV can tune to a TV channel or can show a programme from a connected device.

Sound Settings

Sound Style

Select a style

For easy sound adjustment, you can select a preset sound style.

(Home) > Settings > Sound > Sound style

The available sound styles are:

• AI mode - Select AI mode for intelligent switching of sound style based on audio content.
• Original - Most neutral sound setting
• Entertainment - Ideal for watching movies
• Music - Ideal for listening to music
• Spatial Music - Ideal for gaming
• Dialogue - Ideal for speech
• Personal - Select to adjust your preferred sound settings

Restore Personal settingd

1 - Set the sound style to Personal.

2 - Press the colour key Restore Style, and press OK. The style is restored.

Personal Sound Settings

Speaker virtualizer

(Home) > Settings > Sound > Personal settings > Speaker virtualizer

Select On or Auto (Dolby Atmos) to enable Dolby Atmos which can add height dimension in sound. With height dimension, sound can be precisely placed and moved in three-dimensional space.

Clear dialogue

(Home) > Settings > Sound > Personal settings > Clear dialogue

Select On to improve the sound for speech. Ideal for news programmes.

AI Equalizer

(Home) > Settings > Sound > Personal settings > AI Equalizer

Select On to enable intelligent equalizer adjustment based on audio content and custom settings.

Custom AI Equalizer

(Home) > Settings > Sound > Personal settings > Custom AI Equalizer

Press the Arrow / navigation keys to adjust the equalizer settings.

* Note: To restore the Personal settings to its original setting, select back to Sound style, then press Restore style.

TV Placement

(Home) > Settings > Sound > TV placement

Select On a TV stand or On the wall to have best sound reproduction according to the setting.

EasyLink 2.0

Control the sound settings of the HDMI sound system via EasyLink 2.0

(Home) > Settings > Sound > EasyLink 2.0.

You can adjust the individual sound settings of the HDMI sound system via Frequent settings or Settings > Sound > EasyLink 2.0. This is only applicable with

EasyLink 2.0 compliant HDMI sound system. To switch on the control, make sure the **EasyLink 2.0 sound control** menu item is set to **On** under **General settings** > **EasyLink** > **EasyLink 2.0 sound control**.

Select sound style

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Sound style**.

Switch between the preset sound styles. There are ideal styles for watching movies, listening to music, or other sound contents.

- Movie - Ideal sound style for watching movie.
- Music - Optimised for listening to music.
- Voice - Enhanced the dialog in the vocals.
- Stadium - Gives a feel of a large open-air stadium.
- Custom - Personalised sound mode. The setting is only available when connected device is compatible with TV for the feature.

Adjust bass level

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Bass**.

Press the **Arrow / navigation** keys to adjust the level of bass.

Adjust treble level

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Treble**.

Press the **Arrow / navigation** keys to adjust the level of treble.

Custom Equaliser

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Custom Equaliser**.

Adjustable frequency bands when the **Sound style** is set to **Custom**. Press the **Arrow / navigation** keys to adjust the level of AI Equalizer. The setting is only available when connected device is compatible with TV for the feature.

Surround Sound

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Surround Sound**.

Select a surround effect from the preset types.

- Upmix - Upmix to take full advantage of all speakers.
- Standard - Speakers output follow the original channels.
- Surround AI - Optimum surround effect using AI analysis.

DRC

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **DRC**.

Select the preferred Dynamic Range Control (DRC).

- Auto - Dynamic range is automatically adjusted.
- On - Optimize the dynamic range.
- Off - Turn off dynamic range adjustment.

Height speakers

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Height speakers**.

Select the preferred height speakers movement. The setting is only available when connected device is compatible with TV for the feature.

- Auto - Dynamic movement follow contents.
- On - Always elevated.
- Off - Flat position.

Select sound stage

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Sound stage**.

Select a listening experience. The setting is only available when connected device is compatible with TV for the feature.

- Auto - Dynamic setting follow contents.
- On - Immersive Sound Stage, good for watching movies.
- Off - Crystal Sound Stage, good for listening to music and dialogue.

Reset all to default

🏠 (Home) > **Settings** > **Sound** > **EasyLink 2.0** > **Reset all to default**.

Reset all the EasyLink 2.0 sound settings back to the original factory settings.

Advanced sound settings

Volume Control

Auto volume

🏠 (Home) > **Settings** > **Sound** > **Advanced** > **Auto volume**

Select **On** to automatically level out sudden volume differences. Typically when you are switching channels. Select **Night mode** for a more

comfortable quiet listening experience.

Delta volume

(Home) > Settings > Sound > Advanced > Delta volume

The Delta volume setting can be used to adjust to balance the sound level difference between the TV channel and the HDMI source input. Press the Arrow / navigation keys to adjust the delta value for TV speaker volume.

* Note: Delta volume is available when the input source is set to HDMI or Analogue sources and the Audio out is set to TV speakers or HDMI sound system.

Audio Out Settings

(Home) > Settings > Sound > Advanced > Audio out

Set the TV to play the sound on TV or on the connected audio system.

You can select where you want to hear the TV sound and how you want to control it.
• If you select TV Speakers, the TV speakers are always on. All the sound related settings are applicable to this mode.
• If you select Optical, the TV speakers are switched off and the sound will be played through the device connected to Digital Audio Out - Optical.

With an audio device connected with HDMI CEC, select HDMI sound system. The TV will switch off the TV speakers when the device is playing the sound.

Press Volume + or - to adjust the volume level of selected output source.

eARC

eARC setting

(Home) > Settings > Sound > Advanced > eARC

Set eARC mode to Automatic or Off. HDMI eARC (Enhanced Audio Return Channel) is an advancement over the previous ARC. It supports the latest high-bitrate audio formats up to192kHz, 24-bit, and uncompressed 5.1 and 7.1, and 32-channel uncompressed audio.

HDMI eARC is only available on HDMI 1.

Digital Output Settings

Digital output settings are available for SPDIF output (optical) and HDMI ARC sound signals.

Digital out format

(Home) > Settings > Sound > Advanced > Digital out format

Set the audio out signal of the TV to fit the sound capabilities of the connected Home Theatre System.

• Stereo (uncompressed): If your audio playback devices have no multichannel sound processing, select to only output stereo content to your audio playback devices.
• Multichannel: Select to output multichannel audio content (compressed multichannel sound signal) or stereo audio content to your audio playback devices.
• Multichannel (bypass): Select to send original bitstream from HDMI ARC to the connected HDMI Sound System.

- Make sure your audio playback devices support Dolby Atmos feature.

- SPDIF output (DIGITAL AUDIO OUT) will be disabled when streaming Dolby Digital Plus content.

Digital out levelling

(Home) > Settings > Sound > Advanced > Digital out levelling

Adjust the loudness level from device which is connected to digital audio output (SPDIF) or HDMI.

• Select More to have louder volume.
• Select Less to have softer volume.

Digital out delay

(Home) > Settings > Sound > Advanced > Digital out delay

For some Home Theatre Systems you might need to adjust the audio sync delay to synchronise the audio to the video. Select Off if a sound delay is set on your Home Theatre System.

Digital out offset (Only available when Digital out delay set to On)

(Home) > Settings > Sound > Advanced > Digital out offset

• If you cannot set a delay on the Home Theatre System, you can set the TV to sync the sound.
• You can set an offset that compensates for the time necessary for the Home Theatre System to process the sound of the TV picture.
• You can set the value in steps of 5ms. Maximum

setting is 60ms.

Dolby Atmos Notification

(Home) > Settings > Sound > Dolby Atmos Notification

Switch **On** or **Off** the Dolby Atmos notification when Dolby Atmos content begins to play on your TV.

Channels

HbbTV Settings - Hybrid Broadcast Broadband TV

(Home) > Settings > Channels > HbbTV settings > HbbTV

If a TV Channel offers HbbTV services, you must first switch on HbbTV in the TV settings to access to these advanced services, e.g. video on-demand and catch-up TV services.

(Home) > Settings > Channels > HbbTV settings > HbbTV tracking

Switch the tracking of HbbTV browsing behaviour on or off. Switching off will inform the HbbTV services not to track your browsing behaviour.

(Home) > Settings > Channels > HbbTV settings > HbbTV cookies

Switch the storage of third-party cookies, site data and cache from HbbTV services on or off.

(Home) > Settings > Channels > HbbTV settings > HbbTV Device ID reset

You can reset your TV unique device identifier. A new identifier will be created.

(Home) > Settings > Channels > HbbTV settings > Clear approved app listing

Allow you to clear the list of HbbTV applications that you have allowed to be launched on the TV.

CAM Settings

(Home) > Settings > Channels > CAM Operator profile

When CAM profile installation is done, select to enable or disable CAM Operator profile UI pop up message.

(Home) > Settings > Channels > CAM profile name

When **CAM Operator profile** is enabled, select to display the profile name of current connected CAM card.

General Settings

Connection Related Settings

USB Keyboard Settings

(Home) > Settings > General settings > USB keyboard settings

To install the USB keyboard, switch on the TV and connect the USB keyboard to one of the USB connections on the TV. When the TV detects the keyboard for the first time, you can select your keyboard lay-out and test your selection.

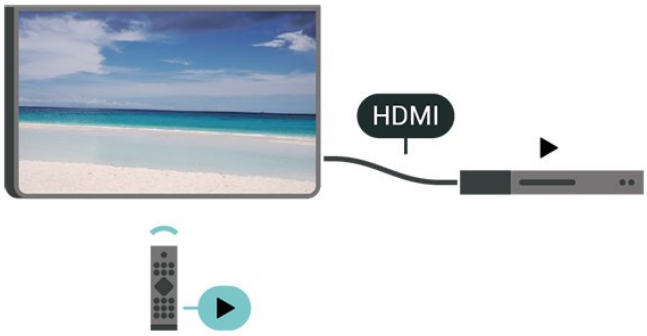
Mouse Settings

(Home) > Settings > General settings > Mouse settings

Adjust the motion speed of the USB mouse.

HDMI-CEC Connection - EasyLink

Connect HDMI CEC-compatible devices to your TV, you can operate them with the TV remote control. EasyLink HDMI CEC must be switched on on the TV and the connected device.



Switch on EasyLink

(Home) > Settings > General settings > EasyLink > EasyLink > On

Operate HDMI CEC-compatible devices with TV remote control

(Home) > Settings > General settings > EasyLink > EasyLink remote control > On

EasyLink 2.0 sound control

(Home) > Settings > General settings > EasyLink > EasyLink 2.0 sound control > On

Slide to turn On/Off to control the sound settings of the HDMI sound system. You can adjust these settings via Frequent settings or Settings > Sound > EasyLink 2.0. This is only applicable with EasyLink 2.0 compliant HDMI sound system.

Note:

- EasyLink might not work with devices from other brands.

- The HDMI CEC functionality has different names on different brands. Some examples are: Anynet, Aquos Link, Bravia Theatre Sync, Kuro Link, Simplink and Viera Link. Not all brands are fully compatible with EasyLink. Example HDMI CEC branding names are property of their respective owners.

Screensaver Settings

(Home) > Settings > General settings > Screensaver settings > Screensaver

Select Backdrop to enable the Screensaver. Select Off to disable the Screensaver.

(Home) > Settings > General settings > Screensaver settings > When to start

Set the duration (in minutes) when TV is in idle state before activating the Screensaver.

(Home) > Settings > General settings > Screensaver settings > Preview

Press OK to preview the Screensaver.

HDMI Ultra HD

Set the signal quality for each HDMI connectors

(Home) > Settings > General settings > HDMI Ultra HD > HDMI (port)

This TV can display Ultra HD signals. Some devices - connected with HDMI - do not recognise a TV with Ultra HD and might not work correctly or show distorted picture or sound.

To avoid the malfunctioning of such a device, you can adjust HDMI Ultra HD setting when TV is in the HDMI source. Recommended setting for legacy device is Standard.

• The setting Optimal allows maximum up to Ultra HD (50Hz or 60Hz) RGB 4:4:4 or YCbCr 4:4:4/4:2:2/4:2:0 signals.
• The setting Standard allows maximum up to Ultra HD (50Hz or 60Hz) YCbCr 4:2:0 signals.

Maximum supported video timing format for HDMI Ultra HD options:

• Resolution: 3840 x 2160
• Frame rate (Hz): 50Hz, 59.94Hz, 60Hz
• Video data sub-sampling (bit-depth)
- 8 bit: YCbCr 4:2:0, YCbCr 4:2:2*, YCbCr 4:4:4*, RGB 4:4:4*
- 10 bit: YCbCr 4:2:0*, YCbCr 4:2:2*
- 12 bit: YCbCr 4:2:0*, YCbCr 4:2:2*
* Supported only when HDMI Ultra HD is set to Optimal.

Select Standard if the picture or sound are distorted.

• Set Optimal (Auto Game) to enable TV to support the HDMI Variable Refresh Rate* video (on some models only and the Picture style setting is not Monitor). This option also enables TV to automatically set Picture/Sound style to Game whenever it is informed by the HDMI device connected to TV.

* With HDMI Variable Refresh Rate supported, the TV changes its refresh rate in real time according to the frame rate signal to synchronize with every picture. It is applied to reduce the lag, judder and frame tearing for better gaming experience.

Note:
To watch HDR10+ or Dolby Vision content from HDMI source, you may need to power off your player and power on again when the player connected to TV playing such content for the first time. HDR10+ or Dolby Vision content is supported only when HDMI Ultra HD is set to Optimal or Optimal (Auto Game)

Auto Movie Mode

Set the Auto movie mode

(Home) > Settings > General settings > Auto movie mode

Set Auto movie mode to On, if you want TV to automatically set Picture style to Movie whenever it is informed by the HDMI device connected to TV.

Power-on Behaviour

Set the Power-on behaviour

(Home) > Settings > General settings > Power-on behaviour

Set the TV to stay on **Home** screen or on **Last source** when power on the TV.

Eco Settings

Set screen off to save energy consumption

(Home) > Settings > General settings > Eco settings > Screen off

Select **Screen off**, the TV screen is switched off, to switch the TV screen back on, press any key on the remote control.

Set the Light Sensor

(Home) > Settings > General settings > Eco settings > Light sensor

To save energy, the built-in ambient light sensor lowers the brightness of the TV screen when the surrounding light darkens. The built-in light sensor automatically adjusts the picture to the lighting conditions of the room.

Set TV switch off timer

(Home) > Settings > General settings > Eco settings > Switch off timer

Press the arrows > (Right) or < (Left) to adjust the value. The value **0 (Off)** deactivates the automatic switch off.

Select Switch off timer, the TV switches off automatically to save energy.

- TV switches off if receiving a TV signal but you don't press a key on the remote control during a 4 hour period.
- TV switches off if not receiving a TV signal nor a remote control command for 10 minutes.
- If you use the TV as a monitor or use a digital receiver to watch TV (a Set-Top Box - STB) and you do not use the remote control of the TV, you should deactivate this automatic switch off, to set the value to **0**.

Location - Home or Shop

(Home) > Settings > General settings > Location

- Select the location of your TV
- Select **Shop**, the picture style is switched back to **Vivid**, and can adjust shop settings.
- Shop mode is for in-store promotion.

Shop Setup

(Home) > Settings > General settings > Shop setup

If the TV is set to **Shop**, you can view feature logos or set the availability of a specific demo for in store use.

Adjust Picture and audio

(Home) > Settings > General settings > Shop setup > Picture and audio

Select **Optimized to shop** or **Custom settings** for picture and audio settings.

Logos and banner

(Home) > Settings > General settings > Shop setup > Logos and banner

Set to display **Feature logos** and **Promotional banner**.

Demo Me autostart

(Home) > Settings > General settings > Shop setup > Demo Me autostart

Turn On/Off the Demo Me autostart.

Manage Demos

(Home) > Apps > Demo me > Manage demos

If the TV is set to **Shop**, you can manage the demo videos in **Demo me** app.

Play demo video

(Home) > Apps > Demo me > Manage demos > Play
Select a demo video file and play.

Copy demo file

(Home) > Apps > Demo me > Manage demos > Copy to USB
Copy demo file to USB drive.

Delete demo file

(Home) > Apps > Demo me > Manage demos > Delete
Delete demo file from your TV.

Configuration of demo

(Home) > Apps > Demo me > Manage demos > Configuration
Set the TV to Main TV or Sub TV.

Download new demo file

(Home) > Apps > Demo me > Manage demos > Download new
If the Configuration is set to Main TV, you can download new demo file.

Auto delay setting

(Home) > Apps > Demo me > Manage demos > Auto delay setting
Set the Auto delay time from 15 seconds to 5 minutes.

Auto loop selection

(Home) > Apps > Demo me > Manage demos > Auto loop selection
Select a demo file for auto loop playing.

Reset TV Settings and Reinstall TV

Reset all settings value to original TV settings

(Home) > Settings > General settings > Factory settings

Redo full TV installation , and set TV status back to the first time you switch on

(Home) > Settings > General settings > Reinstall TV

Enter PIN code and select Yes, the TV will reinstall completely. All settings will be reset and installed channels will be replaced. The installation can take a few minutes.

Universal Access Settings

(Home) > Settings > Universal access

With Universal Access switched on, the TV is prepared for use for the deaf, hard of hearing, blind or partially sighted people.

Switch on universal access settings

(Home) > Settings > Universal access > Universal access > On.

Universal access for hearing impaired people

(Home) > Settings > Universal access > Hearing impaired > On

• Some digital TV channels broadcast special audio and subtitles adapted for the hard of hearing or deaf people.
• Switched on, the TV automatically switches to the adapted audio and subtitles, if available.

Universal access for blind or partially sighted people

(Home) > Settings > Universal access > Audio description > Audio description > On

Digital TV channels can broadcast special audio commentary describing what is happening on screen.

(Home) > Settings > Universal access > Audio description > Audio description > Mixed volume, Audio effects, Speech

• Select Mixed volume, you can mix the volume of the normal audio with the audio commentary. Press the arrows > (Right) or < (Left) to adjust the value.
• Set Audio effect to On for extra audio effects in the commentary audio, like stereo or fading sound.
• Select Speech to set speech preference, Descriptive or Subtitles.

Dialogue enhancement

(Home) > Settings > Universal access > Dialogue enhancement

Increase the intelligibility of dialogue and commentary. Only available when sound setting Clear dialogue is On and audio stream is AC-4.

Text magnification

(Home) > Settings > Universal access > Text magnification

Turn on to magnify selected texts and display on the upper screen.

Lock Settings

Set Code and Change Code

(Home) > Settings > Child lock > Set code, Change code

Set new code or reset change code. The child lock code is used to lock or unlock channels or programmes.

Note: If you forgot your PIN code, you can override the current code use 8888 and enter a new code.

Lock for Programme

(Home) > Settings > Child lock > Parental rating

Set a minimum age to watch rated programmes.

App lock

(Home) > Settings > Child lock > App lock

You can lock apps unsuited for children. The App lock will ask for a PIN code when you try to start an 18+ rated app. This lock is only valid for 18+ rated apps from the Philips apps.

Region and Language Settings

Language

(Home) > Settings > Region and language > Language

Change the language of the TV menu and messages

(Home) > Settings > Region and language > Language > Menu language

Set audio preference language

(Home) > Settings > Region and language > Language > Primary audio, Secondary audio

Digital TV channels can broadcast audio with several spoken languages for a programme. You can set a preferred primary and secondary audio language. If audio in one of these languages is available, the TV will switch to this audio.

Set subtitle preference language

(Home) > Settings > Region and language > Language > Primary subtitle, Secondary subtitle

Digital channels can offer several subtitle languages for a programme. You can set a preferred primary and secondary subtitle language. If subtitles in one of these languages are available, the TV will show the subtitles you selected.

Set teletext preference language

(Home) > Settings > Region and language > Language > Primary text, Secondary text

Some digital TV broadcasters have several Text languages available.

Clock

(Home) > Settings > Region and language > Clock

Correct clock automatically

(Home) > Settings > Region and language > Clock > Auto clock mode

• The standard setting for the TV clock is Automatic. The time information comes from the broadcasted UTC - Coordinated Universal Time information.
• If the clock is not correct, you can set the TV clock to Country dependent.
• When select Country dependent, you can set the time for Automatic, Standard time, or Daylight saving time.

Correct clock manually

(Home) > Settings > Region and language > Clock > Auto clock mode > Manual

(Home) > Settings > Region and language > Clock > Date, Time

Go to previous menu, and select Date and Time to adjust the value.

Note:

• If none of the automatic settings display the time correctly, you can set the time manually.
• The Auto clock mode setting will be back to Automatic after the TV power is turned off and on again.

Set time zone or set a time offset for your region

(Home) > Settings > Region and language > Clock > Time zone

Select one of the time zones.

Set the TV to switch to Standby automatically after a preset time

(Home) > Settings > Region and language > Clock > Sleep timer.

Set the TV to switch to Standby automatically after a preset time. With the slider bar you can set the time to up to 180 minutes in increments of 5 minutes. If set to 0 minutes, the sleep timer is switched off. You can always switch off your TV earlier or reset the time

during the countdown.

12

Gaming Control Bar

The Gaming control bar is an integrated centre for information display and setting control while playing game. It is applicable for HDMI source as long as the **Picture style** is set to **Game/HDR Game/Dolby Vision Game**.

When TV auto switch to Game mode (via game detection), the TV will show a message to inform user that Game mode is enabled and the gaming control bar can be enabled via long pressing the **MENU** key.

Activation and deactivation

Long press the **MENU** key to launch the gaming control bar while in **Game** mode. To deactivate the gaming control bar, you can press ← **Back** or it will be close automatically after 25 seconds without interaction.

The Gaming control bar contains **Dashboard** and **Settings**, you can press the arrows > (Right) or < (Left) to switch between **Dashboard** and **Settings**.

Dashboard

The **Dashboard** will show the key information for the gaming:

Input lag: current input lag status
Frame rate: current FPS (frame per second)
Resolution: video source resolution
Content type: video content is General or Movie or VRR/Freesync/G-Sync
SDR/HDR format: the supported source HDR or SDR type
Colour space: supported source colour space type

Settings

The **Settings** contains related settings that can improve your gaming experience. Select and press **OK** on the setting icons to change following settings:

Crosshair: select **On**/**Off** to show or hide the dial point.
Shadow control: select **Off** to use current black level in **Picture settings**; select **On** to change the setting to higher black level.
Colour temperature: select the colour temperature for your preference.
Audio out: select the device to output the sound.
Ambilight* style: select **On** to turn on the Ambilight with gaming style; select **Off** to turn off the Ambilight.

* Ambilight setting is only for models which support Ambilight function.

13

Wireless and Networks

13.1

Home Network

To enjoy the full capabilities of your Philips Smart TV, your TV must be connected to the Internet.

Connect the TV to a home network with a high-speed Internet connection. You can connect your TV wirelessly or wired to your network router.

13.2

Connect to Network

Wireless Connection

What You Need

To connect the TV to the Internet wirelessly, you need a Wi-Fi router with a connection to the Internet. Use a high-speed (broadband) connection to the Internet.

Make the Connection - Wireless

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Connect to network > Wireless (Wi-Fi)

1 - In the list of found networks, select on your wireless network. If your network is not in the list because the network name is hidden (you switched off the SSID broadcast of the router), select Add New Network to enter the network name yourself.
2 - Enter your encryption key. If you entered the encryption key for this network before, you can select OK to make the connection immediately.
3 - A message will be shown when the connection is successful.

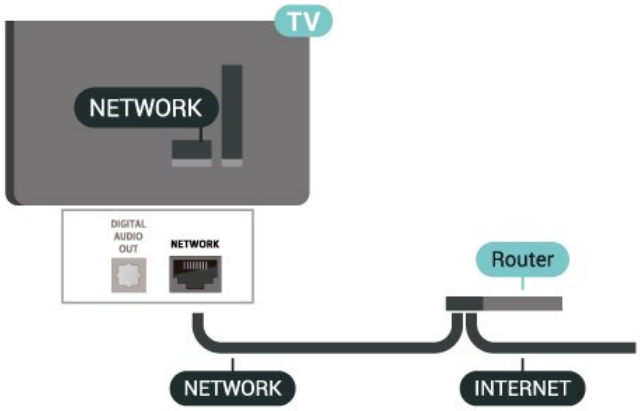
Turn Wi-Fi On or Off

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Wi-Fi On/Off

Wired Connection

What You Need

To connect the TV to the Internet, you need a network router with a connection to the Internet. Use a high-speed (broadband) connection to the Internet.



Make the Connection

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Connect to network > Wired

1 - Connect the router to the TV with a network cable (Ethernet cable**).
2 - Make sure that the router is switched on.
3 - The TV constantly searches for the network connection.
4 - A message will be shown when the connection is successful.

If the connection fails, you can check the DHCP setting of the router. DHCP should be switched on.

**To fulfill EMC regulations, use a shielded FTP Cat. 5E Ethernet cable.

13.3

Wireless and Network Settings

View Network Settings

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > View network settings

You can view all current network settings here. The IP and MAC address, signal strength, speed, encryption method, etc.

Network Configuration - Static IP

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Network Configuration > Static IP

If you are an advanced user and want to install your network with Static IP addressing, set the TV to Static IP.

Network Configuration - Static IP Configuration

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Static IP configuration

1 - Select Static IP configuration and configure the connection.
2 - You can set the number for IP Address, Netmask, Gateway, DNS 1, or DNS 2.

Switch On with Wi-Fi (WoWLAN)

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Switch On with Wi-Fi (WoWLAN)

You can switch this TV on from your smartphone or tablet if the TV is in Standby. The setting Switch On with Wi-Fi (WoWLAN) must be switched on.

Digital Media Renderer - DMR

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Digital Media Renderer - DMR

If your media files do not play on your TV, make sure that the Digital Media Renderer is switched on. As a factory setting, DMR is switched on.

Switch on Wi-Fi connection

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Wi-Fi On/Off

You can switch on or off Wi-Fi connection on your TV.

Reset Screen Mirroring connection

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Reset Screen Mirroring connection

Clear the list of connected and blocked devices that are used with Screen Mirroring.

TV network name

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > TV network name

If you have more than one TV in your home network, you can give the TV a unique name.

Netflix settings

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Netflix settings

With Netflix settings, you can view ESN number or deactive Netflix device.

Clear Internet Memory

(Home) > Settings > Wireless & networks > Wired or Wi-Fi > Clear Internet Memory

With Clear Internet Memory you clear your Philips server registration and parental rating settings, your video store app logins, all Philips App Gallery favourites, Internet bookmarks and history. Interactive MHEG applications can also save so-called 'cookies', on your TV. These files will also be cleared.

14

Smart TV and Apps

14.1

Setup Smart TV

The first time you open Smart TV, you need to configure your connection. Read and agree to the terms and conditions to continue.

The Smart TV Home screen is your link to the Internet. You can rent movies online, read newspapers, watch videos and listen to music, also shop online, or watch TV programmes when it suits you with On-line TV.

TP Vision Europe B.V. bears no responsibility regarding the content and the quality of the content provided by the content service providers.

14.2

Store of Apps

Open the **Apps** tab on Home screen to browse the Apps, the collection of tailored websites for TV.

Find the App for YouTube videos, a national newspaper, an online photo album, etc. There are Apps to rent a video from an online video store and Apps for watching programmes you missed. If the App in **Apps** does not hold what you are looking for, try the World Wide Web and surf the Internet on TV.

Categories of Apps

You can sort the Apps in **Apps** by different categories like **New**, **Video**, **Entertainment**, **News** or **Lifestyle**.

Featured Apps

In this area, Philips presents a range of recommended Apps for you. You can select and install them to enrich your Smart TV life.

Internet

The Internet App opens the World Wide Web on your TV.
On your TV, you can view any Internet website but most of them are not tailored for a TV screen.
- Some plug-ins (e.g. to view pages or videos) are not available on your TV.
- Internet pages are shown one page at a time and full screen.

15

Netflix

If you have a Netflix membership subscription, you can enjoy Netflix on this TV. Your TV must be connected to the Internet.

To open Netflix, press NETFLIX to open the Netflix App. You can open Netflix immediately from a TV in standby.

www.netflix.com

16

Rakuten TV

Watch the latest new releases on your Smart TV. The biggest blockbusters, award winning classics and TV series available instantly.

Press the Rakuten TV key on your remote control or the app icon to open the Rakuten TV app. Your TV must be connected to the Internet to use the app. For more information about Rakuten TV, please visit www.rakuten.tv.

17

Amazon Prime Video

With an Amazon prime membership, you gain access to thousands of popular movies and TV show, including exclusive Prime Originals.

Press the prime video key to open the Amazon Prime Video app. Your TV must be connected to the Internet to use the app. For more information about Amazon Prime Video, please visit www.primevideo.com.

18

YouTube

YouTube provides a platform to connect to the world. Watch and discover popular videos that uploaded by YouTube users around the world. Use the YouTube app to explore the latest topics on music, news, and more.

Press the app icon to open the YouTube app. Your TV must be connected to the Internet to use the app.
For more information about YouTube, please visit www.youtube.com.

19

Alexa

19.1

About Alexa

Your TV supports Amazon Alexa* voice control operations.

About Alexa

Alexa is a cloud-based voice service available on Alexa Echo devices from Amazon and device manufacturers. With Alexa working on your TV, you can switch on/off TV, change channels, change volume and more.

To control your TV with Alexa, you will need:

- Philips Smart TV that supports Alexa
- Amazon account
- Alexa app* (mobile/tablet version)
- Wireless or wired network connection
- Philips TV Remote App

About Alexa Skill

Alexa uses the Alexa Skills to extend the voice control operations. Skills add new capabilities that create a more personalised experience with your Alexa enabled TV. "Philips SAPHI Smart TV Voice Control" skill can be found on Alexa Skills store, it offers various voice control commands to work with your Philips Smart TV.

Note: The supported Ambilight styles may depend on specific TV models. Please refer the user manual of your TV to know the supported Ambilight styles.

Amazon, Alexa and all related logos are trademarks of Amazon.com, Inc. or its affiliates. Amazon Alexa is available in selected languages and countries.

Services availability depends on region. A part or whole of software/services installed into or accessible through the product may be changed, discontinued, removed, suspended, or terminated without notice

19.2

Using Alexa

To use Alexa, you need to first setup the Alexa client service on your Philips Smart TV. Start the setup by launching the "Amazon Alexa" app from the Home screen of your TV. Follow the instructions and complete the following steps:
- Select a name for your Smart TV for Alexa to recognize.
- Select an Amazon account and sign-in.
- Return to this skill in the Alexa App on your phone to enable it, link accounts, and discover your devices.
- Return to your TV to complete setup.

Setup on TV for Alexa

1 - Press **Home** and open "Amazon Alexa" app.
2 - You need Alexa app (on mobile device or web version) be ready to start the setup.
3 - Follow the instructions on screen to accept Privacy Policy terms, name your TV and sign in your Amazon account. The Amazon account is needed to pair with Alexa on TV.
4 - On your mobile device, sign in with the same Amazon account in the Amazon Alexa app.
5 - Complete following steps in the Amazon Alexa app. The first is to enable "Philips SAPHI Smart TV Voice Control" skill. The second is to link your Amazon account and then the final is to discover devices
6 - At the end of setup screen, you can select **Done** to start to use Alexa.

To start Alexa voice control operations, if your TV remote control does not have Alexa button, you can use Philips TV Remote App (iOS and Android) on mobile devices.

20

Google Assistant

Your TV can work with the Google Assistant. Google Assistant allows you to use your voice to control your TV – e.g. changing volume, channels and more.

Note: Google Assistant is not available in all languages and countries.

To enable Google Assistant on your TV, you will need:

- A Google Home device, like Google Home Mini
- Internet connection on TV
- Google account
- Google Home app (mobile/tablet version)

Setup TV Control with Google Assistant

1 - Follow the instructions on screen to accept the Privacy Policy for the usage of Google Assistant voice control feature on this TV.

2 - Choose a name for the TV so that Google Assistant can recognise it.

3 - Sign in Google account. If you already have a Google account, please sign in. If not, please create an account and sign in. After you have signed in successfully, select "Get Code" to get the device code of this TV for your device registration.

4 - On your mobile/tablet, search for "Google Home" app in app store (iOS and Android). Download and open the Google Home app. Sign in with the same Google account, which is used to register this TV. You need to continue the setup on Google Home app in mobile/tablet to control your TV with voice commands.

5 - On Google Home app, select “Set up device”, then click “Search for TV” to find your TV. Sign in to link to your Google account and enable TV control on Google Home app.

6 - You can use Google Assistant to turn on your TV using voice command. For this, the TV needs to remain in a special power mode, which may result in slightly higher power consumption during standby.

You are ready to use your Google Home device to control this TV. Here are some things to try:

- Turn off TV
- Switch to channel 10 on TV
- Channel down on TV
- Increase volume on TV
- Mute TV

Note: If you logout from Google Assistant, you will no longer be able to use voice commands on this TV. You will need to redo the Setup TV control with Google Assistant to use the feature again.

Google Assistant is available on Philips Android TVs running on Android O (8) or higher OS version. GA is available in selected languages and countries with English-UK and German-DE and French-FR being supported from the start. Supported language/countries list is going to be expanded overtime. For latest language and countries support list please contact our consumer care.

Services availability depends on region. A part or whole of software/services installed into or accessible through the product may be changed, discontinued, removed, suspended, or terminated without notice.

21

Software

21.1

Update Software

Search for Updates

Update from Internet

(Home) > Settings > Update software > Search for updates > Internet (Recommended)

Look for a software update yourself.

• If the TV is connected to the Internet, you may receive a message to update the TV software. You need a high-speed (broadband) Internet connection. If you receive this message, we recommend you to carry out the update.
• During the software update, there is no picture and the TV will switch off and on again. This might happen several times. The update can take a few minutes.
• Wait until the TV picture comes back up. Do not press the power switch on the TV or on the remote control during the software update.

Update from USB

(Home) > Settings > Update software > Search for updates > USB

• You need a computer with a high-speed Internet connection and a USB memory device to upload the software on the TV.
• Use a USB memory device with 512MB free space. Make sure that write protection is switched off.
1 - Start the update on TV
Select Update software > Search for updates > USB, then press OK.
2 - Identify the TV
Insert the USB memory into one of the USB connections of the TV.
Select Start and press OK. An identification file is written on the USB memory device.
3 - Download the TV software
- Insert the USB memory into your computer.
- On the USB memory device, locate the file update.html and double click it.
- Click on Send ID.
- If new software is available, download the .zip file.
- After the download, unzip the file and copy the file autorun.upg onto the USB memory device.
- Do not place this file in a folder.
4 - Update the TV software
Insert the USB memory into the TV again. The update starts automatically.
The TV switches itself off for 10 seconds and then back on again. Please wait.

Do not . . .

• use the remote control
• remove the USB memory device from the TV
• press twice
• press the power switch on the TV
The TV switches itself off (for 10 seconds) and then back on again. Please wait.

The TV software has been updated. You can use the TV again.
To prevent an accidental update of the TV software, delete the autorun.upg file from the USB memory device.

Local Updates

(Home) > Settings > Update software > Search for updates > USB > Local updates.

For dealers and expert users.

21.2

Software Version

(Home) > Settings > Update software > Current software info

To view the current TV software version.

21.3

Automatic Software Update

(Home) > Settings > Update software > Automatic software update

To switch on Automatic software update to update your TV software automatically. Leave the TV in standby.

When the setting is enabled, the upgrade gets downloaded when the TV is powered ON and installed 15min after the TV has gone to standby (as long as there is no alarm scheduled).
When the setting is disabled, the "Upgrade Now" / "Later" OSD will be shown.

21.4

View Software Update History

(Home) > Settings > Update software > View software update history

Display the list of software versions that are

successfully update on the TV.

22

Environmental

22.1

European Energy Label

The **European Energy Label** informs you on the energy efficiency class of this product. The greener the energy efficiency class of this product is, the lower the energy it consumes.
On the label, you can find the energy efficiency class, the average power consumption of this product in use. You can also find the power consumption values for this product on the Philips website for your country at www.philips.com/TVsupport

22.2

End of Use

Disposal of your old product and batteries

Your product is designed and manufactured with high quality materials and components, which can be recycled and reused.

When this crossed-out wheeled bin symbol is attached to a product it means that the product is covered by the European Directive 2012/19/EU.

Please inform yourself about the local separate collection system for electrical and electronic products.

Please act according to your local rules and do not dispose of your old products with your normal household waste. Correct disposal of your old product helps to prevent potential negative consequences for the environment and human health.

Your product contains batteries covered by the European Directive 2006/66/EC, which cannot be disposed with normal household waste.

Please find out for yourself about the local rules on separate collection of batteries because correct disposal will help to prevent negative consequences for the environment and human health.

22.3

UK Declaration of Conformity

Hereby, TP Vision Europe B.V. declares that this television is in compliance with the essential requirements and other relevant provisions of Directives Radio Equipment Regulations 2017 and the Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 and the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

23

Specifications

23.1

Power

Product specifications are subject to change without notice. For more specification details of this product, see www.philips.com/TVsupport

Power
- Mains power : AC 220-240V +/-10%
- Ambient temperature : 5°C to 35°C

23.2

Reception

- Aerial input : 75 ohm coaxial (IEC75)
- Tuner bands : Hyperband, S-Channel, UHF, VHF
- DVB : DVB-T2, DVB-C (cable) QAM
- Analogue video playback : SECAM, PAL
- Digital video playback : MPEG2 SD/HD (ISO/IEC 13818-2), MPEG4 SD/HD (ISO/IEC 14496-10), HEVC*
- Digital audio playback (ISO/IEC 13818-3)
- Satellite aerial input : 75 ohm F-type
- Input frequency range : 950 to 2150MHz
- Input level range : 25 to 65 dBm
- DVB-S/S2 QPSK, symbol rate 2 to 45M symbols, SCPC and MCPC
- LNB : DiSEqC 1.0, 1 to 4 LNBs supported, Polarity selection 14/18V, Band selection 22kHz, Tone burst mode, LNB current 300mA max

* Only for DVB-T2, DVB-S2

23.3

Display Resolution

Diagonal screen size
- 108 cm / 43 inch
- 126 cm / 50 inch
- 139 cm / 55 inch
- 164 cm / 65 inch
- 189 cm / 75 inch

Display resolution
- 3840 x 2160

23.4

Supported Input Resolution

Supported Computer/Video resolution

Resolution — Refresh rate

Video Inputs - Max frame rate is 60Hz (TV can be in Video/Game/Computer mode)

- 640 x 480 - 60Hz
- 576p - 50Hz
- 720p - 50Hz, 60Hz
- 1920 x 1080p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 2560 x 1440 - 60Hz
- 3840 x 2160p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz

Supported Video only resolution

Resolution — Refresh rate

Video Inputs (TV can be Video or Game Mode)

- 480i - 60Hz (when **HDMI Ultra HD** is set to **Standard**)
- 576i - 50Hz (when **HDMI Ultra HD** is set to **Standard**)
- 1080i - 50Hz, 60Hz
- Variable refresh rate video 1080p, 1440p, 2160p with frame rate up to 48-60Hz when **HDMI Ultra HD** is set to **Optimal (Auto Game)**

* Note: Some resolution and frame rate may not be supported in all input sources.

23.5

Sound

- Output power (RMS) : 20W
- Dolby MS12 V2.6
- Dolby Atmos
- Surround Virtualizer + Height Virtualizer
- Dolby Volume Leveler / Night mode
- Dolby Bass Enhancement
- Clear Dialogue
- AI Sound
- AI EQ

23.6

Multimedia

Connections
- USB 2.0
- Ethernet LAN RJ-45
- Wi-Fi 802.11n (built-in)

Supported USB file systems
- FAT, NTFS

Playback formats

• Video Codec : AVI, MKV, H.264/MPEG-4 AVC, MPEG1, MPEG2, MPEG4, VP9, HEVC (H.265), AV1
• Audio Codec : MP3, WAV, AAC, WMA (v2 up to v9.2), WMA-PRO (v9 and v10), FLAC
• Subtitles :
- Format : SRT, SMI, SSA, SUB, ASS, TXT
- Character encodings : Western Europe, Turkish, Central Europe, Cyrillic, Greek, UTF-8 (Unicode), Hebrew, Arabic, Baltic
• Maximum Supported Data Rate :
– MPEG-4 AVC (H.264) is supported up to High Profile @ L5.1. 30Mbps
– H.265 (HEVC) is supported up to Main / Main 10 Profile up to Level 5.1 40Mbps
• Image Codec : JPEG, GIF, PNG, BMP, HEIF, 360 photo

Wi-Fi Certified

This TV is Wi-Fi Certified device.

23.7

Connectivity

TV Side

• USB 1 - USB 2.0
• USB 2 - USB 2.0
• Common Interface slot: CI+/CAM
• HDMI 3 in - UHD - HDR
• HDMI 2 in - UHD - HDR
• HDMI 1 in - ARC/eARC - UHD - HDR
• Antenna (75 ohm)
• Satellite tuner

TV Rear

• Audio out - Optical Toslink
• Network LAN - RJ45

24

Troubleshooting

24.1

Tips

If you can't find a solution for your TV problem in **Troubleshooting**, you can use **Keywords** in **Help** > **User manual** to find the information you are looking for. Select a keyword to go the most relevant page in the User manual.

If the User manual doesn't answer your question, you can go to the support website of Philips.

To solve any Philips TV related problem, you can consult our online support. You can select your language and enter your product model number.

Go to www.philips.com/TVsupport.

On the support site you can find your country's telephone number to contact us as well as answers to frequently asked questions (FAQs). In some countries, you can chat with one of our collaborators and ask your question directly or send a question by email. You can download new TV software or the manual to read on your computer.

TV Help on your tablet, smartphone or computer

To carry out extended sequences of instructions more easily, you can download the TV Help in PDF format to read on your smartphone, tablet or computer. Alternatively, you can print the relevant Help page from your computer.
To download the Help (user manual) go to www.philips.com/TVsupport

24.2

Switch On

The TV does not switch on

• Disconnect the power cable from the power outlet. Wait for one minute then reconnect it. Make sure that the power cable is securely connected. Try switching on again.
• Connect the TV to another wall mains socket and try switching on.
• Disconnect all connected devices from the TV and try switching on.
• If the standby light on TV is on, the TV might not respond to the remote control.

Creaking sound at startup or switch off

When you are turning the TV on or standby, you hear a creaking sound from the TV chassis. The creaking sound is due to the normal expansion and contraction of the TV as it cools and warms up. This does not affect performance.

The TV goes back to standby after showing the Philips startup screen

When the TV is in standby, a Philips startup screen is displayed, then the TV returns to standby mode. This is normal behaviour. When the TV is disconnected and reconnected to the power supply, the startup screen is displayed at the next startup. To switch on the TV from standby, press ⏻ (Standby / On) the remote control or the TV.

The standby light keeps on blinking

Disconnect the power cable from the power outlet. Wait 5 minutes before you reconnect the power cable. If the blinking reoccurs, contact Philips TV Consumer Care.
In **Help** > **User manual**, press the colour key **Keywords** and look up **Contact Info**.

TV switches off by itself

If the TV switches off suddenly, the setting **Switch off timer** might be switched on. With **Switch off timer** the TV switches off after 4 hours if no remote control signals were received. To avoid this automatic switch off, you can deactivate this switch off.
In **Help** > **User manual**, press the colour key **Keywords** and look up **Switch Off Timer**.
Also, if the TV does not receive a TV signal nor a remote control command for 10 minutes, the TV switches off automatically.

24.3

Remote Control

TV does not respond to the remote control

• The TV requires some time to start up. During this time, the TV does not respond to the remote control or TV controls. This is normal behaviour.
• The batteries of the remote control might be empty. Replace the batteries with new ones.

24.4

Channels

No digital channels found during the installation

• Check if the TV was connected with an antenna or is using a provider signal. Check the cable connections.
• Check if the country where you install the TV, has digital channels available.
• Check if you selected the correct DVB (Digital Video Broadcast) system. Select DVB-T (terrestrial) when you use an antenna or common antenna, select DVB-C (cable) if you use a TV cable service.
• Redo the installation and check if you select the

correct country and system.

No analogue channels found during the installation
• Check if the TV was connected with an antenna. Check the cable connections.
• Check if you selected the correct DVB (Digital Video Broadcast) system. Select DVB-T (terrestrial) when you use an antenna or common antenna.
• Redo the installation and select Digital and analogue channels during the installation.

Some channels disappeared, cannot find all or some previously installed channels
• Check if you selected the correct Channel list or Favourites list you normally use.
• Some channels might be moved or even deleted by the broadcaster. In the normal channels list, try to search for the channel you're missing. If the channel is still available, you can put it back in the favourites list.
• A channel can be deleted from the channel list during Automatic channel update. These automatic updates are done overnight if the TV is on standby.
Channels that do not exist anymore are deleted and new channels will be added to the channel list. Exceptionally, a channel can be deleted because the TV could not find it while checking for its presence. It might not broadcast at night.
To avoid channels being deleted during the Automatic channel update because the TV could not find them although these channels are still there, you can switch off Automatic channel update.
(Home) > Settings > Channels > Antenna/Cable installation, Satellite installation* > Automatic channel update

* Satellite installation is only for models which support satellite functions.

DVB-T2 HEVC channel
• See the technical specifications to make sure that your TV supports DVB-T2 HEVC in your country and reinstall DVB-T channel.

24.5
Satellite

The TV cannot find the satellites I want or the TV installs the same satellite twice

Check if the correct number of satellites is set in settings at the start of the installation. You can set the TV to search for One, Two or 3/4 satellites.

A dual head LNB cannot find a second satellite
• If the TV finds one satellite but cannot find a second one, turn the dish a few degrees. Align the dish to get the strongest signal on the first satellite. Check the signal strength indicator of the first satellite on-screen.
• Check if the settings are set to two satellites.

Changing the installation settings did not solve my problem

All settings, satellites and channels are only stored at the end of the installation when you finish.

All satellite channels are gone

If you use an Unicable system, make sure you assigned two unique user band numbers for both built-in tuners in the Unicable settings. It might be that another satellite receiver in your Unicable system is using the same user band number.

Some satellite channels seem to have disappeared from the channel list

If some channels seem to be gone or displaced, the broadcaster might have changed the transponder location of these channels. To restore the channel positions in the channel list, you can try an update of the channel package.

I cannot remove a satellite

Subscription packages do not allow removing a satellite. To remove the satellite, you have to do a complete installation again and select another package.

Sometimes the reception is poor
• Check if the satellite dish is solidly mounted. Strong winds can move the dish.
• Snow and rain can degrade the reception.

24.6
Picture

No picture / distorted picture
• Check if the TV is connected with an antenna or is using a provider signal. Check the cable connections.
• Check if the correct source/input is selected in the sources menu. Press Sources and select the source/input you need.
• Check if the external device or source is properly connected.
• Check if the reception is poor.
• Check if the picture is set to a minimal value. Select Picture style and select a style and press OK.
• To check if the TV is broken, try to play a video clip. Press Quick Menu > Help > TV diagnose > Check the TV. If the video clip stays black, call Philips. Wait until the clip ends and select Contact info in the Help menu. Call the telephone number for your country.

Sound but no picture
• Change to other video sources and then change back to current source.
• Select Picture style and select a style and press OK.

• Restore picture style, select back to Picture style, then press Restore style.
• Reset all TV settings, go to (Home) > Settings > General settings > Reinstall TV.
• Check the connections of the source/input devices.

Poor reception

If the TV picture is distorted or variable in quality, the input signal might be poor. A weak digital signal is seen as a picture that is breaking up in square blocks and freezes occasionally. Much sooner than a bad analogue signal, a bad digital signal will fall away.

• Check if the antenna cable is properly connected.
• Large loudspeakers, unearthed audio devices, neon lights, high buildings and other large objects can influence reception quality when you are using an antenna. Try to improve the reception by changing the antenna direction or moving devices away from the TV. Bad weather might deteriorate the reception.
• Check if all connections, to and from your devices, are properly connected.
• If reception on only one channel is poor, fine-tune this channel with Analogue: manual installation. (Only for analogue channels)

• Check if the incoming digital signal is sufficiently strong. While watching a digital channel, press OPTIONS and select Status and press OK. Check the Signal strength and Signal quality.

Poor picture from a device

• Make sure that the device is connected properly. Make sure that the device's output video setting is the highest possible resolution if applicable.
• Restore picture style or change to another picture style.

Picture settings change after a while

Make sure that Location is set to Home . You can change and save settings in this mode.
(Home) > Settings > General settings > Location

A banner appears

If an on screen promotion banner appears occasionally or the Picture style automatically switches back to Vivid at startup, the TV is in Shop location. Set the TV to Home location for use at home.
(Home) > Settings > General settings > Location

Picture does not fit the screen / Wrong or unstable picture size / Picture position is incorrect

• If the picture size - its aspect ratio - does not fit the screen, with black bars on the top and bottom or left and right side of the screen, press (Home) > Settings > Picture > Picture Format > Fill screen.
• If the picture size changes all the time, press (Home) > Settings > Picture > Picture Format > Fit to screen.
• If the position of the picture is incorrect on the screen, try to check the signal resolution and output type of the connected device, press (Home) > Settings > Picture > Picture Format > Original.

Computer picture is not stable

Make sure that your PC uses the supported resolution and refresh rate.

24.7

Sound

No sound or poor sound quality

• Check if the sound settings of the TV are OK, press the volume or mute key.
• If you use a digital receiver (set-top box), check if the volume on this receiver is not set to zero or mute.
• Check if the TV - the audio signal - is properly connected with the Home Theatre System, if you use such a system for the TV sound. Check if you connected the HDMI cable to an HDMI1 ARC connection on the Home Theatre System.
• Make sure that the TV audio output is connected to the audio input on the Home Theatre System. Sound should be heard from the HTS (Home Theatre System) speakers.

Sound with loud noise

If you watch a video from a plugged in USB flash drive or connected computer, the sound from your Home Theatre System might be distorted. This noise is heard when the audio or video file has DTS sound but the Home Theatre System has no DTS sound processing. You can fix this by setting the Digital out format of the TV to Stereo.
Press (Home) > Settings > Sound > Advanced > Digital out format

24.8

HDMI - UHD

HDMI

• Note that HDCP (High-bandwidth Digital Content Protection) support can delay the time taken for a TV to display content from an HDMI device.
• If the TV does not recognise the HDMI device and no picture is displayed, switch the source from one device to another and back again.
• This is an Ultra HD TV. Some older devices - connected with HDMI - do not recognise an Ultra HD TV electronically and might not work correctly or show distorted picture or sound. To avoid the malfunctioning of such a device, you can set the signal quality to a level the device can handle. If the device is not using Ultra HD signals, you can switch

off Ultra HD for this HDMI connection.
If the picture and sound of a device connected with HDMI is distorted, check if a different **HDMI Ultra HD** setting can solve this problem. In **Help** > **User manual**, press the colour key **Keywords** and look up **HDMI Ultra HD**.
• If there are intermittent sound disruptions, make sure that output settings from the HDMI device are correct.

HDMI EasyLink does not work

• Check if your HDMI devices are HDMI-CEC compatible. EasyLink features only work with devices that are HDMI-CEC compatible.

HDMI eARC is not working well

• Make sure the HDMI cable is connected to **HDMI 1**.
• Make sure the **Ultra High-speed HDMI cable** is used for eARC connection.
• Only one eARC device is available at a time.

No volume icon shown

• When an HDMI-CEC audio device is connected and you use the TV Remote Control to adjust the volume level from the device, this behaviour is normal.

24.9

USB

Photos, videos and music from a USB device do not show

• Check if the USB storage device is set to Mass Storage Class compliant, as described in the storage device's documentation.
• Check if the USB storage device is compatible with the TV.
• Check if the audio and picture file formats are supported by the TV. For more information, in **Help**, press the colour key **Keywords** and look up **Multimedia**.

Choppy playback of USB files

• The transfer performance of the USB storage device may limit the data transfer rate to the TV which causes poor playback.

24.10

Wi-Fi and Internet

Wi-Fi network not found or distorted

• Check if the firewalls in your network allow access to the TV's wireless connection.
• If the wireless network does not work properly in your home, try the wired network installation.

Internet does not work

• If the connection to the router is OK, check the router connection to the Internet.

The PC and Internet connection are slow

• Look in your wireless router's user manual for information on indoor range, transfer rate and other factors of signal quality.
• Use a high-speed (broadband) Internet connection for your router.

DHCP

• If the connection fails, you can check the DHCP (Dynamic Host Configuration Protocol) setting of the router. DHCP should be switched on.

24.11

Wrong Menu Language

Change the language back to your language

1 - Press **Home** and select **Settings** via the icon at the top right corner.
2 - Press 7 times ⌄ (down) and press **OK**.
3 - Press **OK** again to enter **Language**, select the first item **Menu language** and press **OK**.
4 - Select your language and press **OK**.

25

Safety and Care

25.1

Safety

Important

Read and understand all safety instructions before you use the TV. If damage is caused by failure to follow instructions, the warranty does not apply.

Risk of Electric Shock or Fire

• Never expose the TV to rain or water. Never place liquid containers, such as vases, near the TV.
If liquids are spilt on or into the TV, disconnect the TV from the power outlet immediately.
Contact Philips TV Consumer Care to have the TV checked before use.
• Never expose the TV, remote control or batteries to excessive heat. Never place them near burning candles, naked flames or other heat sources, including direct sunlight.
• Never insert objects into the ventilation slots or other openings on the TV.
• Never place heavy objects on the power cord.
• Avoid force coming onto power plugs. Loose power plugs can cause arcing or fire. Ensure that no strain is exerted on the power cord when you swivel the TV screen.
• To disconnect the TV from the mains power, the power plug of the TV must be disconnected. When disconnecting the power, always pull the power plug, never the cord. Ensure that you have full access to the power plug, power cord and outlet socket at all times.

Risk of Injury or Damage to the TV

• Two people are required to lift and carry a TV that weighs more than 25 kg or 55 lbs.
• If you mount the TV on a stand, only use the supplied stand. Secure the stand to the TV tightly. Place the TV on a flat, level surface that can support the weight of the TV and the stand.
• When wall mounted, ensure that the wall mount can safely bear the weight of the TV set. TP Vision bears no responsibility for improper wall mounting that results in accident, injury or damage.
• Parts of this product are made of glass. Handle with care to avoid injury or damage.

Risk of damage to the TV !

Before you connect the TV to the power outlet, ensure that the power voltage matches the value printed on the back of the TV. Never connect the TV to the power outlet if the voltage is different.

Stability Hazards

A television set may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

• ALWAYS ensure the television set is not overhanging the edge of the supporting furniture.
• ALWAYS use cabinets or stands or mounting methods recommended by the manufacturer of the television set.
• ALWAYS use furniture that can safely support the television set.
• ALWAYS educate children about the dangers of climbing on furniture to reach the television set or its controls.
• ALWAYS route cords and cables connected to your television so they cannot be tripped over, pulled or grabbed.
• NEVER place a television set in an unstable location.
• NEVER place the television set on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television set to a suitable support.
• NEVER place the television set on cloth or other materials that may be located between the television set and supporting furniture.
• NEVER place items that might tempt children to climb, such as toys and remote controls, on the top of the television or furniture on which the television is placed.

If the existing television set is going to be retained and relocated, the same considerations as above should be applied.

Risk of Batteries

• Do not ingest the battery. Chemical burn hazard.
• The remote control may contain a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
• Keep new and used batteries away from children.
• If the battery compartment does not close securely, stop using the product and keep it away from children.
• If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.
• Risk of fire or explosion if the battery is replaced by an incorrect type.
• Replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of

some lithium battery types).
• Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
• Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
• A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

Risk of Overheating

Never install the TV in a confined space. Always leave a space of at least 20 cm or 8 inches around the TV for ventilation. Ensure curtains or other objects never cover the ventilation slots on the TV.

Lightning Storms

Disconnect the TV from the power outlet and antenna before lightning storms.
During lightning storms, never touch any part of the TV, power cord or antenna cable.

Low Temperatures

If the TV is transported in temperatures below 5°C or 41°F, unpack the TV and wait until the TV temperature reaches room temperature before connecting the TV to the power outlet.

Humidity

In rare occasions, depending on temperature and humidity, minor condensation can occur on the inside of the TV glass front (on some models). To prevent this, do not expose the TV to direct sunlight, heat or extreme humidity. If condensation occurs, it will disappear spontaneously while the TV is playing for a few hours.
The condensation moisture will not harm the TV or cause malfunction.

25.2

Screen Care

Clean

• Never touch, push, rub or strike the screen with any object.
• Unplug the TV before cleaning.
• Clean the TV and frame with a soft damp cloth and wipe gently. Never use substances such as alcohol, chemicals or household cleaners on the TV.
• To avoid deformations and colour fading, wipe off water drops as quickly as possible.
• Avoid stationary images as much as possible. Stationary images are images that remain onscreen for extended periods of time. Stationary images include onscreen menus, black bars, time displays, etc. If you must use stationary images, reduce screen contrast and brightness to avoid screen damage.

26

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The written material packaged with the TV and the manual stored in the memory of the TV or downloaded from the Philips website www.philips.com/TVsupport are believed to be adequate for the intended use of the system.

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Terms of warranty - Risk of injury, damage to TV or void of warranty!
Never attempt to repair the TV yourself. Use the TV and accessories only as intended by the manufacturer. The caution sign printed on the back of the TV indicates risk of electric shock. Never remove the TV cover. Always contact Philips TV Customer Care for service or repairs. Find the telephone number in the printed documentation that came with the TV. Or consult our website www.philips.com/TVsupport and select your country if needed. Any operation expressly prohibited in this manual, or any adjustments and assembly procedures not recommended or authorised in this manual, shall void the warranty.

Pixel characteristics
This TV product has a high number of colour pixels. Although it has effective pixels of 99.999% or more, black dots or bright points of light (red, green or blue) may appear constantly on the screen. This is a structural property of the display (within common industry standards) and is not a malfunction. Therefore, please note this is not subjected to repair, exchange or refund within and/or out of the warranty period.

Backlight characteristics
All Philips TV have gone through stringent tests and checks before shipping to you. You can be rest assured that we place the quality of our TVs the utmost importance so that you do not suffer any viewing displeasure while watching your TV. However, please note that backlight bleeding ("Mura effect") and /or unevenness of background light that can only be observed in dark images or in a very dark and dim room are considered to be within TV specifications. Such occurrences do not represent a deterioration nor shall be regarded as a defect of the TV. Hence, we regret that claims of this nature for warranty, free of charge service, replacement or refund cannot be accepted within and/or out of the warranty period.

CE compliance
Hereby, TP Vision Europe B.V. declares that this television is in compliance with the essential requirements and other relevant provisions of Directives 2014/53/EU (RED), 2009/125/EC (Regulation (EU) 2019/2021) (Eco Design) and 2011/65/EC (RoHS).

Compliance with EMF
TP Vision manufactures and sells many products targeted at consumers which, like any electronic apparatus, in general have the ability to emit and receive electromagnetic signals. One of TP Vision's leading business principles is to take all necessary health and safety measures for our products, to comply with all applicable legal requirements and to stay well within the Electro Magnetic Field (EMF) standards applicable at the time of producing the products.

TP Vision is committed to developing, producing and marketing products that cause no adverse health effects. TP Vision confirms that, as long as its products are handled properly for their intended use, they are safe to use according to scientific evidence available today. TP Vision plays an active role in the development of international EMF and safety standards, enabling TP Vision to anticipate further developments in standardisation for early integration in its products.

27

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27.1

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HEVC Advance

Covered by one or more claims of the HEVC patents listed at patentlist.accessadvance.com.
Future proof with advanced HEVC decoding.

27.3

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27.5

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28

Open Source

28.1

Open Source Software

This television contains open source software. TP Vision Europe B.V. hereby offers to deliver, upon request, a copy of the complete corresponding source code for the copyrighted open source software packages used in this product for which such offer is requested by the respective licences.

This offer is valid up to three years after product purchase to anyone in receipt of this information. To obtain the source code, please write in English to . . .

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28.2

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Open Source

apr (1.7.0)
The Apache Portable Runtime Library provides a predictable and
consistent interface to underlying platform-specific implementations, with an API to which software developers may code
and be assured of predictable if not identical behavior regardless
of the platform on which their software is built, relieving them of
the need to code special-case conditions to work around or take
advantage of platform-specific deficiencies or features.
Source: https://github.com/apache/apr

bind (9.11.36)
BIND (Berkeley Internet Name Domain) is a complete, highly portable implementation of the Domain Name System (DNS) protocol.
Source: https://github.com/isc-projects/bind9

busybox (1.31.1)
BusyBox combines tiny versions of many common UNIX utilities into a single small executable. It provides replacements for most of the utilities you usually find in GNU fileutils, shellutils, etc. The utilities in BusyBox generally have fewer options than their full-featured GNU cousins; however, the options that are included provide the expected functionality and behave very much like their GNU counterparts. BusyBox provides a fairly complete environment for any small or embedded system.
Source: https://www.busybox.net/downloads/

binutils (2.31.510
The GNU Binutils are a collection of binary tools. The main ones are:
ld - the GNU linker.
as - the GNU assembler.
Source: https://www.gnu.org/software/binutils/

bzip2 (1.0.6)
bzip2 is a free and open-source file compression program that uses the Burrows–Wheeler algorithm. It only compresses single files and is not a file archiver. It was developed by Julian Seward, and maintained by Mark Wielaard and Micah Snyder.
Source: https://sourceware.org/bzip2/

c-ares (1.10.1)
c-ares is a C library for asynchronous DNS requests (including name resolves)
Source: https://c-ares.org/

cario (1.16.0)
Cairo is a 2D graphics library with support for multiple output devices. Currently supported output targets include the X Window System (via both Xlib and XCB), Quartz, Win32, image buffers, PostScript, PDF, and SVG file output. Experimental backends include OpenGL, BeOS, OS/2, and DirectFB.
source https://www.cairographics.org/

dbus (1.11.2)
D-Bus is a simple system for interprocess communication and coordination.

The "and coordination" part is important; D-Bus provides a bus daemon that does things like:
- notify applications when other apps exit
- start services on demand
- support single-instance applications
Source: https://github.com/freedesktop/dbus

e2fsprogs (1.43.3)
e2fsprogs (sometimes called the e2fs programs) is a set of utilities for maintaining the ext2, ext3 and ext4 file systems. Since those file systems are often the default for Linux distributions, it is commonly considered to be essential software
Source: http://e2fsprogs.sourceforge.net/

expat (2.2.9)
xml paser; Expat is an XML parser library written in C. It is a stream-oriented parser in which an application registers handlers for things the parser might find in the XML document (like start tags). An introductory article on using.
This piece of software is made available under the terms and conditions of the Expat license, which can be found below.
Source: http://expat.sourceforge.net/

fuse (2.9.7)
JBoss Fuse is an open source ESB with capabilities based on Apache Camel, Apache CXF, Apache ActiveMQ, Apache Karaf and Fabric8 in a single integrated distribution.
Source https://github.com/jboss-fuse/fuse

gdb (8.2.1)
GDB, the GNU Project debugger, allows you to see what is going on `inside' another program while it executes -- or what another program was doing at the moment it crashed.
Source: https://www.sourceware.org/gdb/

glibc (2.30.0)
Any Unix-like operating system needs a C library: the library which defines the “system calls” and other basic facilities such as open, malloc, printf, exit...The GNU C library is used as the C library in the GNU system and most systems with the Linux kernel
This piece of software is made available under the terms and conditions of the glibc license, which can be found below.
Source: http://www.gnu.org/software/libc/

gstreamer (1.18.3)
The GStreamer team is excited to announce a new major feature release of your favourite cross-platform multimedia framework!
Source: https://gstreamer.freedesktop.org/

libasound (1.1.8)
The Advanced Linux Sound Architecture (ALSA) provides audio and MIDI functionality to the Linux operating system. ALSA has the following significant features:
Efficient support for all types of audio interfaces, from consumer sound cards to professional multichannel audio interfaces.
Fully modularized sound drivers.
SMP and thread-safe design (PLEASE READ THIS).
User space library (alsa-lib) to simplify application programming and provide higher level functionality.
Support for the older Open Sound System (OSS) API, providing binary compatibility for most OSS programs.
Source: https://www.alsa-project.org/wiki/Main_Page

Libcurl (7.79.1)
HTTP client;libcurl is a free and easy-to-use client-side URL transfer library, supporting FTP, FTPS, HTTP, HTTPS, SCP, SFTP, TFTP, TELNET, DICT, LDAP, LDAPS, FILE, IMAP, SMTP, POP3 and RTSP. libcurl supports SSL certificates, HTTP POST, HTTP PUT, FTP uploading, HTTP form based upload, proxies, cookies, user+password authentication (Basic, Digest, NTLM, Negotiate, Kerberos4), file transfer resume, http proxy tunneling and more!
This piece of software is made available under the terms and conditions of the Libcurl license, which can be found below.
Source: http://curl.haxx.se/

libevent (1.4.13)
The libevent API provides a mechanism to execute a callback function when a specific event occurs on a file descriptor or after a timeout has been reached. Furthermore, libevent also support callbacks due to signals or regular timeouts.
source: https://libevent.org/

libjpeg-turbo (2.1.1)
libjpeg-turbo is a JPEG image codec that uses SIMD instructions (MMX, SSE2, AVX2, Neon, AltiVec) to accelerate baseline JPEG compression and decompression on x86, x86-64, Arm, and PowerPC systems, as well as progressive JPEG compression on x86 and x86-64 systems. On such systems, libjpeg-turbo is generally 2-6x as fast as libjpeg, all else being equal. On other types of systems, libjpeg-turbo can still outperform libjpeg by a significant amount, by virtue of its highly-optimized Huffman coding routines. In many cases, the performance of libjpeg-turbo rivals that of proprietary high-speed JPEG codecs.
Source: https://libjpeg-turbo.org/

libjpg (6b)
This library is used to perform JPEG decoding tasks.
This piece of software is made available under the terms and conditions of the libjpg license, which can be found below.
Source: http://www.ijg.org/

libpng (1.0.1)
libpng -THE reference library for reading, displaying, writing and examining png Image Network Graphics. This piece of software is made available under the terms and conditions of the libpng license, which can be found below.
Source: http://sourceforge.net/projects/libpng/files/

libffi (3.2.1)
Compilers for high level languages generate code that follows certain conventions. These conventions are necessary, in part, for separate compilation to work. One such convention is the "calling convention". The "calling convention" is a set of assumptions made by the compiler about where function arguments will be found on entry to a function. A "calling convention" also specifies where the return value for a function is found.
Source: https://sourceware.org/libffi/

libjansson (2.13.1)
Jansson is a C library for encoding, decoding and manipulating JSON data. Its main features and design principles are:
Simple and intuitive API and data model
Comprehensive documentation
No dependencies on other libraries
Full Unicode support (UTF-8)
Extensive test suite
Source: https://github.com/akheron/jansson

libmicrohttpd (0.9.73)
GNU libmicrohttpd is a small C library that is supposed to make it easy to run an HTTP server as part of another application. GNU Libmicrohttpd is free software and part of the GNU project
Source:https://www.gnu.org/software/libmicrohttpd/

libupnp (1.6.10)
The portable SDK for UPnP™ Devices (libupnp) provides developers with an API and open source code for building control points, devices, and bridges that are compliant with Version 1.0 of the Universal Plug and Play Device Architecture Specification and support several operating systems like Linux, *BSD, Solaris and others.
Source: https://pupnp.sourceforge.io/

libuuid (1.3.0)
This library is free software; you can redistribute it and/or
modify it under the terms of the Modified BSD License.
The complete text of the license is available at the Documentation/licenses/COPYING.BSD-3 file
Source:https://sourceforge.net/projects/libuuid/

Libxml2 (2.9.12)
The "libxml2" library is used in AstroTV as a support for the execution of NCL application. This library was developed for the GNOME software suite and is available under a "MIT" license.
Source: http://www.xmlsoft.org

linux_kernel (4.19)
The Linux kernel is a mostly free and open-source,[11] monolithic, modular, multitasking, Unix-like operating system kernel. It was originally authored in 1991 by Linus Torvalds for his i386-based PC, and it was soon adopted as the kernel for the GNU operating system, which was written to be a free (libre) replacement for UNIX.
Source: https://www.kernel.org/

mbed TLS (2.26.0)
Mbed TLS is a C library that implements cryptographic primitives, X.509 certificate manipulation and the SSL/TLS and DTLS protocols. Its small code footprint makes it suitable for embedded systems.
Source: https://github.com/ARMmbed/mbedtls

ncurses (6.1)
The ncurses (new curses) library is a free software emulation of curses in System V Release 4.0 (SVr4), and more. It uses terminfo format, supports pads and color and multiple highlights and forms characters and function-key mapping, and has all the other SVr4-curses enhancements over BSD curses. SVr4 curses is better known today as X/Open Curses.
Source: http://www.gnu.org/software/ncurses/

nghttp2 (1.6.3)
nghttp2 is an implementation of HTTP/2 and its header compression algorithm HPACK in C
Source: https://nghttp2.org/

NTFS-3G (7.8)
NTFS-3G is an open source cross-platform implementation of the Microsoft Windows NTFS file system with read-write support. NTFS-3G often uses the FUSE file system interface, so it can run unmodified on many different operating systems. It is runnable on Linux, FreeBSD, NetBSD, OpenSolaris, BeOS, QNX, WinCE, Nucleus, VxWorks, Haiku,MorphOS, and Mac OS X It is licensed under either the GNU General Public License or a proprietary license. It is a partial fork of ntfsprogs and is under active maintenance and development.
This piece of software is made available under the terms and conditions of the NTFS-3G Read/Write Driver license, which can be found below.
Source: http://www.tuxera.com

openssl (1.1.1l)
OpenSSL is an open source implementation of the SSL and TLS protocols. The core library (written in the C programming language) implements the basic cryptographic functions and provides various utility functions. Wrappers allowing the use of the OpenSSL

library in a variety of computer languages are available.
Source: http://www.openssl.org/

pcre (8.45)
The PCRE library is a set of functions that implement regular expression pattern matching using the same syntax and semantics as Perl 5. PCRE has its own native API, as well as a set of wrapper functions that correspond to the POSIX regular expression API. The PCRE library is free, even for building proprietary software.
https://www.pcre.org/

procps (ps, top) (3.3.15)
procps is the package that has a bunch of small useful utilities that give information about processes using the /proc filesystem.
The package includes the programs ps, top, vmstat, w, kill, free, slabtop, and skill.
Source: http://procps.sourceforge.net/index.html

SQLite3 (3.36.0)
SQLite is a in-process library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine.
This piece of software is made available under the terms and conditions of the SQLite3 license, which can be found below.
Source: http://www.sqlite.org/

util-linux-ng (2.35.2)
Various system utilities.
Source: http://userweb.kernel.org/~kzak/util-linux-ng/

wpa_supplicant (2.9)
wpa_supplicant is a WPA Supplicant for Linux, BSD, Mac OS X, and Windows with support for WPA and WPA2 (IEEE 802.11i / RSN). It is suitable for both desktop/laptop computers and embedded systems. Supplicant is the IEEE 802.1X/WPA component that is used in the client stations. It implements key negotiation with a WPA Authenticator and it controls the roaming and IEEE 802.11 authentication/association of the wlan driver.
Source: https://w1.fi/wpa_supplicant/

zlib (1.2.8)
The 'zlib' compression library provides in-memory compression and decompression functions, including integrity checks of the uncompressed data.
This piece of software is made available under the terms and conditions of the zlib license, which can be found below.
Source: http://www.zlib.net/

29

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Index

3
360° Photo 28

A
Advanced Picture Settings 31
Advanced Sound Settings 34
AI Equalizer 33
Alexa 50
Antenna 12
App lock 40
Audio Language 40
Audio Out Menu 35
Auto Clock Mode 40
Auto movie mode 37
Automatic software update 52

C
Channel List 22
Channel List Copy 20
Channel Options 21
Channel, Channel Filter 22
Channel, Rename Channel 22
Channels 17
Child Lock 39
Child Lock, Change Code 39
Child Lock, Set Code 39
CI Card 14
Clear dialogue 33
Clear Internet Memory 43
Clock 40
Colour Enhancement 31
Colour Settings 31
Colour Temperature 31
Connect Device 12
Connection - Power Cable 10
Consumer Care 6
Contact Info 5

D
Date 40
Daylight Saving 40
Dialogue enhancement 39
Digital Audio Out - Optical 13
Digital Media Renderer - DMR 43
Digital Out Delay 35
Digital Out Format 35
Digital Out Levelling 35
Digital Out Menu 35
Digital Out Offset 35
Dolby Atmos Notification 36
Dolby Vision Notification 33
Dynamic Contrast 32

E
EasyLink 2.0 33
Eco, Light Sensor 38
End of Use 54
Energy Saving 38
European Eco-label 54

F
Favourite Channel, Channel Range 22
Favourite Channel, Create 22
Favourite Channel, Edit 22
Favourite Channels 23
Frequent settings 30

G
Gaming Control Bar 42
Gamma 32
General Settings 36
Get Support 5
Google Assistant 51

H
HbbTV 36
HDMI 12
HDMI - ARC/eARC 13
HDMI - CEC 36
HDMI Sound System 35
HDMI Ultra HD 37
HDR 31
Help Menu 5
Home or Shop 38

I
Identify TV 5
Install Channel - Antenna 17
Install Channel - Cable 17
Install Channel - Satellite 19

K
Keys on TV 9

L
Location 38
Lock Channel 23

M
Menu Languages 40
Mouse Settings 36

N
Netflix Settings 43
Network - Wired 43
Network - Wireless 43
Network Settings 43
Network Settings Menu 43

P
Parental Rating 40
Philips TV Remote App 14
Photos, Videos and Music 27
Picture Clean, Noise Reduction 32
Picture Contrast Menu 31
Picture Contrast Mode 31
Picture Format 32
Picture Style 30
Picture, Brightness 31
Picture, Colour 31
Picture, Contrast 31
Picture, Light sensor 32
Picture, Sharpness 31
Problems 57

Q
Quick menu 30

Quick Picture Settings 33

R

Reception 55
Register TV 5
Remote Control - IR Sensor 9
Rename or replace device icon 16
Repair 6
Reset Settings 39

S

Safety and Care 61
Satellite 12
Screen Mirroring 13
Screen Mirroring Connection 13
Screen Off 38
Screensaver settings 37
Self-diagnose 5
Shop Setup 38
Sleep Timer 40
Smart TV 45
Software Version 52
Sound Menu 33
Sound Style 33
Sound, Auto Volume Levelling 34
Sound, Delta Volume 34
Source List 16
Standby Mode 11
Static IP 43
Store 45
Subtitle Language 40
Super resolution 32
Switch Off Timer 38
Switch On with Wi-Fi 43
Switching On 11

T

Teletext 24
Text 24
Time 40
Time Zone 40
Troubleshooting 57
TV Diagnose 5
TV Display Resolution 55
TV Guide 25
TV Information 5
TV Network Name 43
TV Placement 33
TV Speaker 35

U

Universal Access 39
Universal Access, Audio Description 39
Universal Access, Audio Effects 39
Universal Access, Hearing Impaired 39
Universal Access, Mixed Volume 39
Universal Access, Speech 39
Unlock Channel 23
Update Software 52
Update Software - Internet 52
Update Software - Local Updates 52
Update Software - USB 52
USB Flash Drive 15
USB Keyboard Settings 36
User Manual 5

V

Video Contrast 32
View Network Settings 43
View software update history 52
Viewing Distance 10

W

Whitepoint Alignment 31
Wi-Fi 43

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