

Register your product and get support at  
[www.philips.com/TVsupport](http://www.philips.com/TVsupport)

**4304 series**

# User Manual

24PHS4304  
24PHT4304

**PHILIPS**

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# Get Support

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## 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](http://www.philips.com/TVsupport)

## TV Help and User Manual

Press  Settings > Help

In Help menu, you can easily get software updated, reset TV to default settings, and read user manual.

- **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.

## On-line Help and User Manual

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](http://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.

For more TV troubleshooting and frequently asked questions (FAQs)...

Go

to <http://philips-tvconsumercare.kxondemand.com/portal/en/ModelSelect>

### 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](http://www.philips.com/TVsupport)

## 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](http://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.

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# Software

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## Update Software

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### Search for Updates

🏠 (Home) > Settings > Update software > Search for updates.

You need a computer and a USB memory device to upload the software on the TV. Use a USB memory device with 256MB free space. Make sure that write protection is switched off.

#### 1. Start the update on TV

- 🏠 (Home) > Settings > Update software > Search for updates.

#### 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.htm** and double click it.

- Click on **Send ID**.

- Select your region

- 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.

#### 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 . . .

- remove the USB memory device from the TV

If a power cut occurs during the update, never remove the USB memory device from the TV. When the power returns, the update will continue.

---

## Local Updates

For dealers and expert users...

🏠 (Home) > Settings > Update software > Local updates.

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## Look for OAD updates (Over-the-air Download)

Scan to search for an Over-the-air software update.

🏠 (Home) > Settings > Update software > Look for OAD updates.

\* The availability of OAD updates is dependent on your country.

## Software Version

To view the current TV software version...

🏠 (Home) > Settings > Update software > Current software Info

# Quick Guide

## 3.1

### Remote Control

#### Batteries and Cleaning

##### Replace 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 2 type AAA-R03-1.5V 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.

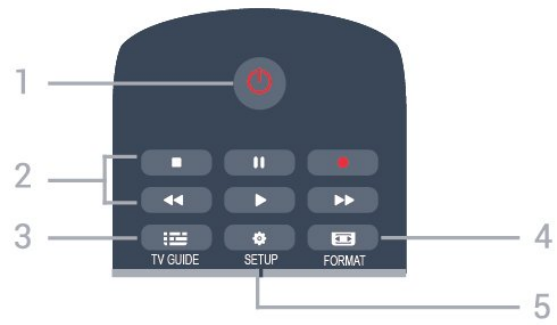
##### Cleaning

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.

### Key Overview

#### Top



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

2. **Playback** keys  
 - Play ▶, to playback  
 - Pause ⏸, to pause playback  
 - Stop ■, to stop playback  
 - Rewind ◀◀, to rewind  
 - Fast forward ▶▶, to go fast forward  
 - Record ●, to record now

3. **📺 TV GUIDE**  
To open or close the TV Guide.

4. **🖼️ FORMAT**  
To open or close the Picture format menu.

5. **⚙️ SETUP**  
To open the Settings menu.

#### Middle



1. **🏠 HOME**  
To open or close the home menu.

2. **📺 SOURCES**  
To open or close the Sources menu - the list of connected devices.

3. **Colour keys**  
The buttons function follow the on-screen instructions.

4. **📄 INFO**  
To open or close programme information.

5. **↶ BACK**

To switch back to the previous channel you selected.  
To close a menu without changing a setting.

6. **TV EXIT**

To switch back to watching TV.

7. **≡ OPTIONS**

To open or close the Options menu.

8. **OK key**

To confirm a selection or setting.

9. **Arrow / navigation keys**

To navigate up, down, left or right.

10. **≡ LIST**

To open or close the channel list.

Bottom



1. **Mute**

To mute the sound or to restore it.

2. **Volume**

To adjust the volume level.

3. **Number keys**

To select a TV channel directly.

4. **SUBTITLE**

To switch subtitles on, off or Automatic.

5. **Channel**

To switch to the next or previous channel in the channel list. To open the next or previous page in Text/Teletext. To start the next or previous chapter on a disc.

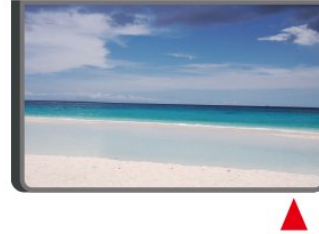
6. **TEXT**

To open or close Text / Teletext.

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

## Joystick - Local Control (if available)

### Joystick - Local Control

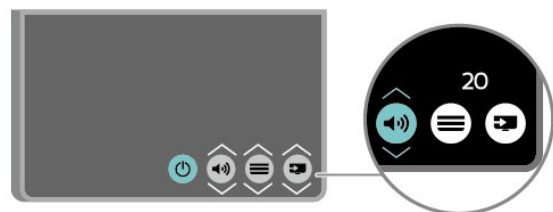
If you lost the remote control or its batteries are empty, you can still do some basic TV operations.

To open the basic menu...



1. With the TV switched on, press the joystick key on the back of the TV to bring up the basic menu.

2. Press left or right to select **Volume**, **Channel** or **Sources**.



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.

# Setting Up

## 4.1

### Read Safety

Read the safety instructions first before you use the TV.

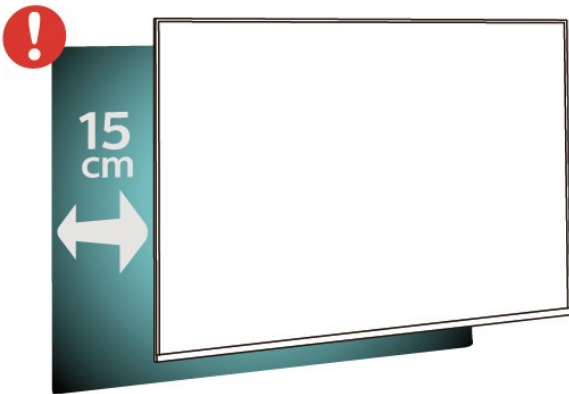
To read the instructions, in **User manual**, see chapter **Safety and Care**.

## 4.2

### TV Placement

#### Tips on Placement

- Position the TV where light does not shine directly on the screen.
- Position the TV up to 15 cm away from the wall.
- The ideal distance to watch TV is 3 times its diagonal screen size. When seated, your eyes should be level with the centre of the screen.



#### 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](http://www.philips.com).

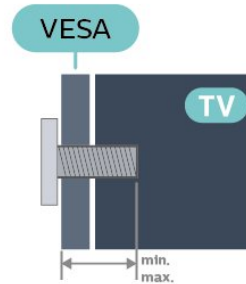
Use the model number of the TV to look for the **Quick Start Guide** to download.

## Wall Mounting

### 4304, 4354 series TV

Your TV is also prepared for a VESA-compliant wall mount bracket (sold separately).

Use the following VESA code when purchasing the wall mount . . .



- 24PHx43x4 - VESA MIS-F 75x75, M6 (Minimum 10 mm, Maximum 12 mm)

#### Preparation

Make sure that the metal screws, to mount the TV to the VESA-compliant bracket, go about 10mm deep inside the threaded bushes of the TV.

#### Caution

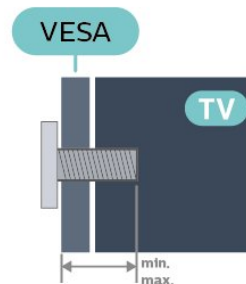
Wall mounting the TV requires special skills and should only be performed by qualified personnel. The TV wall mounting should meet safety standards according to the TV's weight. Also read the safety precautions before positioning the TV.

TP Vision Europe B.V. bears no responsibility for improper mounting or any mounting that results in accident or injury.

### 4504 series TV

Your TV is also prepared for a VESA-compliant wall mount bracket (sold separately).

Use the following VESA code when purchasing the wall mount . . .



- 32PHx4504 - VESA MIS-F 100, M6 (Minimum 10 mm, Maximum 14 mm)

#### Preparation

Make sure that the metal screws, to mount the TV to



the VESA-compliant bracket, go about 10mm deep inside the threaded bushes of the TV.

### 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 TV's weight. Also read the safety precautions before positioning the TV.

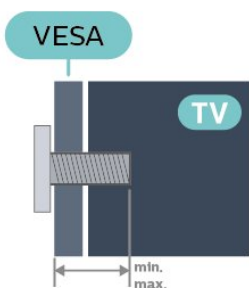
TP Vision Europe B.V. bears no responsibility for improper mounting or any mounting that results in accident or injury.

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### 5304 series TV

Your TV is also prepared for a VESA-compliant wall mount bracket (sold separately).

Use the following VESA code when purchasing the wall mount . . .



- 22PFS5304 - VESA MIS-F 75x75, M4 (Minimum 8 mm, Maximum 8 mm)

### Preparation

Make sure that the metal screws, to mount the TV to the VESA-compliant bracket, go about 10mm deep inside the threaded bushes of the TV.

### 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 TV's 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.

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### 4.3

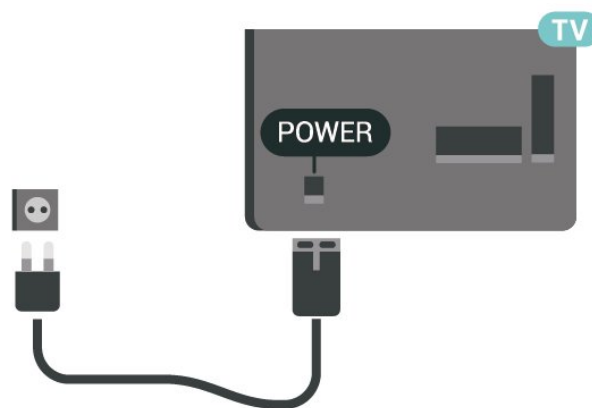
## Turn on TV

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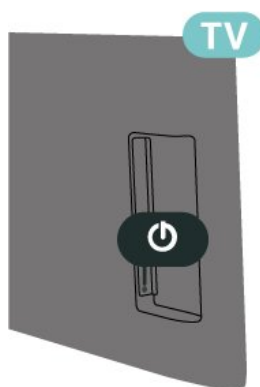
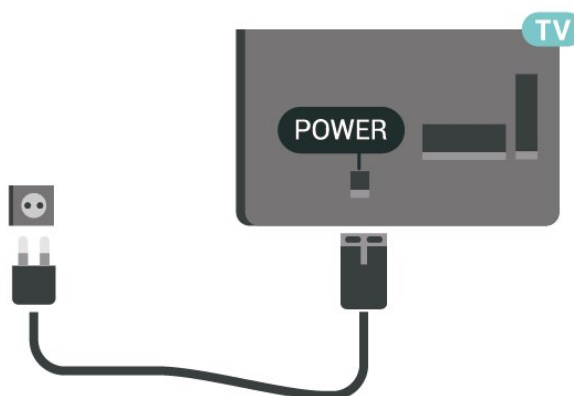
## Connect Power Cable

- 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.

For 32" or above



For 22"/24"



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.

---


## Switch 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 power button on the side or the back of the TV.

### Switch to standby

To switch the TV to Standby, press  on the remote control.

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.

# 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

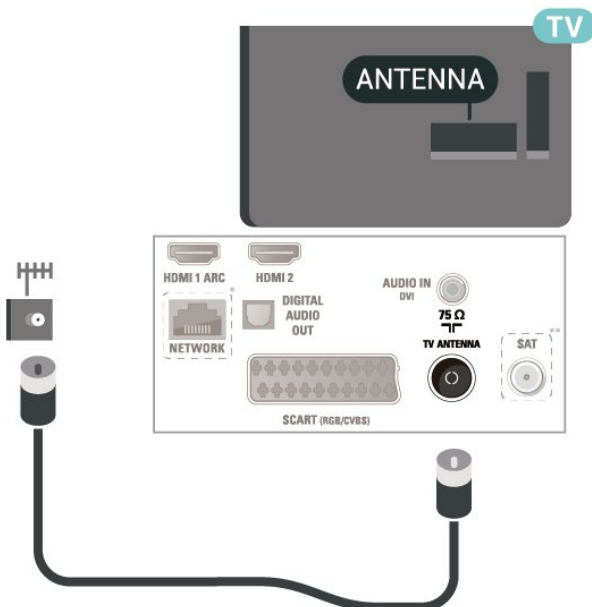
## Antenna

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

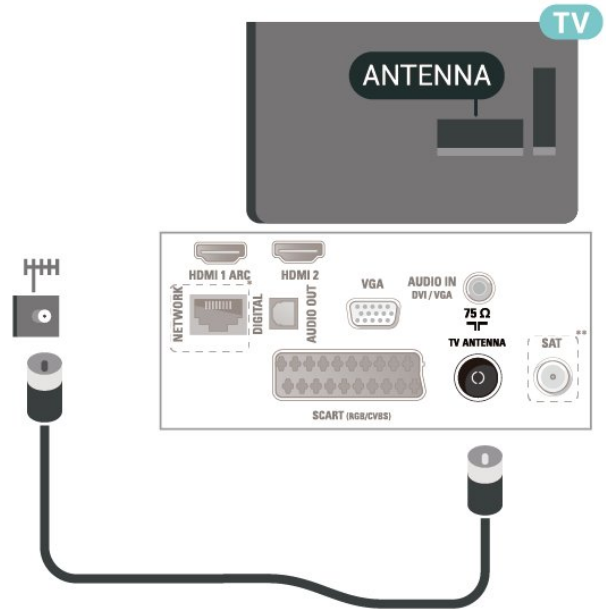
You can connect your own antenna or an antenna signal from an antenna distribution system. Use an IEC Coax 75 Ohm RF antenna connector.

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

For 32" or above



For 22"/24"



\* Network port is only for UK models

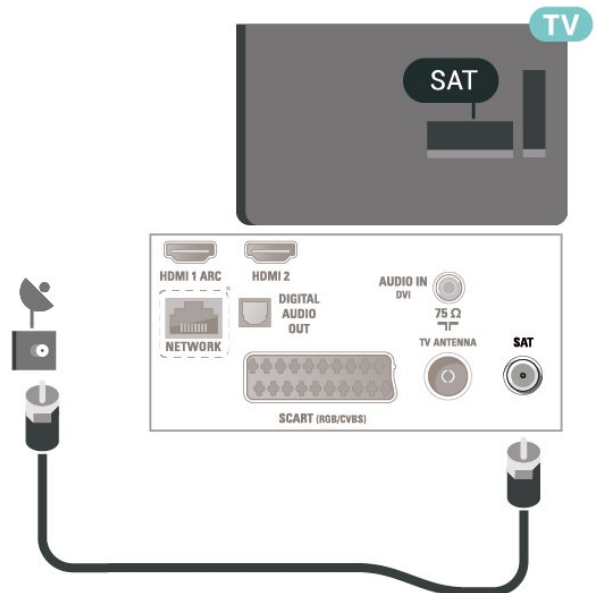
\*\* Satellite port is only for xxPxSxxxx series

## 5.3

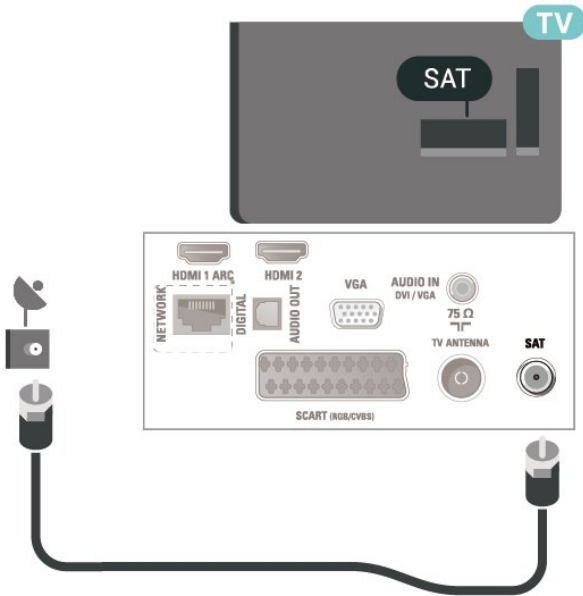
## Satellite (if available)

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

For 32" or above



For 22"/24"

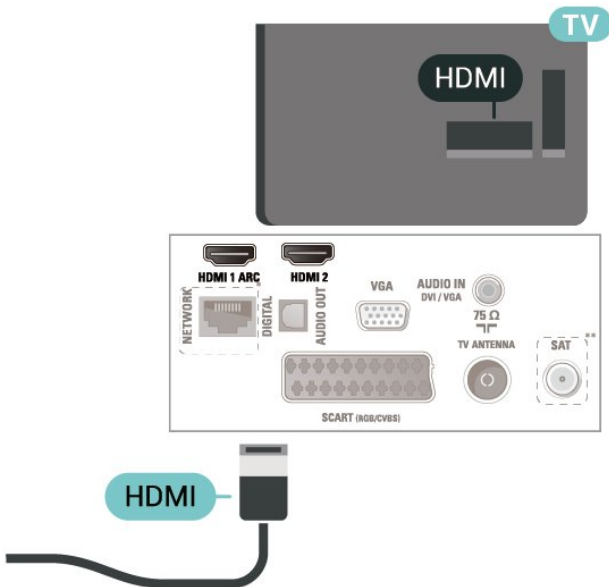


\* Network port is only for UK models

## 5.4 Video Device

### HDMI

For best signal quality transfer, use a High speed HDMI cable and do not use an HDMI cable longer than 5 m.



\* Network port is only for UK models

\*\* Satellite port is only for xxPxSxxxx series

### Copy protection

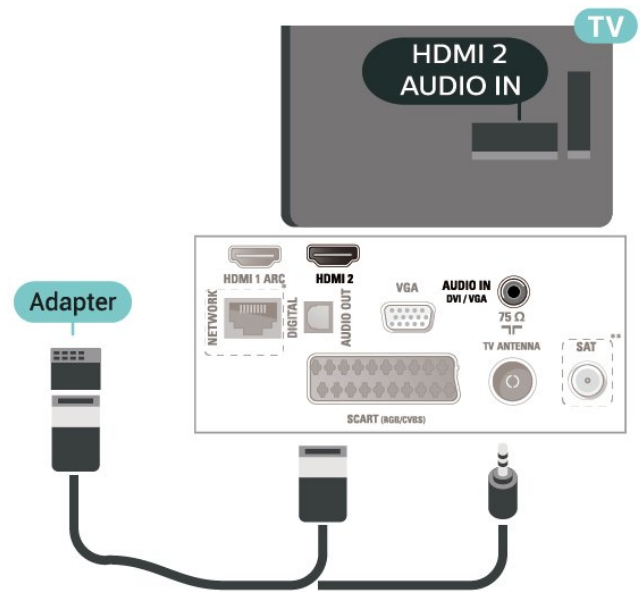
HDMI cables support HDCP (High-bandwidth Digital Content Protection). HDCP is a copy protection signal

that prevents copying content from a DVD disc or Blu-ray Disc. Also referred to as DRM (Digital Rights Management).

## HDMI - DVI

If you still own a device that only has a DVI connection, you can connect the device to HDMI 2 connection with a DVI to HDMI adapter.

Use a DVI to HDMI adapter if your device only has a DVI connection. Use HDMI 2 connection and add an Audio L/R cable (mini-jack 3.5mm) to Audio In for sound, on the back of the TV.

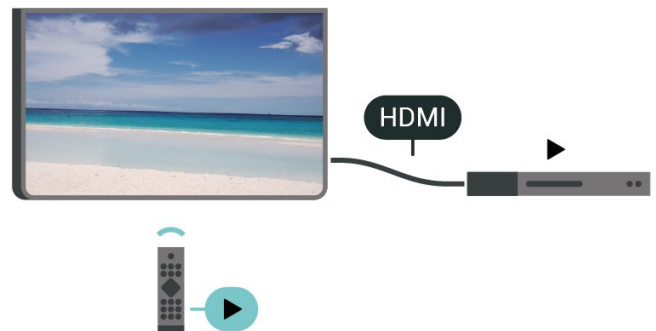


\* Network port is only for UK models

\*\* Satellite port is only for xxPxSxxxx series

## 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

**Note:**

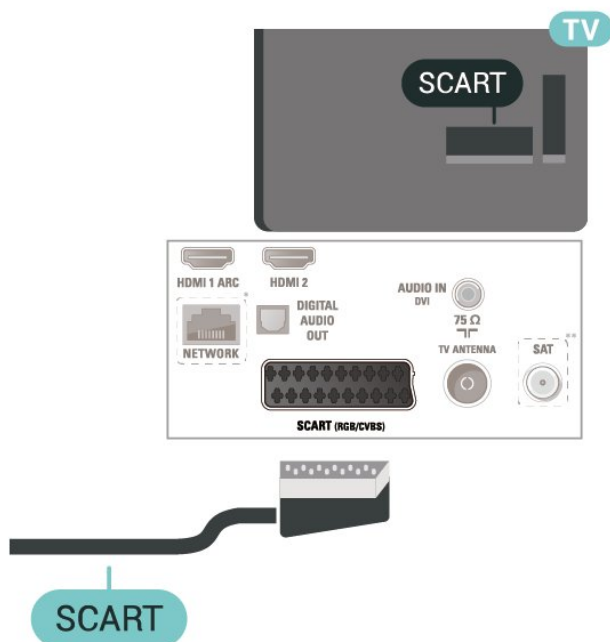
- EasyLink might not work with devices from other brands.
- The HDMI CEC functionality has different names on different brands. Some examples are: Anynet, Aquos Link, Bravia Theatre Sync, Kuro Link, Simplink and Viera Link. Not all brands are fully compatible with EasyLink. Example HDMI CEC branding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

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## SCART (if available)

SCART is a good quality connection.

The SCART connection can be used for CVBS and RGB video signals but cannot be used for High Definition (HD) TV signals. The SCART connection combines video and audio signals. The SCART connection also supports NTSC playback.



\* Network port is only for UK models

\*\* Satellite port is only for xxPxSxxxx series

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## Audio Device

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### HDMI ARC

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

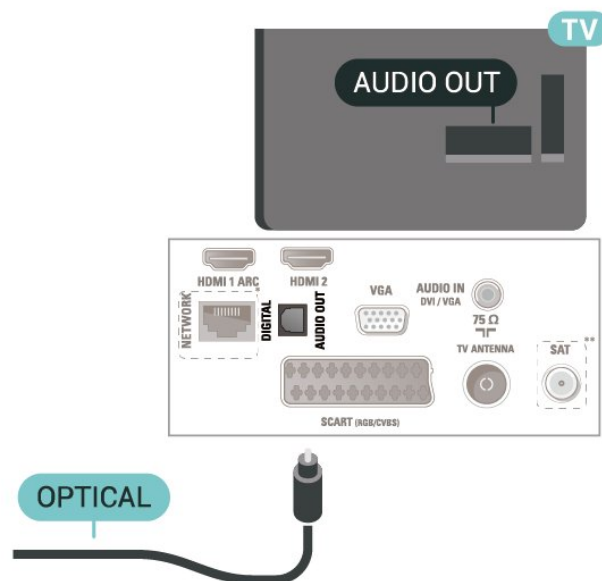
If the device, typically a Home Theatre System (HTS), also has the HDMI ARC connection, connect it to HDMI 1 connection on this TV. With the HDMI ARC connection, you do not need to connect the extra audio cable that sends the sound of the TV picture to the HTS. The HDMI ARC connection combines both signals.

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### 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.




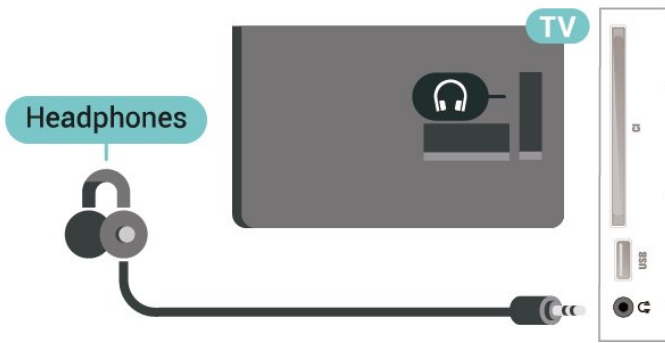
\* Network port is only for UK models

\*\* Satellite port is only for xxPxSxxxx series

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## Headphones

You can connect a set of headphones to the  connection on the side of the TV. The connection is a mini-jack 3.5mm. You can adjust the volume of the headphones separately.



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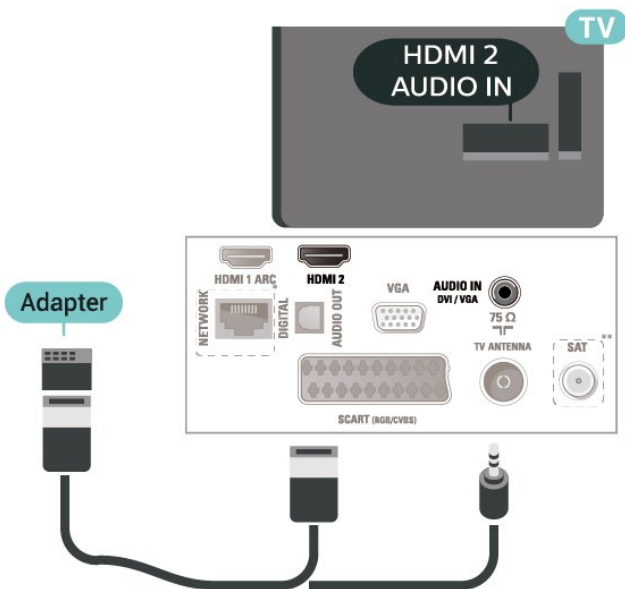
5.6

## Computer

### HDMI - DVI

If you still own a device that only has a DVI connection, you can connect the device to **HDMI 2** connection with a DVI to HDMI adapter.

Use a DVI to HDMI adapter if your device only has a DVI connection. Use **HDMI 2** connection and add an Audio L/R cable (mini-jack 3.5mm) to Audio In for sound, on the back of the TV.



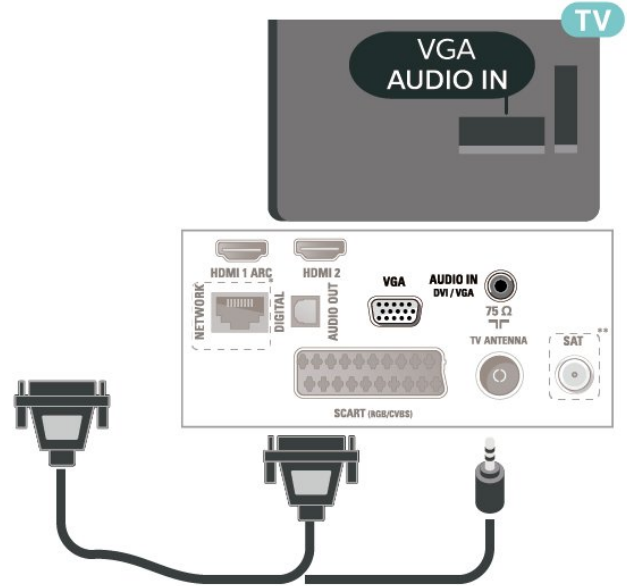
\* Network port is only for UK models

\*\* Satellite port is only for xxPxSxxxx series

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## VGA (if available)

Use a VGA cable if your device only has a VGA connection. Use VGA connection and add an Audio L/R cable (mini-jack 3.5mm) to Audio In for sound, on the back of the TV.



\* Network port is only for UK models

\*\* Satellite port is only for xxPxSxxxx series

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## Ideal Settings

🏠 (Home) > Settings > Picture > Advanced > Computer

Set to **On** to have the ideal picture setting for use your TV as a computer monitor.

\* Only available for HDMI and VGA sources.

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5.7

## 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.



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## 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.

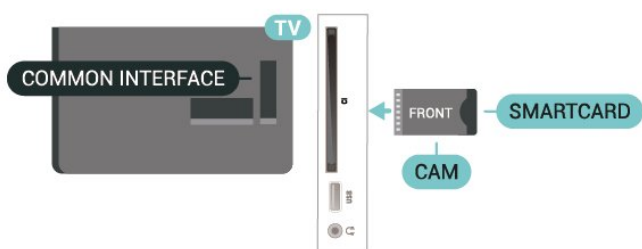
Insert the smart card into the CAM module. See the instruction you received from the operator.

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.



---

## Watch Channel on Smart Card

You can watch channels which are installed from CI/CAM cards.

1. While watching a TV channel, press **≡ LIST** to open the channel list.
2. Select: **CI+ Channel list** .

---

## 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...

**🏠** (Home) > **Settings** > **Child lock** > **CAM PIN**

---

5.8

## USB Device

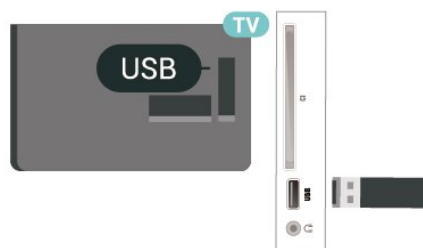
---

### 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 the **USB** connection 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**.



---

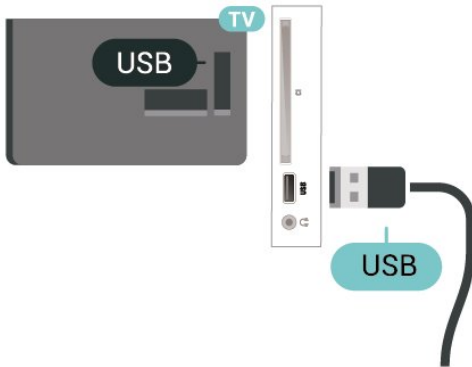
### USB Hard Drive

If you connect a USB Hard Drive, you can pause or record digital TV broadcasts (DVB broadcasts or similar).

#### Minimum Disk Space

- To pause a broadcast, you need a USB compatible Hard Drive with a minimum of 4GB disk space.
- To pause and record a broadcast, you need a minimum of 32GB disk space.

Before you can pause or record a broadcast, you must connect and format a USB Hard Drive. Formatting removes all files from the USB Hard Drive.



### Warning

The USB Hard Drive is formatted exclusively for this TV, you cannot use the stored recordings on another TV or PC. Do not copy or change recording files on the USB Hard Drive with any PC application. This will corrupt your recordings. When you format another USB Hard Drive, the content on the former will be lost. A USB Hard Drive installed on your TV will need reformatting for use with a computer.

5.9

## Wired Network – Freeview (Network port is only for UK models)

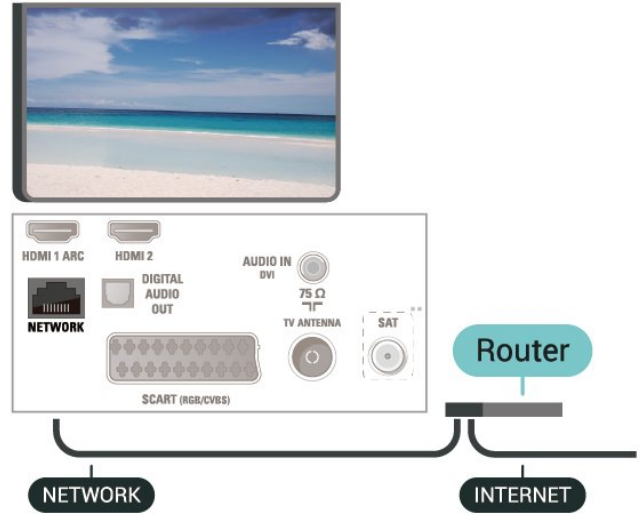
### Network

#### About Network

Network port and function is for Freeview HD streaming features only.

#### Connect to Network

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

To make a wired connection...

1. Connect the router to the TV with a network cable (Ethernet cable\*\*).
2. Make sure that the router is switched on.
3. Press **⌂ (Home)**, select **Settings > Network** and press **➤ (right)** to enter the menu.
4. Select **Connect to network** and press **OK**.
5. Select **Wired** and press **OK**. The TV constantly searches for the network connection.
6. 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.

### Network Settings

**⌂ (Home) > Settings > Network > View network settings**

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

**⌂ (Home) > Settings > Network > Network configuration**

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

Select **Static IP configuration** and configure the connection. You can set the number for **IP address**, **Netmask**, **Gateway**, **DNS**.








---

# Switch Source

---

## 6.1

### Source List









- To open the sources menu, press  SOURCES .
- To switch to a connected device, select the device with the arrows  (up) or  (down) and press .
- To close the Source menu without switching to a device, press  SOURCES again.

---

## 6.2

### Rename Device

- Only HDMI, VGA (if available), SCART (if available) sources can be renamed or replace device icon

1. Press  SOURCES , and select HDMI or VGA (if available).
2. Press  Edit and press .
3. Select one of the device icons and press , the preset name appears in the typing field.
4. Select **Rename**, then enter new name using on-screen keyboard.
  - Press  (red) key to enter with lower-case
  - Press  (green) key to enter with upper-case
  - Press  (yellow) key to enter number and symbol
  - Press  (blue) key to delete a character
5. Select **Done** when complete the editing.

# Channels

## About Channels and Switch Channels

### To watch TV channels

- Press **TV**. The TV tunes to the TV channel you last watched.
- Press **Home** > **Channels** and press **OK**.
- Press **Menu** + or **Menu** - 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 **LIST** to open the channel lists.
- The channel list can have several pages with channels. To view the next or previous page, press **Menu** + or **Menu** -.
- To close the channel lists without switching channels, press **LIST** again.

### 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.

## Install Channel

### Antenna and Cable

#### Manually Search for Channels and Channel Settings

##### Search for Channels

##### Update existing channel list

**Home** > **Settings** > **Antenna/cable**

installlation > **Search for channels** > **Update channels**

##### Re-install all channels

**Home** > **Settings** > **Antenna/cable installlation** > **Search for channels** > **Re-install channels**

1. Select the country where you are now and press **OK**.
2. Select **Antenna (DVB-T)** or **Cable (DVB-C)**, and select one item you need to re-install.
3. Select **Digital and analogue channels**, **Only digital channels**, or **Only analogue channels**.
4. Select **Start** and press **OK** to update channels. This can take a few minutes.

#### Channel Settings

**Home** > **Settings** > **Antenna/cable installlation** > **Search for channels** > **Re-install channels**

1. Select the country where you are now and press **OK**.
2. Select **Antenna (DVB-T)** or **Cable (DVB-C)**, and select one item you need to re-install.
3. Select **Digital and analogue channels**, **Only digital channels**, or **Only analogue channels**.
4. Select **Settings** and press **OK**.
5. Press **Red** (red) to reset, or press **Green** (green) 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**.

#### 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.

### 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 > 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 > 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 > 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 **▼**. To check the frequency, select **Search** and press **OK**.

If you use DVB-C to receive channels, the option **Symbol rate mode** is available. For Symbol rate mode, select **Automatic**, unless your cable provider gave you a specific symbol rate value. To enter the symbol rate value, select **Symbol rate**, and use the number keys or **▲** and **▼**.

---

### Analogue: Manual Installation

🏠 (Home) > Settings > 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 **▼**.

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 (if available)

---

### About Installing Satellites

#### 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 a 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.

#### MDU - Multi-Dwelling-Unit

The built-in satellite tuners support MDU on the Astra satellites and for Digiturk on the Eutelsat satellite. MDU on Türksat is not supported.

---

### Start the Installation

---

#### Update Channels

🏠 (Home) > Settings > Satellite installation > Search for satellite > Update channels

You can always start a channel update manually, new channels will be added, and unavailable channels will be removed.

Enter PIN code if necessary.

---

#### Re-install Channels

🏠 (Home) > Settings > Satellite installation > Search for satellite > Re-install channels

You can search satellites and channels again manually.

1. Select one option you need to re-install.
2. Select **Settings** or select **Start** to update channels.

#### Settings Menu

Press **Reset** to reset, or press **Done** when complete the settings.

#### - 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 a 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.

- **LNB Power** - By default, LNB Power is set to On.
- **22 kHz Tone** - By default, the Tone is set to Auto.
- **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.

Enter PIN code if necessary.

---

### Add Satellite or Remove Satellite

🏠 (Home) > Settings > Satellite installation > Search for satellite > Add satellite or Remove satellite

🏠 (Home) > Settings > Satellite installation > Search for satellite > Add satellite

- You can add an additional satellite to your current satellite installation. The installed satellites and their channels remain untouched. Some satellite operators do not allow adding a satellite.
- The additional satellite should be seen as an extra, it is not your main satellite subscription or not the main satellite of which you use its channel package. Typically, you would add a 4th satellite when you have 3 satellites already installed. If you have 4 satellites installed, you might consider removing one first to be able to add a new satellite.
- If you currently have only 1 or 2 satellites installed, the current installation settings might not allow adding an extra satellite. If you need to change the installation settings, you must redo the complete satellite installation. You cannot use **Add satellite** if a change of settings is needed.

🏠 (Home) > Settings > Satellite installation > Search for satellite > Remove satellite

You can remove one or more satellites from your current satellite installation. You remove the satellite and its channels. Some satellite operators do not allow removing a satellite.

---

## Satellite Channel List

🏠 (Home) > Settings > Satellite installation > Satellite channel list

You can select your preferred satellite channel list when press **≡** LIST to open satellite channels.

Satellites 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.

Select **From a sorted channel package** to install the channels of the package only or select **All channel unsorted** to install the package and all other available channels too. We recommend a Quick installation for subscription packages. If you have additional satellites that are not part of your subscription package, we recommend a full installation. All installed channels are put in the channels list.

---

## Automatically Search for Channels

🏠 (Home) > Settings > 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.

---

## Channel Update Message

🏠 (Home) > Settings > 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.

---

## Manual Installation

🏠 (Home) > Settings > 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 transponder.
- Search - Search for transponder.

---

## Troubleshooting

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

- Make sure that 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. With the first satellite set at the strongest signal, select Search again to find the second satellite.
- Make sure 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 a 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.

---

## Channel List Copy

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### Introduction

Channel list copy is intended for dealers and expert users.

With **Channel list copy**, you can copy the channels installed on one TV onto another Philips TV of the same range. With **Channel list copy**, you avoid the time-consuming channel search by uploading a predefined channel list on a TV. Use a USB flash drive of minimum 1 GB.

### Conditions

- Both TVs are from the same year range. Check the TV model name with the last number. (For example: xxPxx4xx4, 4 stands for 2019 product)
- Both TVs have compatible software versions.

---

### Copy a Channel List, Check Channel List Version

To copy a channel list...

1. Switch on the TV. This TV should have channels installed.
2. Plug in a USB flash drive.
3. Press **⬆️ (Home)** > **Settings** > **General settings** > **Channel list copy**.
4. Select **Copy to USB** and press **OK**. You might be asked to enter the Child Lock PIN code to copy the channel list.
5. When copying is done, unplug the USB flash drive.
6. Press **⬅️ (left)** repeatedly if necessary, to close the menu.

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

Check the current version of the channel list...

1. Press **⬆️ (Home)** > **Settings** > **General settings** > **Channel list copy**.
2. Select **Channel list copy** and select **Current version**, then press **OK**.
3. Press **⬅️ (left)** repeatedly if necessary, to close the menu.

---

### 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, press **⬆️ (Home)** > **Settings** > **General settings** > **Channel 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, press **⬆️ (Home)** > **Settings** > **General settings** > **Channel 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

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### Open Options

While watching a channel, you can set some options.

Depending on the type of channel you are watching (analogue or digital) 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.

---

## Subtitles

To switch on Subtitles, press **SUBTITLE**.

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.

---

## 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.

---

## 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...

1. Tune to an analogue channel.
2. Press **≡ OPTIONS**, select **Mono/Stereo** and press **➤** (right).
3. Select **Mono** or **Stereo** and press **OK**.
4. Press **◀** (left) repeatedly if necessary, to close the menu.

---

## Status

Select **Status** to view technical information on the channel.

---

## Clock

Display time on the corner of the TV screen.

---

## 7.3

# Channel List

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## Open Channel List

To open the current channel list...

1. Press **TV**, to switch to TV.
2. Press **≡ LIST** to open the current channel list.
3. Press **≡ OPTIONS >** **Select channel list**, and select one channel list you want to watch.
4. Press **≡ LIST** again to close the channel list.

---

## Channel List Options

### Open Option Menu

To open the channel list option menu...

1. Press **TV**, to switch to TV.
2. Press **≡ LIST** to open the current channel list.
3. Press **≡ OPTIONS**, and select one of options.
4. Press **≡ LIST** again to close the channel list.

---

## Rename Channel

1. Press **TV**, to switch to TV.
2. Press **≡ LIST** to open the current channel list.
3. Select one channel you want to rename.
4. Press **≡ OPTIONS >** **Rename channel**, and press **OK**.
5. In the typing field, press **OK** to open on-screen keyboard, or select **Hide** to hide the on-screen keyboard.
6. Use navigation keys to select a character, then press **OK**.
  - Press **red** (red) key to enter with lower-case
  - Press **green** (green) key to enter with upper-case
  - Press **yellow** (yellow) key to enter number and symbol
  - Press **blue** (blue) key to delete a character
7. Select **Done** when complete the editing.
8. Press **≡ LIST** again to close the channel list.

---

## Create or Edit Favourites Channel List

≡ LIST > ≡ OPTIONS > Create favourites list

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

≡ LIST > ≡ 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

≡ LIST > ≡ OPTIONS > Select channel range

Select a range of channels in a favourites channel list, once completed, press **OK**.

---

## Select Channel List

≡ LIST > ≡ OPTIONS > Select channel list

Select a range of channels in a favourites channel list, once completed, press **OK**.

---

## Lock, Unlock Channel

≡ LIST > ≡ 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.

---

## Search Channels

≡ LIST > ≡ OPTIONS > Search channel

You can search for a channel to find it in a long list of channels.

1. Press **TV**, to switch to TV.
2. Press **≡ LIST** to open the current channel list.
3. Press **≡ OPTIONS > Search channel**, and press **OK**.

In the typing field, press **OK** to open on-screen keyboard, or press **↩ BACK** to hide the on-screen keyboard.

Use navigation keys to select a character, then press **OK**.

- Press **Red** (red) key to enter with lower-case

- Press **Green** (green) key to enter with upper-case  
- Press **Yellow** (yellow) key to enter number and symbol

- Press **Blue** (blue) key to delete a character

4. Select **Done** when complete the editing.

5. Press **≡ LIST** again to close the channel list.

---

7.4

## Select Channel Filter

≡ LIST > ≡ OPTIONS > Select channel filter

Select one of channel combinations showing in the channel list.

---

7.5

## Favourite Channels

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### 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 **≡ LIST** to open the channel list.
2. Select the channel, and press **Green 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 **Green Unmark as favourite** again to unmark as favourite.

---

### Reorder Channels

You can reorder, reposition channels in the Favourite channel list.

1. While watching a TV channel, press **≡ LIST > ≡ OPTIONS > Select channel list**.



2. Select **Antenna - Favourite channels** , **Cable - Favourite channels** or **Satellite - Favourite channels\***, and press **OK**.
3. Press **≡ OPTIONS** , and select **Reorder channels**.
4. Select the channel to reorder and press **OK**.
5. Press the **Navigation buttons** to move the highlighted channel to another location and press **OK**.
6. Once completed, press **OK**.

\* 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 **≡ LIST** > **≡ OPTIONS** > **Select channel list**.
2. Select **Antenna - Favourite channels** , **Cable - Favourite channels** or **Satellite - Favourite channels\***, 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.

---

## Text / Teletext

### 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.
- **Cycle subpages**  
To cycle subpages when these are available.
- **Language**  
To switch the group of characters that Text uses to display correctly.

---

## Text Setup

### Text language

Some digital TV broadcasters have several Text languages available.

To set your primary and secondary Text language . . .

1. Press **⬆**, select **Setting** > **Region and Language** and press **>** (right) to enter the menu.
2. Select **Languages** and press **>** (right) to enter the menu.
3. Select **Primary teletext** or **Secondary teletext** , and press **OK**.
4. Select the language you need and press **OK**.

5. Press ◀ (left) repeatedly if necessary, to close the menu.

---

# 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 in the 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**.

---

### Change Day

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

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

---

### Set a Reminder

You can set a reminder for a programme. A message will alert you at the start of the programme. You can tune to this channel immediately.

In the TV Guide a programme with a reminder is marked with a **(clock)**.

To set a reminder...

1. Press **TV GUIDE** and select an upcoming programme.
2. Press **Set reminder** and press **OK**.

To clear a reminder...

1. Press **TV GUIDE** and select a programme with the reminder, which is marked with a **(clock)**.
2. Press **Clear reminder**, and select **Yes**, then press **OK**.

---

### 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.

---

### List of Reminders

You can view a list of the reminders you have set.

#### List of Reminders


To open the list of reminders...



1. Press **TV GUIDE**.
2. Press **OPTIONS** and select **All reminders**.
3. In the list of reminders, select the reminder you want to remove, the selected reminder is marked as **✓**.
4. Press **↩**, select **Clear selected** and press **OK**.
5. Select **Close** to close the list of reminders.

---



## Set a Recording

You can set a recording in the TV Guide.



In the TV Guide, a programme set to be recorded is marked with .

To see the recording list, press  **Recordings**, a programme set to be recorded is marked with a  (red dot) on the front of the programme name.

To record a programme...

1. Press  **TV GUIDE** and select a future or ongoing programme.
2. Press the colour key  **Record**.

To cancel a recording...

1. Press  **TV GUIDE** and select the programme set for recording.
2. Press the colour key  **Clear recording**.

# Recording and Pause TV

## 9.1

### What You Need

If you connect a USB Hard Drive, you can pause or record digital TV broadcasts (DVB broadcasts or similar).

#### Minimum Disk Space

- To pause a broadcast, you need a USB compatible Hard Drive with a minimum of 4GB disk space.
- To pause and record a broadcast, you need a minimum of 32GB disk space.

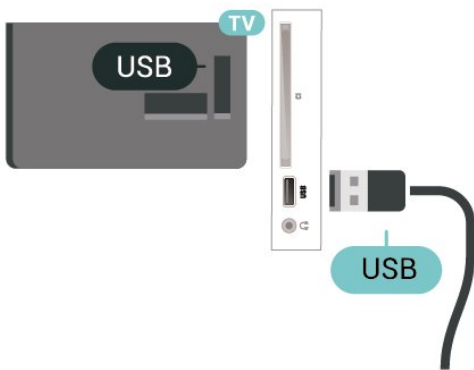
Before you can pause or record a broadcast, you must connect and format a USB Hard Drive. Formatting removes all files from the USB Hard Drive.

#### To Pause and Record

1. Connect the USB Hard Drive to one of the **USB** connections on the TV. Do not connect another USB device to the other USB ports when formatting.
2. Switch on the USB Hard Drive and the TV.
3. When the TV is tuned to a digital TV channel, press **||** (Pause). Trying to pause will start the formatting.

Follow the instructions on screen.

When the USB Hard Drive is formatted, leave it connected permanently.



#### Warning

The USB Hard Drive is formatted exclusively for this TV, you cannot use the stored recordings on another TV or PC. Do not copy or change recording files on the USB Hard Drive with any PC application. This will corrupt your recordings. When you format another USB Hard Drive, the content on the former will be lost. A USB Hard Drive installed on your TV will need

reformatting for use with a computer.

#### Note:

Recording function is only for digital TV broadcast. It is not possible to record content from external devices (e.g. HDMI).

## 9.2

### Recording

#### What You Need

You can record a digital TV broadcast and watch it later.

To record a TV programme you need...

- a connected USB Hard Drive formatted on this TV
- digital TV channels installed on this TV
- to receive channel information for the on screen TV Guide
- a reliable TV clock setting. If you reset the TV clock manually, recordings may fail.

You cannot record when you are using Pause TV.

In terms enforcement of copyright legislation, some DVB providers can apply different restriction by means of DRM (Digital Right Management) technology. In case of broadcasting protected channels, recording, record validity or number of views may be restricted. Recording may be completely prohibited. In case of trying to record a protected broadcasting or play back an expired recording, an error message can appear.

### Record a Programme

#### Record Now

To record the programme you are watching right now, press **●** (Record) on the remote control. The recording will start immediately.

To stop the recording, press **■** (Stop).

When TV Guide data is available, the programme you are watching will be recorded from the moment you pressed the recording key until the programme ends. If no TV Guide data is available, the recording will only last 30 minutes. You can adjust the end time of the recording in the list of **Recordings**.

#### Schedule a Recording

You can schedule a recording of an upcoming programme for today or a few days from today (maximum of 8 days away). The TV will use the data from the TV Guide to start and end the recording.

To record a programme...

1. Press **TV GUIDE**.
2. On the TV guide, select the channel and programme you wish to record. Press **▶** (Right) or **◀** (Left) to scroll through the programmes of a channel.
3. With the programme highlighted, press the colour key **Record**. The programme is scheduled for recording. A warning will show automatically when overlapping recordings are scheduled. If you plan to record a programme in your absence, remember to leave the TV switched to Standby and the USB Hard Drive switched on.

---

## List of Recordings

You can view and manage your recordings in the list of recordings. Next to the list of recordings, there is a separate list for scheduled recordings and reminders.

To open the list or recordings...

1. Press **TV GUIDE**.
2. Press the colour key **Recordings**.
3. With a recording selected in the list, you can remove the recording with the colour key **Remove**. You can rename a recording with the colour key **Rename**. Or you can press the colour key **Adjust time** to change the recording start time and end time.

---

## Watch a Recording

To watch a recording...

1. Press **TV GUIDE**.
2. Press the colour key **Recordings**.
3. In the list of recordings, select the recording you need and press **OK** to start watching.
4. You can use the keys **||** (pause), **▶** (play), **◀◀** (rewind), **▶▶** (fast forward) or **■** (stop).
5. To switch back to watch TV, press **TV EXIT**.

---

9.3

## Pause TV

---

### What You Need

You can pause a digital TV broadcast and resume watching it a bit later.

To pause a TV programme you need...

- a connected USB Hard Drive formatted on this TV
- digital TV channels installed on this TV
- to receive channel information for the on screen TV Guide

With the USB Hard Drive connected and formatted, the TV continuously stores the TV broadcast you are watching. When you switch to another channel, the broadcast of the former channel is cleared. Also when you switch the TV to standby the broadcast is cleared.

You cannot use Pause TV when you are recording.

---

## Pause a Programme

To pause and resume a broadcast...

To pause a broadcast, press **||** (Pause). A progress bar at the bottom of the screen appears briefly. To call up the progress bar, press **||** (Pause) again. To resume watching, press **▶** (Play).

With the progress bar on screen, press **◀◀** (Rewind) or press **▶▶** (Forward) to select from where you want to start viewing the paused broadcast. Press these keys repeatedly to change speed.

You can pause a broadcast for a maximum time span of 90 minutes.

To switch back to the live TV broadcast, press **■** (Stop).

---

## Replay

Since the TV stores the broadcast you are watching, you can mostly replay the broadcast for a few seconds.

To replay a current broadcast...



1. Press **||** (Pause)
2. Press **◀◀** (Rewind). You can press **◀◀** repeatedly to select from where you want to start viewing the paused broadcast. Press these keys repeatedly to change speed. At one point you will reach the start of the broadcast storage or the maximum time span.
3. Press **▶** (Play) to watch the broadcast again.
4. Press **■** (Stop) to watch the broadcast live.

# Videos, Photos and Music

## 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 the USB connection.

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







### Warning

If you try to pause or record a programme with a USB Hard Drive connected, the TV will ask you to format the USB Hard Drive. This formatting will delete all current files on the USB Hard Drive.





## Photos

### View Photos


#### Open photo 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 Photos, you can press  List to have list view or press again  Thumbnails for thumbnail view.

#### View a photo file

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 Photos and select one of photos, you can press OK to view the selected photo.

## Photo Options

With a photo on screen, press  OPTIONS to...

**Start slideshow, Stop slideshow**  
Start or stop slideshow.

### Slideshow transitions

Set the transition from one picture to the next.

### Slideshow frequency

Select the display time for each photo.

### Repeat, Play once

View the pictures repeatedly or once only.

### Shuffle off, Shuffle on

View the pictures in sequential order, or at random.

### Rotate image

Rotate photo.

### Start music, Stop music


Start or stop the music playing in the background.







\* Note: the music file is loaded from USB root directory, please add music files to USB root directory.

## 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 or previous video in a folder, press  + or  -.
- 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 press  (right) to select the USB device you need.
3. Select Videos, you can press  List to have list view or press again  Thumbnails for thumbnail view.

#### Play a video file

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 **Videos** and select one of video, you can press **OK** to play the selected video or press **▶ Play all** to play all video files in the video folder.

---

## Video Options

During the video playback, press **≡** **OPTIONS** to...

### Subtitles

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

### Subtitle language

Play the subtitle language if available.

### Charater set

Select one of system for charater.

### Audio language

Play the audio language if available.

### Shuffle on, Shuffle off

Play videos in sequence or at random.

### Repeat, Play once

Play videos repeatedly or once.

### Show info

Display file information, like sound mode.

### Subtitle settings

Set subtitle colour, font size, position, time sync offset if available.

---

10.4

## 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**, you can see music files in list.

Play a music file

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 or press **▶ Play all** to play all music files in the music folder.

---

## Music Options

Options for playing music...

### Repeat, Play once

Play songs repeatedly or once.

### Shuffle on, Shuffle off

Play songs in sequence or at random.



# Open TV Setting Menus

## Home Menu Overview

Press **⬆** (Home) to select one of below menus, then press **OK**.

### Channels

This row contains all channels.

- Press **OK** to open TV guide.
- Press **⬅** (left) to view channels with channel logos, or select **see all** to view all channels.

### Sources

This row contains available sources in this TV.

### Utilities

This row contains TV functions which are available for user.

### Settings

This row contains settings which are available for user.

## Utilities Menu

### TV guide

Open TV guide. For more information, in **User manual**, see chapter **TV Guide**.

### Recordings

For more information, in **User manual**, see chapter **Recording and Pause TV**.

### Channels

View channel list.

### Update software

For more information, in **User manual**, see chapter **Software**.

### Demo Me

View Demo Me for demo on this TV.

## Quick Settings and All Settings

Quick settings menu:

Press **⚙** **SETUP** key on the remote control to find frequently used settings in Quick settings menu.

- **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.
- **Headphone volume:** Adjust the volume of a connected headphone.
- **Audio out:** Set the TV to play the sound on TV or on the connected audio system.
- **Clock:** Display clock on the right-top corner TV screen.
- **Sleep timer:** Set the TV to switch to standby automatically after a preset time.
- **All settings:** View all settings menu.
- **Help:** Easily get software updated, reset TV to default settings, and read user manual.

All settings menu:

Press **⬆** (home) key on the remote control, select **Settings**, and press **OK**.

## 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**

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
- **Standard** - Most energy conscious setting

- Movie - Ideal for watching movies
- Game - Ideal for gaming

### Custom a style

You can adjust and stored 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, select back to **Picture style**, then press **Restore style**.

## Colour, Contrast, Sharpness, Brightness

### Adjust the picture colour

🏠 (Home) > **Settings** > **Picture** > **Colour**

Press the arrows **▲** (up) or **▼** (down) to adjust the colour saturation value of the picture.

### Adjust the picture contrast

🏠 (Home) > **Settings** > **Picture** > **Contrast**

Press the arrows **▲** (up) or **▼** (down) 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 **▲** (up) or **▼** (down) to adjust the sharpness value of the picture.

## Advanced Picture Settings

### Computer

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Computer**

Set to **On** to have the ideal picture setting for use your TV as a computer monitor.

\* Only available for HDMI and VGA sources.

## Colour Settings

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Colour**

### Adjust the colour enhancement

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Colour** > **Colour enhancement**

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

### Select the preset colour temperature

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Colour** > **Colour temperature**

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

### Customise colour temperature

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Colour** > **Custom colour temperature**

Select **Custom** in **Colour temperature** menu to customise a colour temperature yourself. Press the arrows **▲** (up) or **▼** (down) to adjust the value.

## Contrast Settings

### Contrast Modes

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Contrast** > **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.

### Dynamic Contrast

🏠 (Home) > **Settings** > **Picture** > **Advanced** > **Contrast** > **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** > **Advanced** > **Contrast** > **Video contrast**

Press the arrows **▲** (up) or **▼** (down) to adjust the video contrast level.

## Gamma

🏠 (Home) > Settings > Picture > Advanced > Contrast > Gamma

Press the arrows **▲** (up) or **▼** (down) to set a non-linear setting for picture luminance and contrast.

---

## Super Resolution

🏠 (Home) > Settings > Picture > Advanced > Sharpness > Super Resolution

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

---

## Picture Clean

🏠 (Home) > Settings > Picture > Advanced > Picture clean

## Noise reduction

🏠 (Home) > Settings > Picture > Advanced > Picture clean > 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 > Advanced > Picture clean > MPEG artefact reduction

Select **On** to smoothen the digital transitions in the picture. MPEG artefacts are mostly visible as small blocks or jagged edges in on-screen images.

---

## Format and Edges

🏠 (Home) > Settings > Picture > Format and edges

## Picture format

🏠 (Home) > Settings > Picture > Format and edges > Picture format

If black bars appear on top and bottom or on both sides of the picture, you can adjust the picture format to a format that fills the screen.

## Screen Edges

🏠 (Home) > Settings > Picture > Format and edges > Picture format > Screen edges

With **Screen edges**, you can slightly enlarge the picture to hide distorted edges.

---

## 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 ...

- **Personal** - The sound preferences you set during the first start up.
- **Original** - Most neutral sound setting
- **Movie** - Ideal for watching movies
- **Music** - Ideal for listening to music
- **Game** - Ideal for gaming
- **News** - Ideal for speech

#### Custom a style

You can adjust and stored sound settings in the currently selected sound style, like **Bass** or **Treble**.

#### Restore a style

To restore the style to its original setting, select back to **Sound style**, then press **⏪** **Restore style**.

---

### Bass, Treble

#### Bass

🏠 (Home) > Settings > Sound > Bass

Press the arrows **▲** (up) or **▼** (down) to adjust the level of low tones in the sound.

#### Treble

🏠 (Home) > Settings > Sound > Treble

Press the arrows **▲** (up) or **▼** (down) to adjust the level of high tones in the sound.

---

### Headphone Volume

🏠 (Home) > Settings > Sound > Headphone volume

Press the arrows **▲** (up) or **▼** (down) to adjust the

volume of a connected headphone separately.

---

## Surround Sound

🏠 (Home) > Settings > Sound > Surround mode

Select the surround sound effect for the internal TV speakers.

---

## 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.

---

## Advanced Sound Settings

---

### Volume Control

#### Auto volume levelling

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

Select **On** to automatically level out sudden volume differences. Typically when you are switching channels.

#### Delta volume

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

Press the arrows **▲** (up) or **▼** (down) to adjust the delta value for TV speaker volume.

---

## 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 off**, you permanently switch off the TV speakers.
- If you select **TV speakers**, the TV speakers are always on.

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.

---

## Clear Sound

🏠 (Home) > Settings > Sound > Advanced > Clear sound

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

---

## Digital Output Settings

Digital output settings are available for 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.

- If you have a Home Theatre System (HTS) with multichannel sound processing capabilities, set **Digital out format** to **Multichannel**. With **Multichannel**, the TV can send the compressed multichannel sound signal from a TV channel or connected player to the Home Theatre System.

- If you have a Home Theatre System without multichannel sound processing, select **Stereo**.

### 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.

---

## Eco Settings

Set energy saving level

🏠 (Home) > Settings > Eco settings > Energy saving

Select **Minimum**, **Medium**, or **Maximum** to have different degrees for energy saving, or select **Off** to switch off energy saving mode.

Set screen off to save energy consumption

🏠 (Home) > 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 TV switch off timer

🏠 (Home) > Settings > Eco settings > Switch off timer.

Press the arrows **▲** (up) or **▼** (down) 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**.

---

## General Settings

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### Connection Related Settings

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#### USB Hard Drive

🏠 (Home) > Settings > General settings > USB Hard Drive

You need to set up and format a USB Hard Drive before you record a channel.

---

#### CAM Operator Profile

🏠 (Home) > Settings > General settings > CAM Operator Profile

To switch on operator profile for CI+/CAM for easy channel installation and updates.

---

#### 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.

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.

---

#### Location - Home or Shop

Select the location of your TV

🏠 (Home) > Settings > General settings > Location

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

---

#### 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 minute

---

## Region and Language Settings

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### 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 language, Secondary audio language

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 language , Secondary subtitle language

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**.

#### 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.

- If you schedule recordings from the TV Guide, we recommend not to change the time and date manually.

#### 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.

---

## 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 **▲** (up) or **▼** (down) 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**.

---

## Lock Settings

Set Code and Change Code

Set new code or reset change code

🏠 (Home) > Settings > Child lock > Set code, 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.

---

CAM PIN

🏠 (Home) > Settings > Child lock > CAM PIN

Set CAM PIN for recording.

# Environmental

## 12.1

## 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 and the average energy consumption for 1 year. You can also find the power consumption values for this product on the Philips website for your country at [www.philips.com/TVsupport](http://www.philips.com/TVsupport)

## 12.2

## Product Fiche

### 4304, 4354 series TV

## 24PHx43x4

- Energy Efficiency Class : A+
- Visible Screen Size : 60 cm / 24 inch
- On Mode Power Consumption (W) : 20 W
- Annual Energy Consumption (kWh) \* : 30 kWh
- Standby Power Consumption (W) \*\*: 0.30 W
- Display Resolution (Pixels) : 1366 x 768

\* Energy consumption kWh per year, based on the power consumption of the television operating 4 hours per day for 365 days. The actual energy consumption depends on how the television is used.

\*\* When the TV is turned off with the remote control and no function is active.

### 4504 series TV

## 32PHx4504

- Energy Efficiency Class : A+
- Visible Screen Size : 80 cm / 32 inch
- On Mode Power Consumption (W) : 27 W
- Annual Energy Consumption (kWh) \* : 40 kWh
- Standby Power Consumption (W) \*\*: 0.30 W
- Display Resolution (Pixels) : 1366 x 768

\* Energy consumption kWh per year, based on the power consumption of the television operating 4 hours per day for 365 days. The actual energy consumption depends on how the television is used.

\*\* When the TV is turned off with the remote control and no function is active.

## 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.



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# Specifications

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## 13.1

### Power

Product specifications are subject to change without notice. For more specification details of this product, see [www.philips.com/TVsupport](http://www.philips.com/TVsupport)

#### Power

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

For power consumption information, see chapter **Product Fiche**.

---

## 13.2

### Reception

#### For PxT series TV

- 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)

\* Only for DVB-T2

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#### For PxS series TV

- 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-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

### Display Resolution

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#### 4304, 4354 series TV

##### Diagonal screen size

- 24PHx43x4 : 60 cm / 24 inch

##### Display resolution

- PHx43x4: 1366x768

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#### 4504 series TV

##### Diagonal screen size

- 32PHx4504 : 80 cm / 32 inch

##### Display resolution

- PHx4504: 1366x768

---

#### 5304 series TV

##### Diagonal screen size

- 22PFS5304 : 55 cm / 22 inch

##### Display resolution

- PFS5304: 1920x1080

### Display Input Resolution

---

#### For PHx series TV

##### Video formats

##### Resolution — Refresh rate

- 480i - 60 Hz
- 480p - 60 Hz
- 576i - 50 Hz
- 576p - 50 Hz
- 720p - 50 Hz, 60 Hz
- 1080i - 50 Hz, 60 Hz
- 1080p - 24 Hz, 25 Hz, 30 Hz

##### Computer formats

##### Resolutions (amongst others)

- 640 x 480p - 60 Hz
- 800 x 600p - 60 Hz
- 1024 x 768p - 60 Hz
- 1280 x 768p - 60 Hz
- 1360 x 768p - 60 Hz

---

## For PFX series TV

### Video formats

#### Resolution — Refresh rate

- 480i - 60 Hz
- 480p - 60 Hz
- 576i - 50 Hz
- 576p - 50 Hz
- 720p - 50 Hz, 60 Hz
- 1080i - 50 Hz, 60 Hz
- 1080p - 24 Hz, 25 Hz, 30 Hz

### Computer formats

#### Resolutions (amongst others)

- 640 x 480p - 60 Hz
- 800 x 600p - 60 Hz
- 1024 x 768p - 60 Hz
- 1280 x 768p - 60 Hz
- 1360 x 768p - 60 Hz
- 1280 x 1024p - 60 Hz
- 1920 x 1080p - 60 Hz

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13.5

## Sound

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### 4304, 4354, 5304 series TV

- Output power (RMS) : 6W
- Dolby Audio
- DTS 2.0+ Digital out™

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### 4504 series TV

- Output power (RMS) : 10W
- Dolby Audio
- DTS 2.0+ Digital out™

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13.6

## Multimedia

### Supported USB file systems

- USB (FAT / FAT 32 / NTFS): only connect USB devices that consume 500 mA of power or less.

### Playback formats

- Image Codec : JPEG, GIF, PNG, BMP
- Audio Codec: MP3, WAV, WMA (v2 up to v9.2), AC3, AAC, HE-AAC, DTS 2.0
- Video Codec: AVI, MKV, H.264/MPEG-4 AVC, MPEG1, MPEG2, MPEG4, WMV9/VC1, HEVC

- Subtitle: SRT, SMI, SSA, SUB, ASS, TXT

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13.7

## Connectivity

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### 4304, 4354, 5304 series TV

For 24PHS43x4, 22PFS5304

#### TV Rear

- HDMI 1 ARC: HDMI Audio Return Channel
- HDMI 2
- DIGITAL AUDIO OUT: SPDIF
- VGA
- AUDIO IN (DVI/VGA): Stereo 3.5mm mini-jack
- SCART (RGB/CVBS): SCART adaptor
- TV ANTENNA: 75 ohm coaxial (IEC)
- Satellite

#### TV Side

- CI: Common Interface
- USB
- Headphones: Stereo 3.5mm mini-jack

For 24PHT43x4

#### TV Rear

- HDMI 1 ARC: HDMI Audio Return Channel
- HDMI 2
- DIGITAL AUDIO OUT: SPDIF
- VGA
- AUDIO IN (DVI/VGA): Stereo 3.5mm mini-jack
- SCART (RGB/CVBS): SCART adaptor
- TV ANTENNA: 75 ohm coaxial (IEC)
- Network LAN - RJ45 (for Freeview HD)\*

#### TV Side

- CI: Common Interface
- USB
- Headphones: Stereo 3.5mm mini-jack

\* Network port is only for UK models

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### 4504 series TV

For 32PHS4504

#### TV Rear

- HDMI 1 ARC: HDMI Audio Return Channel
- HDMI 2
- Headphones: Stereo 3.5mm mini-jack
- Satellite
- DIGITAL AUDIO OUT: SPDIF

#### TV Side

- CI: Common Interface
- USB
- TV ANTENNA: 75 ohm coaxial (IEC)

#### For 32PHT4504

#### TV Rear

- HDMI 1 ARC: HDMI Audio Return Channel
- HDMI 2
- Headphones: Stereo 3.5mm mini-jack
- Network LAN - RJ45 (for Freeview HD)\*
- DIGITAL AUDIO OUT: SPDIF

#### TV Side

- CI: Common Interface
- USB
- TV ANTENNA: 75 ohm coaxial (IEC)

\* Network port is only for UK models

- DIGITAL AUDIO OUT: SPDIF

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# Troubleshooting

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## 14.1

### Tips

If you can't find a solution for your TV problem in **Troubleshooting**, you can press **⚙ Settings > Help > User manual** to find the information you are looking for.

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](http://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.

For more TV troubleshooting and frequently asked questions (FAQs)...

Go to <http://philips-tvconsumercare.kxondemand.com/portal/en/ModelSelect>

#### 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](http://www.philips.com/TVsupport)

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## 14.2

### 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, off or to 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)** on the remote control or on 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.

#### 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. Also, if the TV does not receive a TV signal nor a remote control command for 10 minutes, the TV switches off automatically.

---

## 14.3

### 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.

If the TV continues to be unresponsive to the remote control, you can check if the remote control is working by means of a mobile phone camera. Put the phone in camera mode and point the remote control to the camera lens. If you press any key on the remote control and you notice the infra red LED flicker through the camera, the remote control is working. The TV needs to be checked.

If you do not notice the flickering, the remote control might be broken or its batteries are low. This method of checking the remote control is not possible with remote controls which are wirelessly paired with the TV.

## Channels

### No digital channels found during the installation

See the technical specifications to make sure that your TV supports DVB-T or DVB-C in your country. Make sure that all cables are properly connected and that the correct network is selected.

### Previously installed channels are not in the channel list

Make sure that the correct channel list is selected.

## Picture

### No picture / distorted picture

- Make sure that the antenna is properly connected to the TV.
- Make sure that the correct device is selected as the display source.
- Make sure that the external device or source is properly connected.

### Sound but no picture

- Make sure that the picture settings are set correctly.

### Poor antenna reception

- Make sure that the antenna is properly connected to the TV.
- Loud speakers, unearthed audio devices, neon lights, high buildings and other large objects can influence reception quality. If possible, try to improve the reception quality by changing the antenna direction or moving devices away from the TV.
- If reception on only one channel is poor, fine-tune this channel with Manual Installation.

### Poor picture from a device

- Make sure that the device is connected properly.
- Make sure that the picture settings are set correctly.

### Picture settings change after a while

- Make sure that **Location** is set to **Home**. You can change and save settings in this mode.

### A commercial banner appears

- Make sure that **Location** is set to **Home**.

### Picture does not fit the screen

- Change to a different picture format.

### Picture format keeps changing with different channels

- Select a non 'Auto' picture format.

### Picture position is incorrect

- Picture signals from some devices may not fit the screen correctly. Check the signal output of the connected device.

### Computer picture is not stable

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

## Sound

### No sound or poor sound quality

If no audio signal is detected, the TV automatically switches the audio output off — this does not indicate malfunction.

- Make sure that the sound settings are correctly set.
- Make sure that all cables are properly connected.
- Make sure that the volume is not muted or set to zero.
- 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 speakers.
- Some devices may require you to manually enable HDMI audio output. If HDMI audio is already enabled, but you still do not hear audio, try changing the digital audio format of the device to PCM (Pulse Code Modulation). Refer to the documentation accompanying your device for instructions.

## HDMI

### 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.
- If there are intermittent sound disruptions, make sure that output settings from the HDMI device are correct.
- If you use an HDMI-to-DVI adapter or HDMI-to-DVI cable, make sure that an additional audio cable is connected to AUDIO IN (mini-jack only), if available.

### EasyLink does not work

- Make sure that your HDMI devices are HDMI-CEC compatible. EasyLink features only work with devices that are HDMI-CEC compatible.

### No volume icon shown

- When a HDMI-CEC audio device is connected this

behaviour is normal.

---

14.8

## USB

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

- Make sure that the USB storage device is set to Mass Storage Class compliant, as described in the storage device's documentation.
- Make sure that the USB storage device is compatible with the TV.
- Make sure that the audio and picture file formats are supported by the TV.

**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.

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# Safety and Care

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## 15.1

### Safety

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#### 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.

---

#### Risk of Injury to Children

Follow these precautions to prevent the TV from toppling over and causing injury to children:

- Never place the TV on a surface covered by a cloth or other material that can be pulled away.
- Ensure that no part of the TV hangs over the edge of the mounting surface.
- Never place the TV on tall furniture, such as a bookcase, without anchoring both the furniture and TV to the wall or a suitable support.
- Teach children about the dangers of climbing on furniture to reach the TV.

#### Risk of swallowing batteries !

The remote control may contain coin-type batteries which can easily be swallowed by small children. Keep these batteries out of reach of children at all times.

---

#### Risk of Overheating

Never install the TV in a confined space. Always leave a space of at least 10 cm or 4 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.

---

#### Risk of Hearing Damage

Avoid using earphones or headphones at high volumes or for prolonged periods of time.

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## 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.

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## 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.

---

15.2

## Screen Care

- 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.

---

15.3

## Terms of Use

2019 © TP Vision Europe B.V. All rights reserved.

This product was brought to the market by TP Vision Europe B.V. or one of its affiliates, hereinafter referred to as TP Vision, which is the manufacturer of the product. TP Vision is the warrantor in relation to the TV with which this booklet was packaged. Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V.

Specifications are subject to change without notice. Trademarks are the property of Koninklijke Philips N.V. or their respective owners. TP Vision reserves the right to change products at any time without being obliged

to adjust earlier supplies accordingly.

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](http://www.philips.com/TVsupport) are believed to be adequate for the intended use of the system.

The material in this manual is believed adequate for the intended use of the system. If the product, or its individual modules or procedures, are used for purposes other than those specified herein, confirmation of their validity and suitability must be obtained. TP Vision warrants that the material itself does not infringe any United States patents. No further warranty is expressed or implied. TP Vision cannot be held responsible neither for any errors in the content of this document nor for any problems as a result of the content in this document. Errors reported to Philips will be adapted and published on the Philips support website as soon as possible.

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/support](http://www.philips.com/support) 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 LCD/LED 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.

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 (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.

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# Copyrights

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## HDMI

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# Open Source

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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 .

[open.source@tpv-tech.com](mailto:open.source@tpv-tech.com)

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## Open Source License

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## Open Source

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### uboot (201106)

U-Boot, a boot loader for Embedded boards based on PowerPC, ARM, MIPS and several other processors, which can be installed in a boot ROM and used to initialize and test the hardware or to download and run application code.

Source: <http://www.denx.de/wiki/U-Boot>

---

### vmlinux (3.1.10)

linux kernel

Source:

<http://git.kernel.org/cgit/linux/kernel/git/stable/linux-stable.git>

---

### busybox (v1.23.2)

BusyBox is a multi-call binary that combines many common Unix utilities into a single executable. Most people will create a link to busybox for each function they wish to use and BusyBox will act like whatever it was invoked as.

Source: <http://www.busybox.net/>

---

### dlmalloc (2.8.4)

A Memory Allocator

Source:

<http://g.oswego.edu/dl/html/malloc.html>  
<ftp://gee.cs.oswego.edu/pub/misc/>

---

### iniparser (3.0)

stand-alone ini parser library in ANSI C

Source: <http://ndevilla.free.fr/iniparser/>

---

### jpeg (6b.)

Libjpeg is a widely used C library for reading and writing JPEG image files.

Source: <http://www.ijg.org>

---

### png (1.2.32)

libpng is the official PNG reference library. It supports almost all PNG features.

Source:

<http://www.libpng.org/pub/png/src/libpng-LICENSE.txt>  
<http://www.libpng.org/pub/png/>

---

### freetype (2.5.3)

FreeType is a freely available software library to render fonts.

Source: <http://www.freetype.org/license.html>

---

### libc (2.16)

The GNU C Library is used as the C library in the GNU systems and most systems with the Linux kernel.

Source: <http://www.gnu.org/software/libc/>

---

### cares (1.7.3)

c-ares is a C library for asynchronous DNS requests (including name resolves).

Source: <https://c-ares.haxx.se/>

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### curl (7.21.3)

curl is used in command lines or scripts to transfer data. It is also used in cars, television sets, routers, printers, audio equipment, mobile phones, tablets, settop boxes, media players and is the internet transfer backbone for thousands of software applications affecting billions of humans daily.

Source: <https://curl.haxx.se/>

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### iconv (1.13.1)

Other programs internally store strings in Unicode, to facilitate internal processing, and need to convert between internal string representation (Unicode) and external string representation (a traditional encoding) when they are doing I/O. GNU libiconv is a conversion library for both kinds of applications.

Source: <http://www.gnu.org/software/libiconv/>

---

### Xml2 (2.7.7)

Libxml2 is the XML C parser and toolkit developed for the Gnome project (but usable outside of the Gnome platform), it is free software available under the MIT License.

Source: <http://xmlsoft.org/>

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### neon (0.30.1)

neon is an HTTP and WebDAV client library, with a C interface.

Source: <http://www.webdav.org/neon/>

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### openssl-0.9.8 (1.0.0)

OpenSSL is a robust, commercial-grade, and full-featured toolkit for the Transport Layer Security (TLS) and Secure Sockets Layer (SSL) protocols.

Source: <http://www.openssl.org/source/license.html>

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### sqlite (3.7.11)

SQLite is a self-contained, high-reliability, embedded, full-featured, public-domain, SQL database engine.

Source: <https://www.sqlite.org/>

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### zlib (1.2.8)

interface of the 'zlib' general purpose compression library.

Source: [http://www.zlib.net/zlib\\_license.html](http://www.zlib.net/zlib_license.html)

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### cairo (1.10.2)

Cairo is a 2D graphics library with support for multiple output devices.

Source: <https://cairographics.org/download/>

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### libnl (3.2.24)

The libnl suite is a collection of libraries providing APIs to netlink protocol based Linux kernel interfaces.

Source: <https://github.com/tgraf/libnl>

---

### alsa (1.0.23)

The Advanced Linux Sound Architecture (ALSA) provides audio and MIDI functionality to the Linux operating system.

Source: [https://www.alsa-project.org/main/index.php/Main\\_Page](https://www.alsa-project.org/main/index.php/Main_Page)

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### fontconfig (2.7.1)

Fontconfig is a library for configuring and customizing font access.

Source: <https://www.freedesktop.org/wiki/Software/fontconfig/>

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#### icu (4.2.1)

ICU is a mature, widely used set of C/C++ and Java libraries providing Unicode and Globalization support for software applications.

Source: <http://site.icu-project.org/home>

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#### pixman (0.19.6)

Pixman is a low-level software library for pixel manipulation, providing features such as image compositing and trapezoid rasterization.

Source: <http://www.pixman.org/>

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#### pango (1.28.1)

Pango is a library for laying out and rendering of text, with an emphasis on internationalization.

Source: <https://www.pango.org/>

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#### glib (2.24.2)

GLib provides the core application building blocks for libraries and applications written in C.

Source: <https://directory.fsf.org/wiki/Glib>

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#### DFB (1.4.2)

DirectFB is a thin library that provides hardware graphics acceleration, input device handling and abstraction, integrated windowing system with support for translucent windows and multiple display layers, not only on top of the Linux Framebuffer Device. It is a complete hardware abstraction layer with software fallbacks for every graphics operation that is not supported by the underlying hardware. DirectFB adds graphical power to embedded systems and sets a new standard for graphics under Linux.

Source: <http://directfb.org/>

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