

The Samsung logo, consisting of the word "SAMSUNG" in white, uppercase letters inside a blue oval shape.

SAMSUNG

E-MANUAL

Thank you for purchasing this Samsung product.
To receive more complete service, please register
your product at

www.samsung.com/register

Model _____ Serial No. _____

Contents

Connecting Antenna and External devices

Aerial Connection

Video Device Connection

8 HDMI Connection

9 Component Connection

10 AV Connection

TV Audio through the External Speakers

12 Digital Audio (Optical) Connection

13 Audio Out Connection

Connecting to a Computer

15 Connecting via HDMI Port

16 Connecting with the HDMI (DVI) Port

17 Connecting via Home Network

Connecting with a Mobile Device

19 Connecting with MHL-to-HDMI Cable

20 Mobile Device Screen on TV (Screen Mirroring)

22 Connecting Mobile Devices without a Wireless Router (Wi-Fi Direct)

22 Connecting via Home Network

23 Name of TV on Network

Input Signal Selection

Using Remote and Peripheral Devices

Controlling the TV with a Keyboard

24 Connecting a Keyboard

25 Using the Keyboard

Controlling the TV with a Mouse

26 Connecting a Mouse

27 Using the Mouse

Entering Text Using QWERTY

28 Using Additional Functions

Internet Connection

Establishing a Wired Internet Connection

29 Connecting a LAN Cable

30 Connecting to a Wired Internet Network Automatically

30 Connecting to a Wired Internet Network Manually

Establishing a Wireless Internet Connection

32 Connecting to a Wireless Internet Network Automatically

33 Connecting to a Wireless Internet Network Manually

34 Connecting to a Wireless Internet Network with WPS

Troubleshooting Internet Connectivity Issues

35 Troubleshooting Wired Internet Connectivity Issues

36 Troubleshooting Wireless Internet Connectivity Issues

Mobile Network

37 Supported Telecom and Model Name

Checking the Internet Connection Status

Smart Features

Smart Hub

- 40 Testing Smart Hub connections
- 41 Opening the Home Screen
- 42 Moving to the Panel Screen
- 42 Using the Smart Hub Tutorial
- 42 Resetting Smart Hub

Using Smart Hub with Samsung Account

- 43 Creating a Samsung Account
- 44 Signing into Samsung Account
- 45 Linking My Samsung and App Accounts
- 46 Changing and Adding Information to Samsung Account
- 46 Deleting All Samsung Accounts from the TV

Using SAMSUNG APPS Panel

- 48 Using Pop-Up Menu Functions
- 49 Installing an App
- 50 Default Apps
- 51 Using Web Browser
- 54 Rearranging Apps on the SAMSUNG APPS Screen
- 54 Removing an App from the TV
- 54 Rating/Reviewing an App
- 55 Updating an App
- 55 SAMSUNG APPS Features

Playing Photos, Videos, and Music (MULTIMEDIA)

- 57 Playing Media Contents from a USB Device
- 58 Playing Multimedia Content Saved in a Computer/Mobile Device
- 59 Buttons and Functions Available while Viewing Photos
- 60 Buttons and Functions Available while Watching Video
- 62 Buttons and Functions Available while Playing Music
- 63 Functions on the Media Content List Screen

TV Viewing Features

Digital Broadcast Information at a Glance

- 64 Using the Guide
- 65 Checking the Current Programme Info
- 65 Change the Broadcast Signal
- 65 Digital Signal Info and Strength

Setting Up a Schedule Viewing

- 66 Setting Up Schedule Viewing
- 67 Managing the Schedule Viewing List

Using the Channel List

Registering, Removing, and Editing Channels

- 69 Registering and Removing Channels
- 70 Editing Registered Channels
- 71 Enabling/Disabling Password Protection on Channels
- 71 Changing Numbers
- 71 Locking/Unlocking Channels
- 71 Edit Channel Number

Creating a Personal Favourites List

- 72 Registering a Channel as Favourites
- 73 Viewing Favourites List Channels Only
- 73 Editing a Favourites List

Watching a Sports Game Realistically (Sports Mode)

- 76 Enabling Sports Mode
- 76 Functions Available in Sports Mode

TV-Viewing Support Features

- 77 Showing Subtitles
- 77 Subtitle Options
- 77 Changing Teletext Language
- 78 PIP Broadcast Viewing
- 79 Scanning for Available Channels
- 80 Selecting the Broadcast Audio Options
- 80 Audio Description

Using the Channel Settings

- 81 Country (or Area)
- 81 Manual Tuning
- 83 Fine-Tuning the Screen
- 83 Transfer Channel List
- 83 Satellite System

Picture and Sound Settings

Changing the Picture Mode and Adjusting the Picture Quality

- 85 Choosing the Right Picture Mode for the Viewing Environment
- 86 Adjusting the Picture Quality for Each Picture Mode
- 87 Fine-Tuning Each Picture Mode (Advanced Settings)
- 89 Adjusting the Picture for Easier Viewing (Picture Options)

Picture Support Functions

- 91 Changing the Picture Size and Position
- 92 Listening to Audio Only with the Screen Turned Off (Picture Off)
- 92 Resetting the Picture Mode Settings

Changing the Sound Mode and Using Sound Effects

- 93 Choosing the Right Sound Mode for the Environment
- 94 Using Sound Effects

Sound Support Functions

- 95 Selecting Speakers
- 95 Designating the TV's Installation Type
- 95 Enabling the Sound (Additional Settings)
- 96 Resetting All Sound Settings

General

Setting the Time and Using the Timer

- 97 Setting the Current Time
- 98 Using the Timers

Using the Screen Burn Protection and Energy Saving Features

- 100 Preventing Screen Burn
- 100 Using Energy Saving Features

Using Anynet+ (HDMI-CEC)

- 102 Setting Up Anynet+ (HDMI-CEC)
- 102 Using Anynet+ (HDMI-CEC)

Using the e-Manual

- 104 Launching the e-Manual
- 104 Additional e-Manual Features
- 105 Updating the e-Manual to the Latest Version

Updating the Software

- 106 Updating Software over the Internet
- 106 Updating Software using a USB connection
- 107 Enabling Automatic Software Updates
- 107 Software update via satellite channel

Protecting the TV from Hacking and malicious code

- 108 Checking the TV and Connected Storage Media
- 109 Automatically Scanning when the TV is Powered On
- 109 Automatically Adding malicious code to the Blocked List
- 109 Enabling the High Contrast
- 109 Adjusting the Menu Transparency
- 110 Expanding the Smart Hub's Focus Area
- 110 Changing the Menu Language
- 110 Checking Notifications
- 110 Setting Up a Password
- 111 Programme Rating Lock
- 111 Enabling Game Mode
- 111 Locking/Unlocking the Panel Keys
- 111 Showing/Hiding the Samsung Logo while Booting
- 112 Registering the TV as a DivX-Certified Device (Watching Paid DivX Movies)
- 113 Restoring the TV to the Factory Settings
- 113 Turning the TV into a Display Model (for retail stores)

Teletext Feature

Troubleshooting

Getting Support

- 116 Support through Remote Management
- 118 Finding the Information You Need for Service

There is a problem with the screen.

- 118 Testing the Picture

I can't hear the sound clearly.

- 121 Testing the Sound

There is a problem with the broadcast.

The computer won't connect.

I can't connect to the Internet.

Anynet+ (HDMI-CEC) isn't working.

I am having trouble launching/using apps.

My file won't play.

I want to reset the TV.

Other Issues

Notes and Precautions

Read Before Using SAMSUNG APPS

Web Browser Restrictions

Read Before Playing Photo, Video, or Music Files

- 130 Photo, Video, and Music File Use Limitations
- 130 Storage Device File Transfers
- 131 Supported External Subtitles
- 131 Supported Internal Subtitles
- 132 Supported Image Formats and Resolutions
- 132 Supported Music Formats and Codecs
- 133 Supported Video Codecs

Read After Installing the TV

- 135 Picture Sizes and Input Signals
- 135 Installing an Anti-Theft Kensington Lock
- 136 Read Before Setting Up a Wireless Internet Connection

Read Before Connecting a Computer (Supported Resolutions)


- 137 LED 4 series
- 139 LED 5, 6 series

Supported Video Resolutions

Licence


Glossary

Aerial Connection

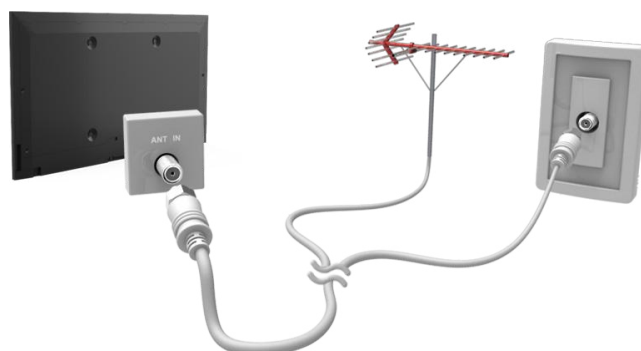
 Availability depends on the specific model and area.

Before connecting any external devices and cables to the TV, first verify the model number. A sticker containing the model number is attached to the back of the TV. The connection method varies depending on the model.

An aerial must be connected to the TV in order to receive broadcast signals.

 An aerial connection is not necessary when a cable box or satellite receiver is used.

Connect the correct aerial cable according to your viewing environment to the TV's aerial connector, as shown in the diagram.





Video Device Connection

Your TV has a variety of connectors for video input from external devices such as cable boxes, satellite receivers, Blu-ray players, DVD players, camcorders, and gaming consoles. Below is a list of featured connectors shown in descending order of picture quality.

- HDMI
- Component
- AV

Connect a video device to the TV via an HDMI connector for the best picture quality. If the device does not have an HDMI connector, try a component connector to get the next best picture quality.

-  The number of connectors and their names and locations may vary depending on the model.
-  Refer to the external device's operating manual when connecting it to the TV. The number of external device connectors and their names and locations may vary depending on the manufacturer.

HDMI Connection

Before connecting any external device or cable to the TV, first verify the TV's model number. A sticker containing the model number is attached to the back of the TV. The connection method varies depending on the model.

The following types of HDMI cables are recommended:

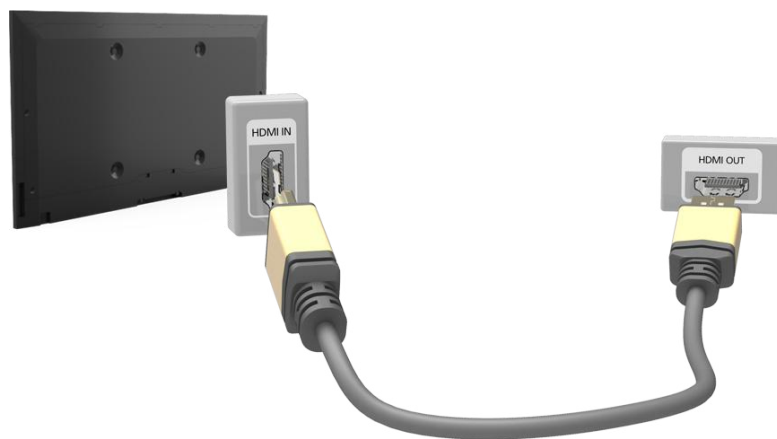
- High-Speed HDMI Cable
- High-Speed HDMI Cable with Ethernet

HDMI cables have certain requirements:

- ✎ Use an HDMI cable with a thickness of 14 mm or less.
- ✎ Using a non-certified HDMI cable may result in a blank screen or a connection error.
- ✎ Some HDMI cables and devices may not be compatible with the TV due to different HDMI specifications.
- ✎ This TV does not support HDMI Ethernet Channel. Ethernet is a LAN (Local Area Network) built with coaxial cables standardised by the IEEE.

Refer to the diagram and connect the HDMI cable to the video device's HDMI output connector and the TV's HDMI input connector.

- ✎ The number of connectors and their names and locations may vary depending on the model.



Once the connection has been made, you will be able to select the connected external device using the **SOURCE** button.

Component Connection

Before connecting any external devices and cables to the TV, first verify the model number of the TV you purchased. A sticker containing the model number is attached to the back of the TV. The connection method varies depending on the model.

Refer to the diagram and connect the Component cable to the TV's component input connectors and the device's component output connectors.

Make sure the cable colours match the connector colours.



Once the connection has been made, you will be able to select the connected external device using the **SOURCE** button.

AV Connection

Before connecting any external device or cable to the TV, first verify the TV's model number. A sticker containing the model number is attached to the back of the TV. The connection method varies depending on the model.

Refer to the diagram and connect the AV cable to the TV's AV input connectors and the device's AV output connectors.

If you are using the TV's AV input connectors, connect the video cable to the Y connector. Some models feature a video connector as well. In this case, connect the cable to the video connector.



Once the connection has been made, you will be able to select the connected external device using the **SOURCE** button.

TV Audio through the External Speakers

Your TV has a variety of connectors for audio input from devices such as Blu-ray players and DVD players and for audio output to such devices as amplifiers. The connectors are listed below.

- Digital Audio (Optical)
- Audio Out

There are several issues to bear in mind when using audio input:

- For better audio quality, it is a good idea to use an AV receiver.
- The number of connectors and their names and locations may vary depending on the model.
- Refer to the external device's operating manual when connecting it to the TV. The number of external device connectors and their names and locations may vary depending on the manufacturer.

Digital Audio (Optical) Connection


(Depending on the country and model)

Before connecting any external device or cable to the TV, first verify the TV's model number. A sticker showing the model number is attached to the back of the TV. The connection method varies depending on the model.

Connecting an AV receiver to the TV via a digital audio (optical) connector lets you listen to digital audio.

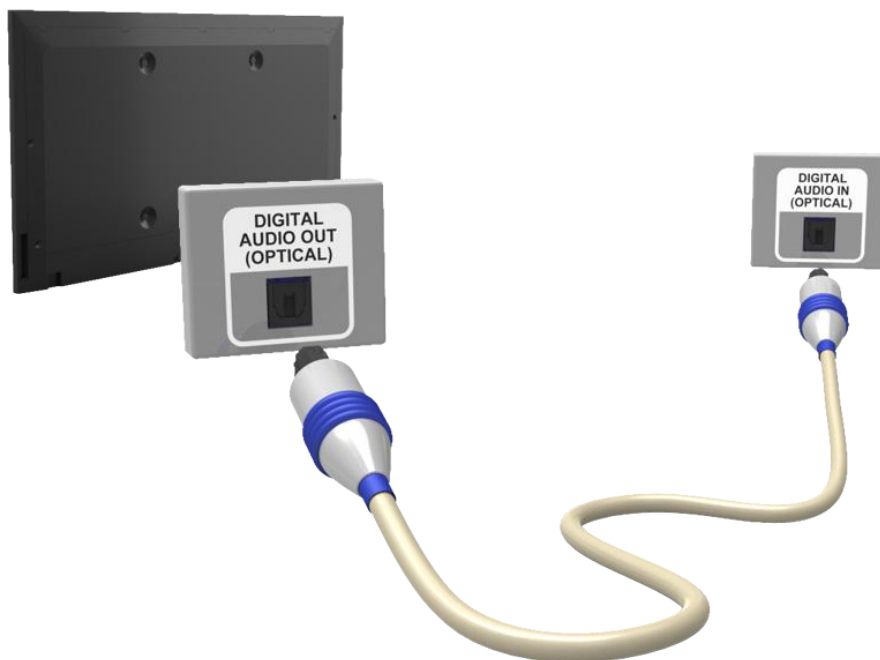
Connecting a device using an optical cable does not automatically turn off the TV speakers. To turn off the TV's speakers, set **TV Sound Output** (**Sound** > **Speaker Settings** > **TV Sound Output**) to something other than TV Speaker.

Adjust the audio device's volume using its remote control.

 An unusual noise coming from the audio device while you are using it may indicate a problem with the audio device itself. If this occurs, ask for assistance from the audio device manufacturer.

 Digital audio is only available with 5,1-channel broadcasts.

Refer to the diagram and connect the optical cable to the TV's digital audio output connector and the device's digital audio input connector.



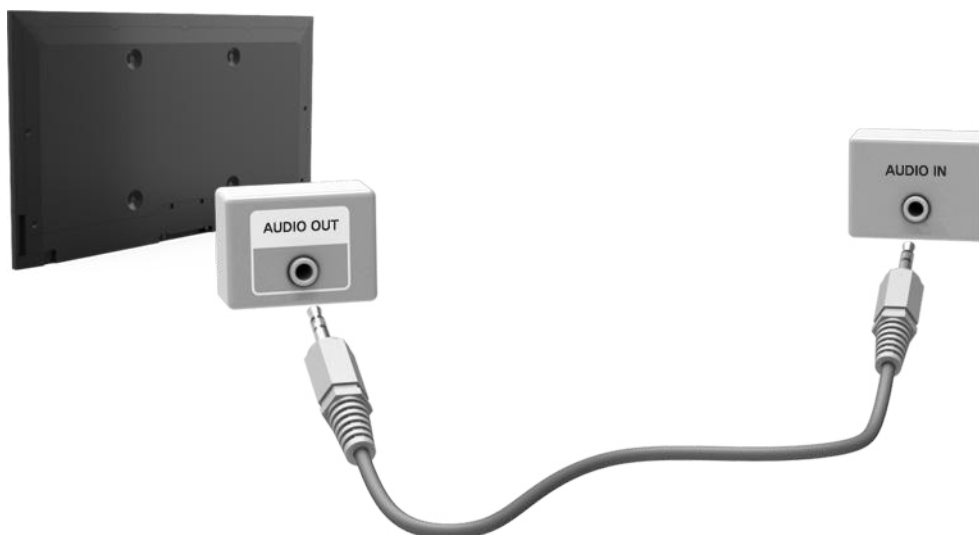
Audio Out Connection

 Availability depends on the specific model.

Before connecting any external device or cable to the TV, first verify the TV's model number. A sticker containing the model number is attached to the back of the TV. The connection method varies depending on the model.

 The connectors names and locations may vary depending on the model.

Refer to the diagram and connect the audio cable to the TV's audio output connector and the device's audio input connector.



Connecting to a Computer

You can directly connect a computer to the TV or to the network to view the computer screen or content on the TV. Connect the computer to the TV as follows.

- **Connecting via HDMI Port**

You can connect the computer to the TV using the HDMI cable to display the computer screen on the TV.

- **Connecting with the HDMI (DVI) Port**

You can connect a computer to the TV by connecting the computer's DVI port to the TV's HDMI port with the DVI to HDMI cable to display the computer screen on the TV.

- **Connecting via Home Network**





Quickly access the photo, video and music files saved on a computer by connecting the TV and the computer to the same router or AP.

Connecting via HDMI Port

Before connecting any external device or cable to the TV, first verify the TV's model number. A sticker showing the model number is attached to the back of the TV. The connection method varies depending on the model.

For HDMI connection, one of the following HDMI cable types is recommended:

- High-Speed HDMI Cable
- High-Speed HDMI Cable with Ethernet

-  Use an HDMI cable with a thickness of 14 mm or less. Using a non-certified HDMI cable may result in a blank screen or a connection error.
-  Some HDMI cables and devices may not be compatible with the TV due to different HDMI specifications.
-  This TV does not support HDMI Ethernet Channel. Ethernet is a LAN (Local Area Network) built on coaxial cables standardised by the IEEE.
-  Some computers do not support HDMI interface, depending on its graphics adapter specifications. In this case, use a DVI-to-HDMI cable to connect the computer to the TV.


Refer to the diagram and connect the HDMI cable to the external computer's HDMI output connector and the TV's HDMI input connector.



Once the connection has been made, you will be able to select the connected external device using the **SOURCE** button.

Connecting with the HDMI (DVI) Port

If the graphics adapter of your computer does not support HDMI interface, connect the computer to the TV with the DVI (Digital Visual Interactive) to HDMI cable. However, DVI-to-HDMI connection is supported by the HDMI port for DVI only and does not support audio signal transmission. To listen to the computer sound, connect the external speaker to the computer's audio output connector.

 For information on resolutions supported by the TV, refer to "Read Before Connecting a Computer (Supported Resolutions)".




Refer to the diagram and connect the DVI-to-HDMI cable to the TV's HDMI (DVI) port and the computer's DVI output port.



Once the connection has been made, you will be able to select the connected external device using the **SOURCE** button.

Connecting via Home Network

Quickly access the photo, video and music files saved on a computer by connecting the TV and the computer to the same router or AP.

1. Connect the TV and the computer to the same router or AP. A home network will be configured once the two connections are established.
 -  Home Network enables content-sharing between the TV, computers and mobile devices connected to the same wired or wireless router.
2. From the computer, select [Control Panel] > [Network and Internet] > [Network and Sharing Centre] > [Change advanced sharing settings] and select [Choose media streaming options...] to activate media streaming.
3. From the list, set TV to [Allowed].
4. Launch Windows Media Player from the computer, select [Settings] > [Library Management] and then add the location where the photo, video and music files are saved to view/play the files on the TV screen. For more information on viewing/playing media files, refer to the "Playing Multimedia Content Saved in a Computer/Mobile Device" section.
 -  It will be possible to view/play on the screen files moved to Windows Media Player's default folder.
 -  As long as File Sharing is activated, unauthorised access may be allowed. Disable File Sharing if data access is not required.

Connecting with a Mobile Device

Connect mobile device such as a smartphone or tablet to the TV directly or indirectly over a shared network and display the mobile device screen or contents on the TV screen. Connect the mobile device to the TV as follows.

- **Connecting with MHL-to-HDMI Cable**

Connect the mobile device's USB port to the TV's HDMI port with the MHL-to-HDMI cable to view the mobile device screen on the TV.

- **Mobile Device Screen on TV (Screen Mirroring)**

Wirelessly connect the TV to the mobile device with the mirroring function to view the mobile device's screen on the TV.



This option is available only with mobile devices that support mirroring.



Depending on the software in your mobile.

- **Connecting Mobile Devices without a Wireless Router (Wi-Fi Direct)**

Wi-Fi Direct enables you to connect the TV to a mobile device without a router or AP. Quickly access and play photo, video and music files from a connected mobile device on the TV screen.



This option is available only with mobile devices that support Wi-Fi Direct.



- **Connecting via Home Network**

View/play on the TV photo, video and music files from a mobile device connected to the same router or AP as the TV.

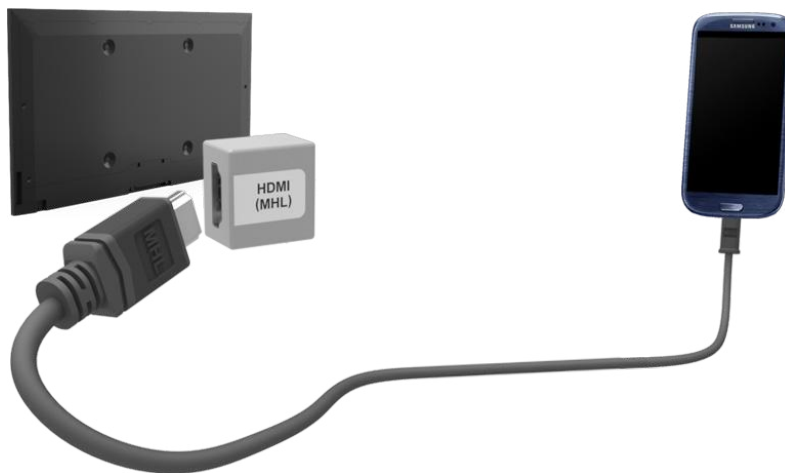
Connecting with MHL-to-HDMI Cable

Your TV supports MHL (Mobile High-definition Link) via an MHL cable. MHL enables viewing and playing video, image, and audio files from mobile devices on the TV. However, MHL is only available through the TV's HDMI (MHL) port and only when used in conjunction with an MHL-enabled mobile device.

For information on configuring MHL on your mobile device, refer to the device's User Manual.

-  Connecting an MHL-to-HDMI cable automatically switches **Picture Size** to **Screen Fit**. This setting will not change automatically if you are using an HDMI adapter. In this case, change the setting manually in the menu.
-  If you are using an HDMI cable, the TV recognises the signal as an HDMI signal and may respond differently than it would to an MHL-to-HDMI cable connection.

Refer to the diagram and connect an MHL-to-HDMI cable to the TV's HDMI (MHL) port and the mobile device's USB port.



Once the connection has been made, you will be able to select the connected external device using the **SOURCE** button.


Mobile Device Screen on TV (Screen Mirroring)

 Availability depends on the specific model and area.

 Depending on the software in your mobile.

Network > Screen Mirroring [Try Now](#)


Wirelessly connect a mirroring-enabled mobile device to the TV and play the video and audio files stored on the device on the TV. Mirroring refers to the function that plays the video and audio files located on a mobile device on a TV and on the mobile device simultaneously.


 To use the **Screen Mirroring** function, the mobile device must support a mirroring function such as AllShare Cast or **Screen Mirroring**. To check whether your mobile device supports the mirroring function, please visit the mobile device manufacturer's website.

 The video or audio may intermittently stop depending on network conditions.

Connecting via a mobile device

1. On the mobile device, run **Screen Mirroring**. The mobile device searches for available devices to connect to.
2. From the search result list, select TV. The TV displays a pop-up window.
3. In the pop-up window, select **Allow** to connect the mobile device.

 All previously allowed mobile devices will automatically connect without needing approval.

 If you select Deny, the device won't appear and can't be activated in this way. Navigate to **Network > Screen Mirroring > Device Manager** to allow the previously denied mobile device.

Not searching for the TV on mobile devices

1. Navigate to **Network** > **Screen Mirroring** to run **Screen Mirroring**. Also, you can select **Screen Mirroring** on a list by pressing **SOURCE**.
2. Run mirroring on the mobile device. Display a list while automatically searching for mobile devices.
3. Select the TV and it connects automatically.



When the mobile devices cannot connect, try turning the TV off and on.

Allow/Reject the connection via mobile devices





This is only available for watching when mobile devices allow the connection.

1. Navigate to **Network** > **Screen Mirroring** > **Device Manager** to select **Device Manager**. This displays a list of required mobile devices connection.
2. You can allow access or deny connections with mobile devices.

Connecting Mobile Devices without a Wireless Router (Wi-Fi Direct)



Network > [Wi-Fi Direct](#) [Try Now](#)

Wi-Fi Direct lets you connect mobile devices directly to your TV using wireless technology. After connecting a device to the TV using Wi-Fi Direct, it will be possible to view/play video, photo, and music files from the device on the TV.

-  The mobile device must support Wi-Fi Direct. Make sure the mobile device you intend to use supports Wi-Fi Direct.
 -  The video or audio may intermittently stop depending on network conditions.
1. Enable Wi-Fi Direct on the mobile device and then launch [Wi-Fi Direct](#). The TV automatically scans for and displays a list of available devices. The TV's name also appears on the mobile device.
 2. Select the device from the list to initiate a connection. If a connection request is made by the TV, a permission message appears on the mobile device and vice versa.
 3. Allow the connection. This completes the connection process.

Connecting via Home Network

View/play photo, video and music files from a mobile device on the TV.

1. Connect both the TV and the mobile device to the same router or AP. A home network will be configured once the connections are established.
 -  Home Network enables content-sharing between the TV, computers and mobile devices connected to the same wired or wireless router.
2. Enable File Sharing on the mobile device. The mobile device's shared contents can be viewed/played on the TV. For more information on multimedia contents, refer to the "Playing Multimedia Content Saved in a Computer/Mobile Device" section.
 -  As long as File Sharing is activated, unauthorised access may be allowed. Disable File Sharing if data access is not required.

Name of TV on Network

Network > Device Name [Try Now](#)

Choose or enter a TV name to be displayed on the network.

1. Select **Device Name** from the **Network** menu. A list will appear.
2. Choose a name from the list. Alternatively, select **User Input** to enter a name manually. You can view the specified TV name on the network.

Input Signal Selection

You can select a connected external device using the **SOURCE** button.

For example, to switch to a gaming console connected to the second HDMI connector, press **SOURCE** button. From the **Source** list, select **HDMI2** to change the input signal to HDMI mode. Connector names may vary depending on the model.

The following options are available in the **Source** screen:

- **TOOLS** Button

Select a port connected to an external device, and press and hold the Enter button. The following functions are available:



Available options for each connector may vary.

- **Edit Name:** Rename devices connected to the TV for easier identification of external sources. For example, you can designate a computer connected to the TV via an HDMI-DVI cable as **DVI PC**. Alternatively, simply designate a computer connected to the TV via an HDMI cable as **PC**. You can also designate an AV device connected to the TV via an HDMI-DVI cable as **DVI Devices**.
- **Information:** View detailed information about the connected devices.
- **Disconnect USB Device:** Used to safely remove a USB device connected to the TV.



This option is only available when a USB device has been selected.



Availability depends on the specific model.

- **Anynet+ (HDMI-CEC):** Displays a list of Anynet+ (HDMI-CEC)-compliant devices that are connected to the TV.



This option is only available with **Anynet+ (HDMI-CEC)** set to **On**.

Controlling the TV with a Keyboard

 Availability depends on the specific model.

[System](#) > [Device Manager](#) > [Keyboard Settings](#) [Try Now](#)

You can use a keyboard to control the TV.

 Certain models do not support USB HID class keyboards.

Connecting a Keyboard


Connecting a USB Keyboard

Plug the keyboard cable into the TV's USB port. A connection message appears on the screen.

Using the Keyboard

Use the following remote features with the USB keyboard connected to the TV.

- Arrow Keys (moving the focus), Windows Key (**MENU** Button), Menu List Key (**TOOLS** Button), Enter Key (Select/run item), ESC (**RETURN** Button), Number Keys (Number Buttons)
- F1 (**A**), F2 (**B**), F3 (**C**), F4 (**D**), F5 (**SMART HUB** Button), F6 (**SOURCE** Button), F7 (**CH.LIST** Button), F8 (**↔** Button), F9/F10 (Volume Buttons), F11 / F12 (Channel Buttons)
- Page Up/Page Down: Scroll web browser pages up/down.
- Holding down the Enter key: On the Smart Hub screen, navigate to an item and hold down the Enter key to display the Options menu.

 The Options menu depends on the context.

Changing Keyboards **Try Now**

Select **System** > **Device Manager** > **Keyboard Settings** > **Select Keyboard**. Designate which keyboard to use.

 Only one keyboard can be used at a time.

Input Languages, Keyboard Type, and Switch Language Key **Try Now**

Select **System** > **Device Manager** > **Keyboard Settings** > **Keyboard Options**. The following options are available:

- **Keyboard Language**

If the keyboard supports multiple languages, choose which language you want to use from the list.

- **Keyboard type**

Specify the type of language selected under **Keyboard Language**.

 The **Keyboard type** list varies depending on which language was selected under **Keyboard Language**.

- **Switch Input Language**


If the keyboard supports multiple languages, choose from the list which key to use to switch between languages.

Controlling the TV with a Mouse

 Availability depends on the specific model.

[System](#) > [Device Manager](#) > [Mouse Settings](#) [Try Now](#)

You can use a mouse to control the TV with greater ease and comfort.

 Certain models do not support USB HID class mice.

Connecting a Mouse

Connecting a USB Mouse

Plug the mouse cable into the TV's USB port. A connection message appears on the screen.

Using the Mouse

Once a USB mouse is connected to the TV, a pointer will appear on the TV's screen. You can use this pointer to control the TV as you would a computer.

- **Selecting and Running an Item**

Left-click on the mouse.

- **Displaying the Volume, Mute, and Channel Buttons**

Select the volume / channel icon on the screen while watching TV. Use the on-screen buttons to adjust the volume or switch the channel.

 Select the volume / channel icon again to hide the buttons.


- **Showing Tools Buttons**

Right-clicking shows the Tools buttons on the screen so that you can easily use the TV functions.

 The Tools buttons may vary depending on the function.

- **Displaying the Context-sensitive Menu on Smart Hub**

On the Smart Hub screen, navigate to an item, and hold down the left mouse button for 1 second. The Options menu available to the selected item appears.


 The Options menu depends on the context.

- **Scrolling the TV Menu or Screen**

Move the mouse wheel up or down. This scrolls the TV menu or screen up/down.

- **Exiting the TV Menu or Feature**

Click on the X button. This closes the menu.

 The X button appears when a mouse is being used. Left-clicking once while using a feature displays the X button.

Changing Mice [Try Now](#)

Select [System](#) > [Device Manager](#) > [Mouse Settings](#) > [Select Mouse](#). Designate which mouse to use.

 Only one mouse may be used at a time.

Changing Mouse Buttons and Pointer Speed [Try Now](#)

Select [System](#) > [Device Manager](#) > [Mouse Settings](#) > [Mouse Options](#). The following options are available:

- **Primary Button**

Choose which (left or right) button to use to select and run items.


- **Pointer Speed**

Adjust the movement speed of the pointer that appears on the screen.


Entering Text Using QWERTY

A QWERTY keypad appears when you need to enter text (entering the network password, logging into your Samsung account, etc.), allowing you to enter text using your remote control.

Using Additional Functions

Select  on the QWERTY keyboard screen. The following options are available:

- **Language**

 Availability depends on the specific area.

Select a language from the list.

- **Recommend text**

Enable/disable the Recommended Text feature. Enabling the **Recommend text** feature allows you to quickly enter text starting with the characters you typed in by displaying recommended words. To enter the word "Internet," for example, all you have to do is enter "In" and select the word "Internet" from the list of recommended words. The word is memorised so that you can enter the same text again more easily.

- **Reset recommended text data**

Delete both the recommended words and the memorised words to clear the list.

- **Predict Next Letter**

Enable/disable the Text Prediction feature. Enabling the Text Prediction feature eliminates the need to find and select individual character keys. To enter the word "Internet," for example, select "I". A predicted word will then appear next to the I key. Simply select the predicted word to enter "Internet".



 This feature is limited to words that have previously been added to the dictionary.

Establishing a Wired Internet Connection

Connecting the TV to the Internet gives you access to online services and SMART features, and lets you update the TV's software quickly and easily through the Internet.

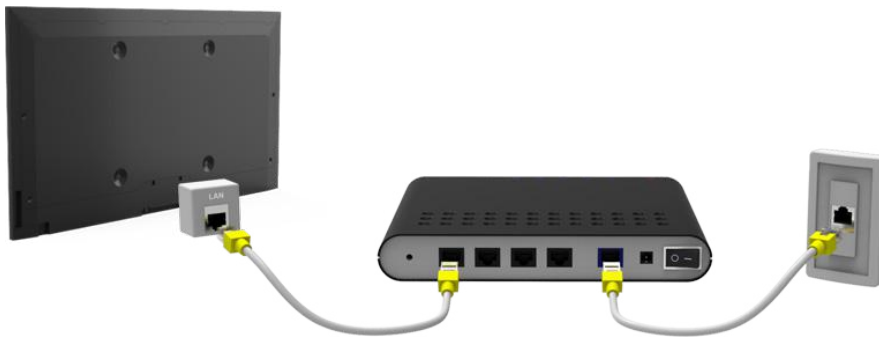
Connecting a LAN Cable

Use a LAN cable.

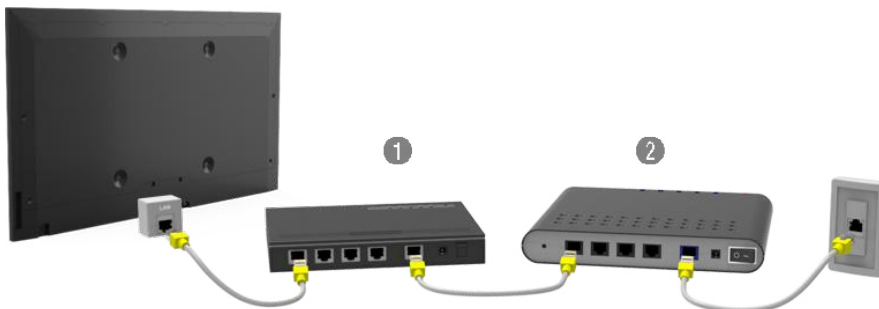
-  The TV will not be able to connect to the Internet if the network speed is below 10Mbps.
-  Use Cat 7 LAN cables to link your TV to the Internet Access Points.

There are three ways to connect the TV to the Internet. Refer to the diagrams and connect the LAN cable to the LAN connector on the back of the TV.

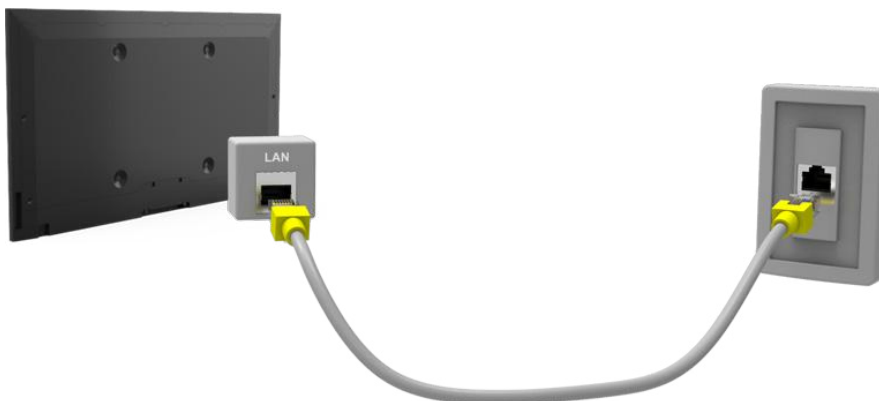
- External Modem



- ① IP Router + ② External Modem



- Wall-mounted LAN Outlet



Connecting to a Wired Internet Network Automatically

Network > Network Settings [Try Now](#)


Automatically connect to an available network.

1. Set the **Network Type** to **Wired**, and then select **Connect**.
2. The TV attempts to connect to an available network. Once successful, you will see a confirmation message. Select **OK**. If the attempt fails, try again, or connect manually.

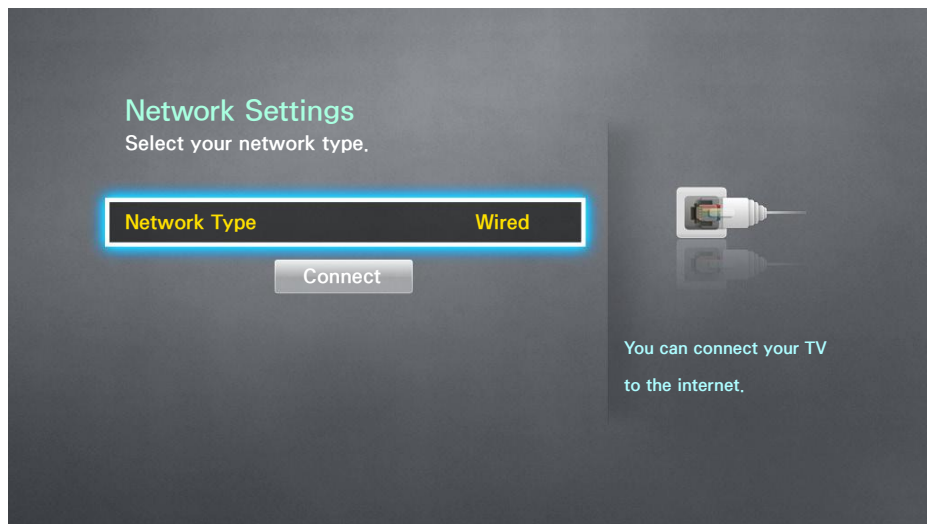
Connecting to a Wired Internet Network Manually

Network > Network Settings

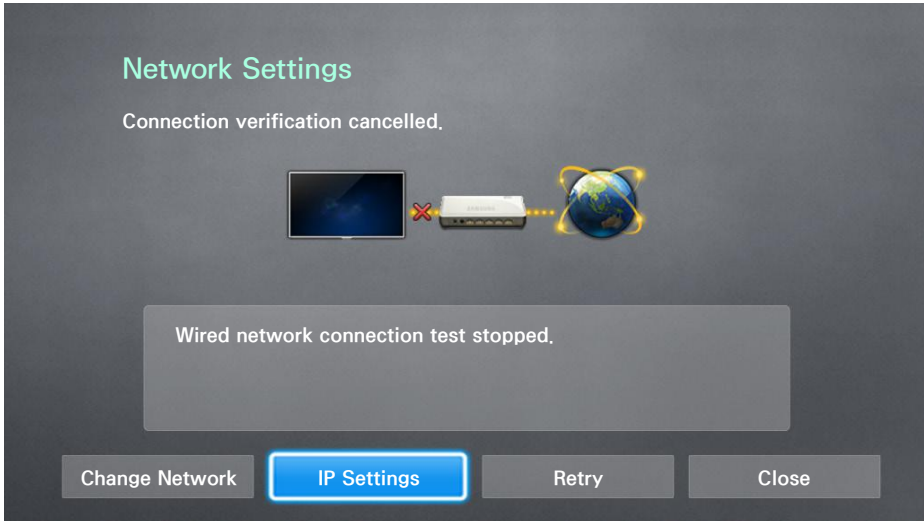
With networks that require a static IP address, you will need to enter the IP address, subnet mask, gateway, and DNS values manually to connect to the network. To get these values, contact your Internet Service Provider (ISP).

 Refer to the "Dynamic versus Static IP Addresses" section for more information on dynamic IP and static IP addresses.

1. Set the **Network Type** to **Wired**, and then select **Connect**.



2. Select **Stop** when the TV attempts to connect to the network. Once the network connection has been interrupted, select **IP Settings**.



3. In the **IP Settings** screen, set the **IP setting** to **Enter manually**, enter the **IP Address**, **Subnet Mask**, **Gateway**, and **DNS Server** values, and then select **OK**.
 - Use one of the following methods to enter the numerical values.
Set the numbers using the ▲ and ▼ buttons.
Enter the numbers directly using numerical button.



4. The TV attempts to connect to the network again using the specified settings. A confirmation message appears once a connection is established. Select **OK**.
 - ✎ The network connection speed may differ depending on the DNS server settings.
 - ✎ For details on the DNS server settings, contact your Internet service provider (ISP).

Establishing a Wireless Internet Connection

Connecting the TV to the Internet gives you access to online services and SMART features, and lets you update the TV's software quickly and easily through the Internet.



Connecting to a Wireless Internet Network Automatically

Network > Network Settings


Connect the TV to the Internet via a wireless router. Make sure you have the wireless router's SSID (name) and security key settings before attempting to connect. The security key can be found on the wireless router's configuration screen.

1. On the **Network Settings** screen, set **Network Type** to **Wireless**. The TV automatically displays a list of available wireless networks.
2. Select a network (SSID). If the network you want doesn't appear in the list, select **Add Network**, and enter the network's SSID manually.
3. Enter the security key and select **Done**. If the selected network is not security-enabled, the TV attempts to connect right away.
4. A network connection will be attempted. Once a connection is established, the TV displays a confirmation message. Select **OK**. If the attempt fails, try again, or connect manually.

Connecting to a Wireless Internet Network Manually

Network > Network Settings

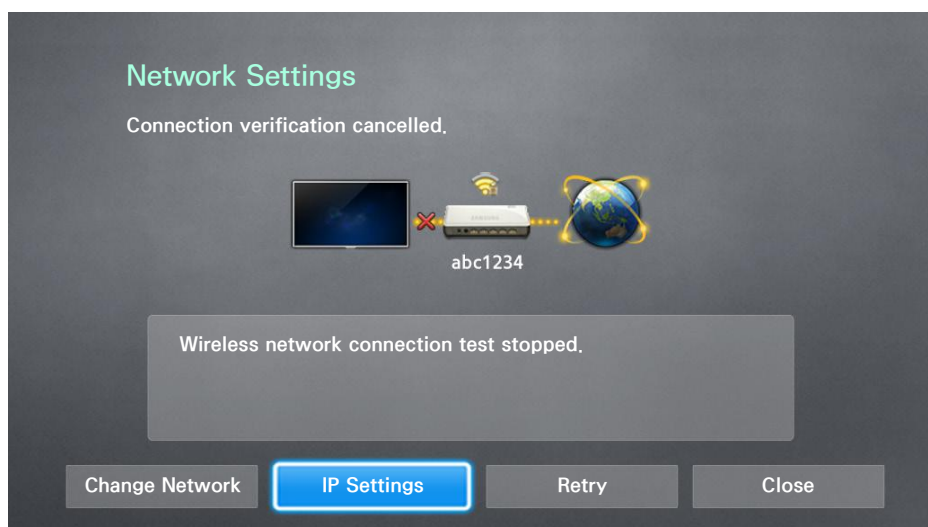
With networks that require a static IP address, you will need to enter the IP address, subnet mask, gateway and DNS values manually to connect to the network. To get the IP address, subnet mask, gateway and DNS values, contact your Internet Service Provider (ISP).

 Refer to the "Dynamic versus Static IP Addresses" section for more information on dynamic IP and static IP addresses.

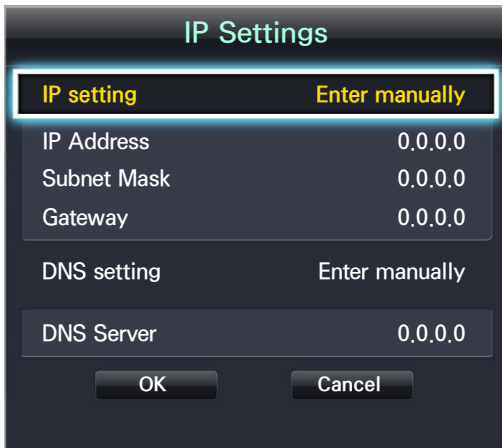
1. Setting the **Network Type** to **Wireless** automatically displays a list of available wireless networks.



2. Select the network (SSID) you want to connect to. If the wireless router doesn't appear in the list, select **Add Network**, and enter the network's SSID manually.
3. Enter the security key and select **OK**. If the selected network is not security-enabled, the TV attempts to connect right away.
4. Select **Stop** when the TV attempts to connect to the network. Once the network connection has been interrupted, select **IP Settings**.





- In the **IP Settings** screen, set the **IP setting** to **Enter manually**, enter the **IP Address**, **Subnet Mask**, **Gateway**, and **DNS Server** values, and then select **OK**.
 - Use one of the following methods to enter the numerical values.
Set the numbers using the ▲ and ▼ buttons.
Enter the numbers directly using numerical button.



IP setting	Enter manually
IP Address	0.0.0.0
Subnet Mask	0.0.0.0
Gateway	0.0.0.0
DNS setting	Enter manually
DNS Server	0.0.0.0


OK Cancel

- The TV attempts to connect to the network again using the specified settings. A confirmation message appears once a connection is established. Select **OK**.
 -  The network connection speed may differ depending on the DNS server settings.
 -  For details on the DNS server settings, contact the Internet service provider (ISP).

Connecting to a Wireless Internet Network with WPS

Network > Network Settings

With wireless routers that support WPS (Wi-Fi Protected Setup) or PBC (Push Button Configuration), it's possible to press a button on the router to connect the TV to the Internet.

-  This functionality is not available with wireless routers that do not support WPS. Check to see if your wireless router supports WPS.
- Setting the **Network Type** to **Wireless** automatically displays a list of available wireless networks.
 - Select **WPS(PBC)** and then press the WPS or PBC button located on the wireless router within two minutes.
 - The TV exchanges the network name (SSID) and security key automatically and then attempts to connect to the Internet. A confirmation message appears once a connection is established. Select **OK**.

Troubleshooting Internet Connectivity Issues

If you are not able to connect the TV to the Internet, read the information below.

Troubleshooting Wired Internet Connectivity Issues

No network cable found

Make sure the network cable is plugged in. If it is connected, make sure the router is turned on. If it is on, try turning it off and on again.

IP auto setting failed

Do the following or configure the **IP Settings** manually.

1. Ensure that the DHCP server is enabled on the router and reset the router.
2. If this does not work, contact your Internet Service Provider for more information.

Unable to connect to the network

Do the following:

1. Check all **IP Settings**.
2. Ensure that the DHCP server is enabled on the router. Then, unplug the router and plug it back in.
3. If this does not work, contact your Internet Service Provider for more information.

Connected to a local network, but not to the Internet

1. Make sure that the Internet LAN cable is connected to the router's external LAN port.
2. Check the DNS values in the **IP Settings**.
3. If the problem persists, contact your Internet Service Provider.

Network setup is complete, but unable to connect to the Internet

If the problem persists, contact your Internet Service Provider.

Troubleshooting Wireless Internet Connectivity Issues

Wireless network connection failed

Selected wireless router not found. Go to [Network Settings](#) and select the correct router.

Unable to connect to a wireless router

Check the following:

1. Check if the router is turned on. If it is, turn it off and on again.
2. Enter the correct security key if required.

IP auto setting failed

Do the following or configure the [IP Settings](#) manually.

1. Make sure that the DHCP server is enabled on the router. Then, unplug the router and plug it back in.
2. Enter the correct security key if required.
3. If this does not work, contact your Internet Service Provider for more information.

Unable to connect to the network

Do the following:

1. Check all [IP Settings](#).
2. Enter the correct security key if required.
3. If this does not work, contact your Internet Service Provider for more information.

Connected to a local network, but not to the Internet

1. Make sure that the Internet LAN cable is connected to the router's external LAN port.
2. Check the DNS values in the [IP Settings](#).
3. If the problem persists, contact your Internet Service Provider.

Network setup is complete, but unable to connect to the Internet

If the problem persists, contact your Internet Service Provider.

Mobile Network

 Availability depends on the specific model and area.

While connecting to the mobile network, some functions might be unavailable.

Refer to the diagram and insert the Mobile Dongle (sold separately) into the USB port. The Mobile Dongle must be connected to the TV in order to connect to the mobile network. However, the Mobile Dongle is sold separately and is not available from Samsung.

 If you have any problems using online services, please contact your Internet service provider.



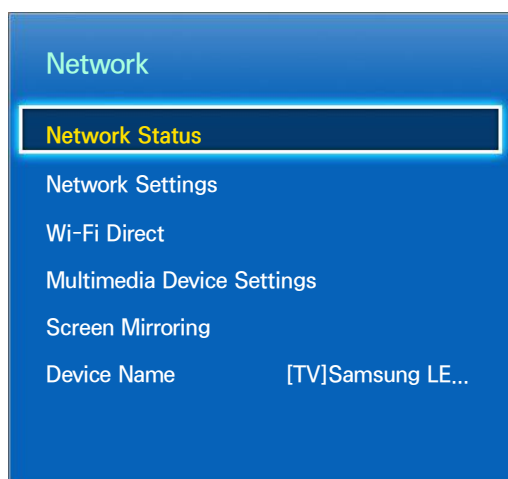
Supported Telecom and Model Name

- Vodacom (Model No: K4605)
- MTN (Model No: E3131S, E3251)
- Safaricom (Model No: E303)

- Glo Bolt (Model No: E303)
- Etisalat (Model No: E303)
- Smart Communication (Model No: E3131S-3)
- Globe Telecom (Model No: E3331, E359S-2)
- Viettel (Model No: E173Eu-1)
- Vinaphone (Model No: E303u-1, E303s-1)
- DTAC (Model No: E3131)
- AIS (Model No: E3131, E303)
- Telkomsel (Model No: E303)
- Indosat (Model No: E303)
- Airtel (Model No: E1731, E3276S, E3276s-920, E3272)
- Idea (Model No: E1732)
- Tata Docomo (Model No: E177)
- Open Dongles (Airtel, Idea, TataDocomo, Aircel, Vodafone) (Model No: E303C, E303U, E3121B, E3131B, E369 mini)
- Zain (Model No: E367u-1, E303s-1)
- Orange (Model No: E367u-1, E3131s-2)

Checking the Internet Connection Status

Network > Network Status [Try Now](#)








 Actual menu screen may differ depending on the TV model.

View the current network and Internet status.

Smart Hub

[Smart Hub](#) > [Open Smart Hub](#) [Try Now](#)

With Smart Hub, you can surf the web, download apps. In addition, you can use photo, video, and music files stored on external storage devices.


-  Some Smart Hub services are paid services. To purchase such a service, the service provider account or Samsung Apps TV account (Samsung account) is required.
-  Make sure the TV is connected to the Internet. The TV must be connected to the Internet in order to use Smart Hub.
-  Some features of Smart Hub require an Internet connection and may not be available depending on the service provider, language, or region.
-  To use Smart Hub, you must agree to the end user agreement and privacy policy. Otherwise, you will not be able to access the features and services related to them. You can view the entire content of the [Terms & Policy](#) by navigating to [Smart Hub](#) > [Terms & Policy](#). If you don't wish to use Smart Hub anymore, you can withdraw the agreement. [Try Now](#)
-  Smart Hub service outages can be caused by disruptions in your Internet service.

Testing Smart Hub connections

[Support](#) > [Self Diagnosis](#) > [Smart Hub Connection Test](#)

If Smart Hub is not functioning, navigate to [Support](#) > [Self Diagnosis](#) > [Smart Hub Connection Test](#).

Diagnose the problem by checking the internet connection, your ISP, the Samsung server and the Samsung Apps panels.

-  After completing the test, if Smart Hub continues to have problems, contact your Internet Service Provider or a Samsung Contact Centre.


Opening the Home Screen

Press the **SMART HUB** button while watching TV to open the **Home Screen**.

On the **Home Screen**, search through favourite apps, channels or sources and quickly access previously run or frequently used functions.


Setting your favourite item


1. Press the **SMART HUB** button to open the **Home Screen**, and move to a desired item.
2. Press the Enter button. A context-sensitive menu appears.
3. In the context-sensitive menu, select **Add to Favourites** to add the selected item to the favourite list, which will move first of the list.

 To delete a favourite item, select it and press and hold the touch pad to display the context-sensitive menu. Then, select **Remove from Favourites**.

Deleting browsing history

1. Press the **SMART HUB** button to open the **Home Screen**, and select **Clear All**. You will be asked to confirm your selection.
2. Select **Yes** on the screen. Your browsing history is deleted completely.

 However, the Favourites list items will not be deleted.

 You can also delete your browsing history by selecting **Clear All** in the **Smart Hub > Home Screen Settings** menu.

Moving to the Panel Screen

Press the **SMART HUB** button to open the **Home Screen**, and select the Panel icon. You will move to the Panel screen. For each service panel, the following functions are available:

-  **SAMSUNG APPS**

You can enjoy variety of free and paid news, sports, weather, and gaming apps on the TV as you would on a smart phone or tablet.

Using the Smart Hub Tutorial

[Support](#) > [Smart Hub Tutorial](#)

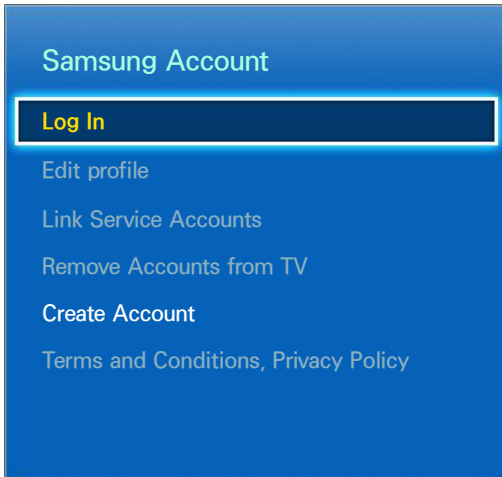
From the **Support** menu, select **Smart Hub Tutorial**. This will familiarise yourself with the basics of Smart Hub and panels.

Resetting Smart Hub

[Smart Hub](#) > [Reset Smart Hub](#) [Try Now](#)

Reset all saved information relating to Samsung accounts and linked service accounts, as well as Smart Hub service agreements and applications.

Using Smart Hub with Samsung Account




 Actual menu screen may differ depending on the TV model.


Creating a Samsung Account

Smart Hub > Samsung Account [Try Now](#)

Some Smart Hub services are paid services. To purchase such a service, the service provider account or Samsung Apps TV account (Samsung account) is required.

You can create a Samsung Account using your email address.

 To create a Samsung Account, you must agree to the Samsung Account end user agreement and privacy policy. Otherwise, you cannot create a Samsung Account. You can view the entire content of the agreement by navigating to **Smart Hub > Samsung Account > Terms and Conditions, Privacy Policy**.

 Alternatively, you can create a Samsung Account at <http://content.samsung.com>. You can use one ID for both the TV and the website.


Creating a Samsung Account using Sign Up Samsung Account Menu

1. Navigate to **Smart Hub > Samsung Account > Create Account** and select **Create a Samsung account**.
2. Agree to use a Samsung Account and select **Next**.
3. Create a Samsung Account according to the instructions on the **Create Account** screen.

Once a Samsung Account is created, you will be automatically logged in to **Smart Hub**.

Creating a Samsung Account using a Facebook Account

A Facebook user can easily obtain necessary information from Facebook and create a Samsung Account.

1. Navigate to [Smart Hub](#) > [Samsung Account](#) and select [Log In](#).
2. Select  and select the [Create with Facebook](#).
3. Enter your Facebook ID and password and select [Sign In](#).
4. Agree to use a Samsung Account and select [Next](#).
5. Create a Samsung Account according to the instructions on the [Create Account](#) screen. Once a Samsung Account is created, you will be automatically signed in.


 If you create a Samsung Account using your Facebook account, they are automatically linked.

Signing into Samsung Account

[Smart Hub](#) > [Samsung Account](#) > [Log In](#)

Logging into and Saving a Samsung Account

If you haven't logged into your Samsung Account on the TV, you must save your Samsung Account on the TV.

1. Navigate to [Smart Hub](#) > [Samsung Account](#) and select [Log In](#).
2. Select  and select [Sign In](#).
3. Enter your ID and password and then select [Sign In](#).

 Check the [Sign me in automatically](#) option if you wish to log into [Smart Hub](#) automatically.

 If you forgot your password, select [Reset Password](#) to receive password reset instructions via email.

4. Select an image to be used as the profile picture. The [Samsung Account](#) has been saved on the TV.
5. Select [Done](#) to log into your Samsung Account.

Easily Logging Into Your Samsung Account Saved on the TV

1. Navigate to [Smart Hub](#) > [Samsung Account](#) and select [Log In](#).
2. Choose your Samsung Account and select [Sign In](#).
3. Using the login method configured for the selected Samsung Account, log into your Samsung Account.

Linking My Samsung and App Accounts

Smart Hub > Samsung Account > Link Service Accounts

Linking your Samsung Account to accounts of apps installed on the TV lets you automatically log into your linked app accounts when you log into your **Samsung Account**. For example, you can download the Facebook app and link your Facebook account to your **Samsung Account**. In this case, logging into your **Samsung Account** then automatically logs you into your Facebook account as well.

 To use **Link Service Accounts**, you must first log into your Samsung Account.

Linking an App Account

1. Navigate to **Smart Hub > Samsung Account** and select **Link Service Accounts**. A list of apps that can be linked to your **Samsung Account** is shown.
2. Select an app from the list. The Link to other accounts window appears on the screen.
3. Enter the current ID and password of the app to log in. When the login is complete, the app account is linked to the Samsung Account.


Disconnecting a Linked Account

1. Navigate to **Smart Hub > Samsung Account**, select **Link Service Accounts**. Select an app to unlink.
2. A confirmation dialog box appears. Select **Yes** to unlink the app.

Changing and Adding Information to Samsung Account

Smart Hub > Samsung Account

Using the **Samsung Account** menu, you can manage your **Samsung Account**.

 To change the account information, you must be logged into your Samsung Account.

1. Navigate to **Smart Hub > Samsung Account** and select **Edit profile**.
2. Enter the password and then select **Done**. The edit profile screen appears.

The profile editing screen provides the following features.

- **Changing Profile Image**

If you select **Edit Profile Picture** on the login screen, you can change the profile image.

- **Choosing a Samsung Account Login Method for TV**

Select **Sign-in Method** on the login screen and choose a login method. You can determine how to log into the TV with the saved Samsung Account.

- **Setting Auto Login**

Check the **Sign me in automatically** option if you wish to log into **Smart Hub** automatically.

- **Entering Basic User Information**

You can enter your given name, surname, and date of birth.


- **Receiving e-mail about Samsung services**

You can determine whether to receive e-mail about Samsung services. Containing the latest information.

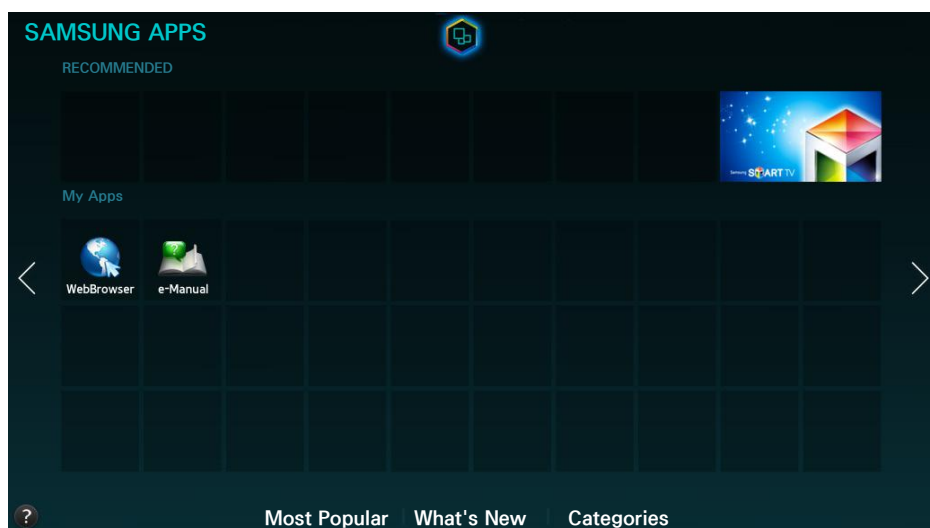
Deleting All Samsung Accounts from the TV

Smart Hub > Samsung Account > Remove Accounts from TV

Navigate to **Smart Hub > Samsung Account** and select **Remove Accounts from TV**. The account and password information saved on the TV is deleted, and the account information of any linked apps are also deleted.

 To delete your account information, you must be signed in with your Samsung Account.

Using SAMSUNG APPS Panel



 Actual menu screen may differ depending on the TV model.

 This service or some of functions of it may be not available in some countries or region.

Smart Hub offers a variety of free news, sports, weather, and gaming contents you can install directly on your TV the same way as you would on a smartphone or tablet.

 Before you use **SAMSUNG APPS**, make sure the TV is connected to the Internet. Your TV must be connected to the Internet in order to use **SAMSUNG APPS**.




 Launching **Smart Hub** for the first time installs the default apps automatically. The default apps may differ depending on the region.

Using Pop-Up Menu Functions




Move the focus to an app and press and hold the Enter button. You can use the following functions:

- **Move**
Relocates the selected app.
- **Delete**
Removes the selected app.
- **Delete Multiple**
Removes multiple apps at once.
- **View Details**
Move to the detailed information of the selected app.
- **Change View**
You can change view mode sort by [Custom view](#) or [Most Played](#).
- **Lock/Unlock**
You can lock or unlock a selected app from the screen.
- **Update apps**
You can update the selected app.




Installing an App

-  When the TV's internal memory is insufficient, you can install an app on a USB device.
-  Only when the USB device is connected are the app icons installed on the USB viewable on the **SAMSUNG APPS** screen. You can use an app installed on a USB device only when the USB device is connected to the TV. If the USB device is disconnected while the app is running, the app is terminated.
-  The app installed on the USB device is not available on a different TV, or a PC.

Quick Installation

1. On the **SAMSUNG APPS** screen, select **Most Popular**, **What's New**, or **Categories**.
 -  The **Most Popular** and **What's New** show the most popular and newest Samsung Apps. To view the entire app list, select **Categories**. You can view all Samsung Apps classified by genre.
2. Move the focus to an app and press and hold the Enter button. A pop-up menu appears.
3. On the pop-up menu on the screen, select **Download**.
 -  While an app is being installed, the progress bar appears at the bottom of the app icon so that you can easily figure out the installation progress.
4. The selected app is installed on the TV.
 -  You can view installed apps on the **SAMSUNG APPS** screen.

Installing an App from the Detailed App Information Screen

1. On the **SAMSUNG APPS** screen, select **Most Popular**, **What's New**, or **Categories**.
 -  The **Most Popular** and **What's New** show the most popular and the newest Samsung apps. To view the entire app list, select **Categories**. You can view all Samsung Apps by category.
2. Select an app from the list. Detailed information about your selection appears on the screen.
3. Select **Download** on the detailed information screen to install the selected app on the TV.
 -  When an app is being installed, a progress bar appears underneath the app icon.
4. When the installation is complete, the **Download** button turns to **Open**.
 -  You can view installed apps on the **SAMSUNG APPS** screen.

Launching an App

Select an app on the **SAMSUNG APPS** screen to launch it.

The icons indicate the following:

-  : The app is installed on a USB device.

Default Apps

e-Manual

The embedded e-Manual contains information.

Web Browser



Web Browser is an Internet browsing app.

 Use a keyboard and mouse for a more convenient web browsing experience.

 The browsing page may differ from that on a PC.

Using Web Browser







Browsing Methods











Web Browser provides two browsing methods:  **Pointer Browsing** and  **Link Browsing**. **Pointer Browsing** enables you to move the pointer for selection while **Link Browsing** allows using the direction arrows to move the focus.

The default browsing method of Web Browser is **Pointer Browsing**. To enable **Link Browsing**, select the **Link Browsing** icon.


Command and Status Bar at a Glance


Open the Web Browser to display the command and status bar at the top of the screen. The following items are available:

-  **Back**
Move to the previous page.
-  **Forward**
Move to the next page.
-  **Bookmarks & History**
Move to the **Bookmarks & History** screen. On this screen, add the current page to Bookmarks, or move, edit, or delete a bookmarked page. Easily access visited pages by navigating the History screen.
-  **Home Page**
Move to the main screen.
- **Address Bar**
Check the address of the current page, or enter a web page address to move to the page.
-  **Refresh** /  **Stop**
Reload the current page or stop reloading the current page.

-  **Add to Bookmark**
Add the current page to Bookmarks.
- **Search**
Make a keyword search using the user-specified search engine.
 To change the search engine, select the  icon and then select a search engine in the **Set Search Engine** menu.
-  **Zoom**
Zoom in or out of the current web page.
-  **PIP**
Use **Web Browser** while watching a TV programme on the same screen.
 Depending on the country and model.
-  **Link Browsing** /  **Pointer Browsing**
Select one from two browsing methods supported by **Web Browser**.
-  **Settings**
Configure the **Web Browser** settings.
-  **Close**
Exit **Web Browser**.
- **New Tab**
Open a new tab.


Browsing Preferences

Select the  item on the screen. Configure the browsing settings to your needs or convenience.

 Some items may not be available depending on the web page. Unavailable items are grayed out.

- **Approved Sites**

To prevent children from accessing inappropriate web pages, limit access to pre-registered web pages.

 You will be asked to enter a password when selecting **Approved Sites**. Enter the password. The default password is 0000.

Approved Sites feature: Enable/disable the **Approved Sites feature**.

Reset password for Approved Sites: Change the password.

Add current site: Add the current web page to **Approved Sites**.

Manage Approved Sites: Enter the address of the web page that you want to add to **Approved Sites**, or select one from the list and delete it.

 Enabling the **Approved Sites feature** with no web page listed will restrict access to any web page.

- **Private browsing on / Private browsing off**

Enable/disable the **Private Browsing** feature. Enabling **Private Browsing** will not save the browsing history.

 When enabling **Private Browsing**, the  icon appears at the start of the address bar.

- **Set Search Engine**

Set the default search engine from the list.

- **Web Browser Settings**

Configure the **Web Browser Settings**, such as browsing behaviors or security.

Set as homepage: Select a web page and set it as the homepage.

Pop-up Block: Block or unblock pop-up windows.

Page Block: Block or unblock pages such as commercial pages. Manage a list of pages to block by entering the address of a web page.

General: Delete browsing history or Internet usage information, or reset **Web Browser**. Set **Security Mode** to **On** to restrict access by malicious codes or phishing sites.

Encoding: Set the **Auto select** to **On**, or select an encoding method from the list.

Pointer: Adjust the pointer speed in **Pointer Browsing** mode, or change the link access method.

Browser Information: Check the current version of **Web Browser**.

- **Help**

This will familiarise yourself with the basics of **Web Browser**.

Rearranging Apps on the SAMSUNG APPS Screen

1. On the **SAMSUNG APPS** screen, move to the app you wish to change the order.
2. Press and hold the Enter button. A pop-up menu appears.
3. On the pop-up menu, select **Move**.
4. Move an app to a desired location and select the app again.

Removing an App from the TV

 Note that if an app is removed, the data related to the app is also deleted.

Removing an App

1. On the **SAMSUNG APPS** screen, move to the app you wish to remove.
2. Press and hold the Enter button. A pop-up menu appears.
3. On the pop-up menu on the screen, select **Delete**. A removal confirmation window appears. Select **Yes**. The selected app is removed.

Removing Multiple Apps

1. On the **SAMSUNG APPS** screen, move to the app you wish to remove.
2. Press and hold the Enter button. A pop-up menu appears.
3. On the pop-up menu on the screen, select **Delete Multiple**. A check box appears on the app icons.
4. Select all the apps you wish to remove and then select **Delete**. A removal confirmation window appears. Select **Yes**. Selected apps are removed.

Rating/Reviewing an App

On the detailed app information screen, you can rate the app or send a review to the app developer.

 To rate or review an app, you must log into your Samsung Account. You can only rate or review with a TV purchasing apps and games.

Updating an App

1. On the **SAMSUNG APPS** screen, move to the app you wish to update.
2. Press and hold the Enter button. A pop-up menu appears.
3. On the pop-up menu on the screen, select **Update apps**. A pop-up window appears.
4. Select all the apps you wish to update and then select **Update**. All the selected apps are updated to the latest versions.

Setting Auto App Update

Smart Hub > Apps Settings

To update apps automatically, navigate to **Smart Hub > Apps Settings** and set **Auto update** to **On**. The apps installed on the TV are automatically updated as updates become available.

SAMSUNG APPS Features

Smart Hub > Apps Settings [Try Now](#)

You can configure the features related to the apps installed on your TV.

Setting Push Notification

Push notification function enables apps installed on the TV to send alerts and messages to the user.

1. Navigate to **Smart Hub > Apps Settings > Push Notification Settings** and set the **Push Notification** to **On**.
2. Set the **Push Notification** setting of apps you wish to receive push notifications from to **On**. Push notification function of the selected apps is activated.

 The **Push Notification** app list only shows installed apps that support **Push Notification Settings**.


Using an App while Watching TV

If an app linked to a channel is installed on the TV, you can view programme information and use related services offered by the app while watching TV.

Navigate to **Smart Hub > Apps Settings** and set **Channel-Bound Apps** to **On**.




 This feature is only available with apps supporting **Channel-Bound Apps** installed on the TV.

Using SyncPlus while Watching TV




 Availability depends on the specific model and area.

SyncPlus is a broadcast-based advertisement and content linking service that lets viewers quickly and easily access additional information about the programme or advertisement playing on the TV.

Playing Photos, Videos, and Music (MULTIMEDIA)

-  Availability depends on the specific model.
-  You cannot play media content if the content or the storage device are not supported by the TV. For more information, refer to "Read Before Playing Photo, Video, or Music Files".
-  Backup important files before connecting a USB device. Samsung shall not be held responsible for damaged or lost files.

Playing Media Contents from a USB Device

1. The USB devices connected to the TV are listed.
2. Select the device you wish to access. Folders and files of the selected USB device are listed.
3. Select the media content you wish to play. This plays the selected content.
 -  Alternatively, move to the media content to play and press the ► button to play the content.
 -  If you connect a USB device to the TV while watching the TV, a pop-up window appears on the screen so that you can easily navigate the folders and files of the USB device.
 -  Alternatively, if you select a USB device on the **Source** screen, a pop-up window appears on the screen so that you can easily navigate the folders and files of the USB device.


Safely Removing a USB Device

1. Press the **SOURCE** button. The Source screen appears.
2. Navigate the USB device you wish to remove, and press and hold the Enter button. An options window appears.
3. Select **Disconnect USB Device** from the list.


Playing Multimedia Content Saved in a Computer/Mobile Device

Allowing Connection with a Computer/Mobile Device

To play multimedia content in a computer or mobile device on the TV, you need to allow the connection with the computer on the TV.


 You can connect to a computer or mobile device on any DMC device. This function enables users to connect a mobile device to the TV, search for multimedia content and control play operations on the TV.


1. Navigate to **Network > Multimedia Device Settings**. Devices connected to the TV are listed. **Try Now**
2. Allow connection with the desired device you wish to connect to the TV. You can only play media files from devices that have been allowed to connect to the TV.

 If a computer or mobile device requests the multimedia content play, the connection allowance confirmation window appears on the TV so that you can easily connect the computer or mobile device.

When Connected through Home Network

 To connect a computer through home network, refer to "Connecting to a Computer" section.

 To connect a mobile device through home network, refer to the "Connecting with a Mobile Device" section.

 However, the content shared by a computer of a mobile device may not play depending on the encoding type and file format of the content. In addition, some functions may not be available.

 The multimedia content may not smoothly play depending on the network status. If this is the case, use a USB storage device.

1. Navigate to **Network > Multimedia Device Settings**. Devices connected to the TV are listed.
2. Select a device connected via the home network. Folders and files shared by the selected device will be listed.
3. Select a media content you wish to play from the list. This plays the selected content.

 Alternatively, move to the media content and press ► to play.

Buttons and Functions Available while Viewing Photos

Press Enter to access the following buttons. Pressing **RETURN** hides the playback buttons.





- **Pause / Play**

Start or stop the slide show. The slide show feature displays all the photos contained in the selected folder, one photo at a time.

- **Previous / Next**

View the previous/next photo in the queue.

- **Settings**

Function	Description
Slideshow Settings	Speed: Set the slide show speed. Effects: Apply transition effects to the slide show.
Rotate	Rotate the photo.
Zoom	Zoom in by up to a factor of 4.
Picture Mode	Change Picture Mode.
Background Music	Listen to background music while viewing photos.  The music file must be located on the same device as the photo files.  A mini player appears on the screen when background music is played. Use the mini player to pause the music or play a different music file.
Sound Mode	Change Sound Mode.  This option is supported only when background music is playing.
Select Speakers	Choose speakers for the background music.
Send	This function is the same as the "Copy" function of a computer. Use this function to send the current photo to another storage device.  For information on storage devices supported by this feature, refer to "Storage Device File Transfers".
Information	View detailed information about the current photo.

Buttons and Functions Available while Watching Video

Press Enter to access the following buttons. Pressing **RETURN** hides the playback buttons.

- **Pause / Play**

Pause or play the video.

When the video is paused, you can use the following functions. However, audio will not be heard while the video is paused.

- **Step:** Press **⏮** to scan the paused video one frame at a time.
- **Slow Motion:** Select the **⏪** button to play the video at reduced speed (1/8, 1/4, 1/2).

- **Rewind / Fast Forward**

Rewind or fast forward the video. Repeatedly select the button to make the rewind/fast forward speed faster by up to 3 times. To restore normal playback speed, select **▶**.

- **Previous / Next**

Select **⏮** twice to play the previous video. Selecting **⏮** once reloads the current video from the beginning.

To play the next video, select the **⏭** button.

- **Settings**

Function	Description
Select Scene	<p>Chapter Titles: Select and play another video in the same folder.</p> <p>Time Bar: You can use the ◀, ▶ buttons to scan through the video in 10 seconds intervals or enter a specific time value to jump to that point in the video.</p>
Subtitle	<p>Control the subtitle of the video.</p> <p>Language: Turn the subtitles on or off.</p> <p>Sync: When the video and the subtitles are not synchronised, you can adjust the synchronization.</p> <p>Reset Sync: Reset the subtitle synchronization adjustment to 0.</p> <p>Size: Choose the font size for the subtitles.</p> <p>Encoding: If the subtitles are broken, you can change the encoding language.</p>
Repeat	<p>Set the repeat mode. Repeat One repeats the current programme only. Repeat All repeats all programmes contained in the folder.</p>
Picture Size	<p>Change the picture size. However, the supported picture size is determined by the video content.</p>
Picture Mode	<p>Change the Picture Mode setting.</p>
Sound Mode	<p>Change the Sound Mode setting.</p>
Select Speakers	<p>Choose a speaker to play the audio.</p>
Audio Language	<p>Choose a desired audio language. This option works only when the video supports multi-track sound.</p>
Information	<p>View detailed information about the video.</p>

Buttons and Functions Available while Playing Music

Press Enter to access the following buttons. Pressing **RETURN** hides the playback buttons.

- **Pause / Play**

Pause or resume the music.

- **Rewind / Fast Forward**

Rewind or fast forward the music.

- **Previous / Next**

Select **⏮** twice to play the previous music file. Selecting **⏮** once reloads the current music file from the beginning.

To play the next music file, select the **⏭** button.

- **Repeat**

Set the repeat mode. **Repeat One** repeats the current music file only. **Repeat All** repeats all music files contained in the folder.

- **Shuffle**

Play the music files in order or randomly.

- **Select Speakers**

Choose a speaker to play the audio.

- **Sound Mode**

Change the Sound Mode setting.

Functions on the Media Content List Screen







The media content screen for the selected storage device includes the following functions.

- **Filter**

Use this option to filter the list to see only the photo, video, or music files contained in the storage device.

- **Options**

 This function is not available when **Filter** is set to **All**.

Function	Description
Slide Show	Start the slide show.  This option is available for photo files.
Play Selected	Play only the selected contents.
Send	This function is the same as the "Copy" function of a computer. Use this function to send the media content to another storage device.  For information on storage devices supported by this feature, refer to "Storage Device File Transfers".
Encoding	If the media content's title is being displayed incorrectly, you can change the encoding method.  This function is available only for music files.
Rename Playlist	Rename your playlist.  This function is available only when the media content is music.
Delete Playlist	Delete a playlist that you have created.  This function is available only for music files.
Add to Playlist	Add a file to an existing playlist or create a new playlist.  This function is available only for music files.

Digital Broadcast Information at a Glance

Broadcasting > Guide

 Availability depends on the specific model and area.

The Guide provides an overview of each digital channel's programme lineup. You can check the programme schedules and set up a [Schedule Viewing](#).

Press **GUIDE** to launch the guide.

 The information in the [Guide](#) is for digital channels only. Analogue channels are not supported.

Using the Guide

Move to the programme schedule and then press and hold the Enter button. The following options are available:

- **Changing the Channel List**

If you select [Channel Filter](#), you can change the channels displayed in the channel lists.

- **Navigating the Programme Schedule**

Press to the [◀, ▶](#) button to navigate the programme schedule by 24 hours. You can only view the future programme schedule.

It is available for moving the page using the [^, v](#) button.

- **Moving to the Schedule Manager**

You can move to the [Schedule Manager](#) screen.

- **Adding Favourites**

Click [Edit Favourite Channels](#) to add the selected programme to the Favourites.



- **Viewing Detailed Information**

View detailed information about the selected programme. The programme information may vary depending on the type of incoming signal and may not be available at all for certain programmes.

- Select a current programme on another channel and select [View Details](#) to [Watch](#).
- Select an upcoming programme and select [View Details](#) for [Schedule Viewing](#).

Checking the Current Programme Info

While watching TV, select **INFO** to view information about the current programme.

-  In order to view the programme info, you must first set the TV's clock. Set the **Clock** (**System** > **Time** > **Clock**).
-  The programme information may vary depending on the type of incoming signal and may not be available at all for certain programmes.

In addition, select right button to view information about the next programme, and press enter, to set up a **Schedule Viewing** for the upcoming programme.

Change the Broadcast Signal

Broadcasting > **Aerial** [Try Now](#)



Depending on the country and model.

Choose your preferred method of receiving digital broadcasts.


Digital Signal Info and Strength


Support > **Self Diagnosis** > **Signal Information** [Try Now](#)

Select **Support** > **Self Diagnosis** > **Signal Information**. Displays the digital channel's signal information and strength.

-  If your TV is attached to a separate, over-the-aerial antenna, you can use the signal strength information to adjust the antenna for increased signal strength and improved HD channel reception.
-  This is only available for digital channels.

Setting Up a Schedule Viewing

Configure the TV to show a specific channel or programme at a specific time and date. The  icon appears next to programmes that have been configured for a **Schedule Viewing**.

 To set up a **Schedule Viewing**, you must first set the TV's clock. Go to **Clock** (**System** > **Time** > **Clock**).

Setting Up Schedule Viewing

Digital Channel Schedule Viewing

You can set up **Schedule Viewing** for programmes on digital channels on the following screens:

- **The Guide Screen**

Select an upcoming programme from the **Guide** to set up a **Schedule Viewing** for it.

- **The Programme Info Screen**

Select **INFO** to display information about the current programme. From the programme information screen, select right button to view information about the next programme, and press enter, to set up a **Schedule Viewing** for the upcoming programme.

Analogue Channel Schedule Viewing

Broadcasting > **Schedule Manager** 

The **Schedule Viewing** function for programmes on analogue channels can be set up by specifying the time and date.

1. Select **Broadcasting** > **Schedule Manager**.
2. Select **Schedule** from the **Schedule Manager** to bring up a pop-up menu. Select **Schedule Viewing**.
3. Specify the **Channel**, **Repeat**, and **Start Time** options for the programme you want to watch and then select **OK** to finish.

Managing the Schedule Viewing List

Broadcasting > Schedule Manager

You can change the settings of **Schedule Viewing** sessions or cancel scheduled sessions altogether.

Deleting Schedule Viewing Sessions

You can delete **Schedule Viewing** sessions.

1. Select **Broadcasting > Schedule Manager**.
2. Select a session from the **Schedule Manager**. A pop-up window appears.
3. Select **Delete**. This cancels the selected viewing session.

Editing Schedule Viewing Sessions




1. You can change the settings of **Schedule Viewing** sessions. Select **Broadcasting > Schedule Manager**.
2. Select a session from the **Schedule Manager**. A pop-up window appears.
3. Select **Edit** and change the settings of the selected session.
4. Once finished, select **OK**. This applies the changes you made to the selected viewing session.

Using the Channel List

Broadcasting > Channel List [Try Now](#)


Launch the **Channel List** while watching TV to change channels or to see what's on other channels. Select a channel from the **Channel List** to jump to it right away. To quickly scroll through the list, use the channel up/down buttons. This moves the focus one page at a time.

The **Channel List** screen contains the following icons:


-  : An analogue channel
-  : A favourites channel
-  : A locked channel

- **Using Options**

Press  button to select **Options**. The following options are available:

Function	Description
Aerial	Choose between Terrestrial , Cable , and Satellite .  Availability depends on the specific model and area.
Category	If you select a Category , its channels appear in the list among the TV's channels.
Sorting	Sort the list by Channel Number or by Name . (Digital channels only)
Edit Favourites	Designate favourites channels.




- **Changing to Favourites**

Press  button to select **Favourites 1** through **Favourites 5**. This shows the selected list's channels. However, a Favourites list can only be selected if it contains at least one favourites channel. If you haven't created a Favourites list yet, you need to create one first.

Registering, Removing, and Editing Channels

[Broadcasting](#) > [Edit Channel](#) [Try Now](#)

Remove channels from the index of channel restore removed channels, and rename analogue channels. The [Edit Channel](#) screen icons indicate the following:

-  : An analogue channel
-  : A favourites channel
-  : A locked channel

Registering and Removing Channels

[Broadcasting](#) > [Edit Channel](#)

Removing Registered Channels

Remove registered channels from the index.

1. Select the channels you want to remove. Unselect channels by choosing them again. To select all the channels, select [Options](#) from the bottom of the screen and then select [Select All](#) from the list.
2. Once you have made your selection, select [Delete](#) from the bottom of the screen to remove the selected channels.

Editing Registered Channels

Broadcasting > Edit Channel

Select **Options** at the bottom of the screen to access the following options. However, the available options may vary depending on the broadcast signal.

- **Select All / Deselect All**

Selects or deselects all channels displayed on the **Edit Channel** screen.

- **Sorting**

(Digital channels only)

Change the list ordered by Channel **Name** or **Number**.

- **Aerial**

Choose between **Terrestrial**, **Cable** or **Satellite**.

 Availability depends on the specific model and area.

- **Category**

If you select a **Category**, its channels appear in the list among the TV's channels.

- **Edit Favourites**

Organise favourites lists to find favourite channels and switch between channels more easily.

- **Rename channel**

Rename Analogue Channels. The new name can be up to 5 characters long.

- **Channel Info**

Check the information of the channel.

- **Information**

View detailed information about the current programme.

Enabling/Disabling Password Protection on Channels

Broadcasting > Edit Channel

You can lock channels you don't want your children to view.

 To enable password protection, set **Channel Lock** to **On**. First, navigate to **Broadcasting > Channel Lock** and set it to **On**. [Try Now](#)

Changing Numbers

Change the number of the channels in edit channels List. Select channels from the **Edit Channel** screen and then select **Change Number** at the bottom of the screen.

Locking/Unlocking Channels

Select channels from the **Edit Channel** screen and then select **Lock** or **Unlock** at the bottom of the screen. When the password entry window appears, enter the password. This locks or unlocks the selected channels.

Edit Channel Number


 Availability depends on the specific model and area.

Broadcasting > Edit Channel Number

Use this to change channel number. When channel number is changed, channel information is not updated automatically.

Creating a Personal Favourites List

[Broadcasting](#) > [Edit Favourites](#) [Try Now](#)

You can designate frequently watched channels as favourites. Favourites channels are highlighted in the [Edit Channel](#) and [Channel List](#) screens with the  symbol. You can create up to 5 favourites channel lists.

Registering a Channel as Favourites

[Broadcasting](#) > [Edit Favourites](#)

Registering the Current Channel as a Favourites

Add the current channel to a Favourites list.

1. Select **TOOLS** while watching TV to display a list of options. Select [Edit Favourites](#) from the list.
2. From the pop-up window, select all the Favourites lists you want to add the current channel to and then select **OK**.
3. This adds the current channel to the selected Favourites list(s). Select **OK**.

Registering Multiple Channels as Favourites

It's possible to register multiple channels as favourites at the same time.

1. Select [Broadcasting](#) > [Edit Favourites](#).
2. Select **Category** from the bottom of the screen to change the channel list to the one containing that channels you want to register.
3. Select the channels from the list in the middle of the screen.
4. Select **Change Fav.** and then change the **Favourites 1** to the **Favourites 5** you want to use.
5. Select **Add**.

Viewing Favourites List Channels Only

It's possible to flip through Favourites list channels using only the channel up/down buttons.

 A Favourites list can only be selected if it contains at least one favourites channel.

1. Run **Channel List**. (**Broadcasting** > **Channel List**).
2. Press **▶** button to select **Favourites 1** through **Favourites 5**.
3. Choose a channel from the selected Favourites list. This changes the channels and **Channel List** changes to the selected Favourites channel.

Editing a Favourites List

Broadcasting > **Edit Favourites**


You can rename and edit Favourites lists.

Edit Favourites Features

Select **Options** from the bottom of the **Edit Favourites** screen to access the following options:

- **Copy to Favourites**

Copy channels from one favourites channels list to another.

 This can only be used when the focus has selected a channel registered to a Favourites list.

- **Rename Favourites**

Rename an existing favourites channels list.

 This can only be used when the focus has selected a channel registered to a Favourites list.

- **Sorting**

Change the list ordered by Channel **Name** or **Number**. This function is not available on analogue channel.

- **Aerial**

Choose between **Terrestrial**, **Cable** or **Satellite**.

 Availability depends on the specific model and area.

- **Edit Channel**

You can manage the channels saved on the TV.

- **Information**

View detailed information about the current programme.

Removing Registered Channels from a Favourites List

Remove channels from a favourites channels list.

1. Select **Change Fav.** at the bottom of the screen and then change the Favourites list to the Favourites list you want to use.
2. Select the channels you want to remove from the selected Favourites list.
3. Select **Delete**.

Rearranging a Favourites List

Rearrange the order of the channels in a Favourites Channels List.

1. Select **Change Fav.** at the bottom of the screen and then change the Favourites list to the Favourites list you want to use.
2. From the selected Favourites list, select the channels you want to rearrange.
3. Select **Change order** from the bottom of the screen and then rearrange the selected channels. Press enter to finish.

Renaming a Favourites List


Rename an existing favourites channels list.

1. Select **Change Fav.** at the bottom of the screen and then change the Favourites list to the Favourites list you want to use.
2. Select **Options**. A list appears.
3. Select **Rename Favourites** from the list. A pop-up window appears. Rename the list in the pop-up window. The new name can be up to 20 characters long.

Copying a Favourites List to a Different Favourites List

Copy channels from one favourites channels list to another.

1. Select **Change Fav.** and then change the Favourites list on the side of the screen to the Favourites list you want to use.
2. From the Favourites list displayed on the side of the screen, select all the channels you want to copy.
3. Select **Options**. A list appears.
4. Select **Copy to Favourites** from the list. A pop-up window appears.
5. From the pop-up window that appears on the screen, select the Favourites lists you want to copy the selected channels to. This copies the selected channels to the selected Favourites lists.

 **Copy to Favourites** is only available when there are channels in the Favourites list.

Watching a Sports Game Realistically (Sports Mode)

System > Sports Mode [Try Now](#)

Sports Mode enables optimal picture and sound settings for sports events, making them appear and sound as if you were actually there.


 Whether **Soccer Mode** or **Sports Mode** is displayed depends on the area.

Enabling Sports Mode

System > Sports Mode

Select **System** > **Sports Mode** and then set **Sports Mode** to **On**. Picture and sound settings of the TV are automatically optimised for sports events.

 Enabling **Sports Mode** changes the **Picture Mode** to **Stadium** and the **Sound Mode** to **Stadium**, and disables some **Picture** and **Sound** menus.

 Press **SPORTS** while watching TV to activate/deactivate **Sports Mode**. If **SPORTS** is not available, then use **Tools** to activate/deactivate **Sports Mode**.

Functions Available in Sports Mode

Press enter. The following buttons will appear.

- **Zoom**

You can pause the current video and zoom in on one of 9 different sections of the screen. Pan the zoomed-in image using **▲**, **▼**, **◀**, **▶** buttons.

 You cannot use this function when **PIP** is active.

- **Information**

Displays detailed information about the current programme.

TV-Viewing Support Features

Showing Subtitles

[System](#) > [Accessibility](#) > [Subtitle](#) [Try Now](#)

Show subtitles. Subtitles will be displayed when watching a broadcast that supports subtitles. Switches subtitles **On** or **Off**.


 DVD subtitles are only available if the DVD player is connected to an external input connector.

- **Subtitle Mode**

Set the subtitle mode.

- **Subtitle Language**

Set the subtitle language.

 The TV cannot control or modify DVD or Blu-ray subtitles. To control DVD or Blu-ray subtitles, use the subtitle feature of the DVD or Blu-ray player and the player's remote control.

Subtitle Options

[System](#) > [Accessibility](#) > [Subtitle](#)

Select a subtitle mode. The list of modes may vary depending on the broadcast.

- **Primary Subtitle**

Set the primary subtitle language.

- **Secondary Subtitle**

Set the secondary subtitle language.

Changing Teletext Language

[Broadcasting](#) > [Channel Settings](#) > [Teletext Language](#)

 Availability depends on the specific model and area.

Use this to set the teletext language.

- **Primary Teletext**

Set the primary teletext language.

- **Secondary Teletext**



Set the secondary teletext language.

PIP Broadcast Viewing

Picture > PIP [Try Now](#)

Use the **PIP** (Picture-In-Picture) function to watch TV in a small window while also watching images from an external source such as a DVD player, a Blu-ray player, or a computer in the background.

Select **Picture** > **PIP** to display the PIP settings window. This settings window contains the following options:

- **PIP**
Activates/deactivates **PIP**.
- **Source**
Selects the **PIP** sub-picture source.
 Availability depends on the specific model and area.
- **Aerial**
Select the **PIP** sub-picture broadcast signal.
 Depending on the country and model.
- **Channel**
Select the **PIP** sub-picture channel.
- **Size**
Select the **PIP** sub-picture size.
- **Position**
Select the **PIP** sub-picture position.
- **Sound Select**
Select the audio source.


PIP restrictions:

- PIP cannot be used while **Smart Hub** is active.
- Turning off the TV automatically disables PIP.
- Playing a game or using the karaoke feature on the main screen can result in lower PIP picture quality.
- For PIP to work, the main screen's source must be Component or HDMI and the input resolution must be less than Full HD (FHD - 1080p). The sub screen supports digital channels, analogue channels, and AV only. However, analogue channels, AV may not be supported depending on the country or model.


Scanning for Available Channels

Broadcasting > **Auto Tuning** [Try Now](#)

Automatically scans and indexes all channels received through the TV's antenna input connector.

 If there are saved channels, this feature deletes the existing list and then saves the newly scanned channels.

If the TV is connected to a cable box or satellite receiver, you do not need to do this.

1. Select **Broadcasting** > **Auto Tuning**.
 2. Select **Start** when prompted. This initiates the Auto Programme function. The process can take up to 30 minutes to complete.
- **Auto Tuning**
Scans for channels automatically and stores them in the TV's memory.
 - **Cable Search Option** (when the aerial was set to **Cable**)
Sets additional search options such as the frequency and symbol rate for a cable network search.
 Availability depends on the specific model and area.
 - **Standby Auto Tuning** (Depending on the country and model): Auto-tune channels while your TV is in standby mode.
 - **Alarm** (Depending on the country and model): Schedule timer to turn the TV on and scan channels automatically.

Selecting the Broadcast Audio Options

Broadcasting > Audio Options [Try Now](#)

- **Audio Language**

(Digital channels only)

Change the default value for audio languages.

Primary Audio: Set the primary audio language.

Secondary Audio: Set the secondary audio language.



The available language may differ depending on the broadcast.

- **Audio Format**

(Digital channels only)

Change a desired audio format. The supported audio format may vary depending on the broadcast programme.

Audio Description

System > Accessibility > Audio Description

(Not available in all locations) (Digital channels only)

This function handles the Audio Stream for the AD (Audio Description) which is sent along with the Main audio from the broadcaster.



Audio Description: Turn the audio description function on or off.



Volume: Adjust the audio description volume.


Using the Channel Settings

[Broadcasting](#) > [Channel Settings](#)

Country (or Area)

[Broadcasting](#) > [Channel Settings](#) > [Country \(or Area\)](#)

Select your country so that the TV can correctly auto-tune the broadcasting channels.

 Availability depends on the specific area.

When the PIN input screen appears, enter your 4 digit PIN number.

Manual Tuning


[Broadcasting](#) > [Channel Settings](#) > [Manual Tuning](#) [Try Now](#)

Scans for a channel manually and stores in the TV.

If a channel is locked using the Channel Lock function, the PIN input window appears.

 Availability depends on the specific area.

When Aerial Source is set to Terrestrial or Cable

 Availability depends on the specific model and area.

- **Digital Channel Tuning**

Scans for a digital channel.

1. Select the **New**.

 When selecting **Aerial** → **Terrestrial: Channel, Frequency, Bandwidth**

- The **Bandwidth** function may not be supported depending on the region.

 When selecting **Aerial** → **Cable: Frequency, Modulation, Symbol Rate**

 Availability depends on the specific model and area.

2. Select the **Search**. When scanning has finished, a channel is updated in the channel list.

- **Analogue Channel Tuning**

Scans for an analogue channel.

1. Select the **New**.

2. Set the **Programme, Colour System, Sound System, Channel** and **Search**.

3. Select the **Store**. When scanning has finished, a channel is updated in the channel list.

Channel mode

- **P** (programme mode)


When tuning is complete, the broadcasting stations in your area have been assigned to position numbers from P0 to P99. You can select a channel by entering the position number in this mode.

- **C** (aerial channel mode) / **S** (cable channel mode)

These two modes allow you to select a channel by entering the assigned number for each aerial broadcasting station or cable channel.

Fine-Tuning the Screen

[Broadcasting](#) > [Channel Settings](#) > [Fine Tune](#) [Try Now](#)

 Available for analogue broadcasts only.

Analogue pictures can become shaky and full of noise. If this happens, you can fine-tune the signal and/or reduce noise to clear up the picture.

1. Select [Channel Settings](#) > [Fine Tune](#). An adjustment bar appears on the screen.
2. Press the ◀ or ▶ button to make adjustments. Select [Save](#) or [Close](#) to apply the new setting. Select [Reset](#) to reset the Fine-Tune operation.

Transfer Channel List

[Broadcasting](#) > [Channel Settings](#) > [Transfer Channel List](#)

Imports or exports the channel map. When the PIN input screen appears, enter the PIN.

 Availability depends on the specific model and area.

You should connect a USB storage device to use this function.

- [Import from USB](#): Import channel list from USB.
- [Export to USB](#): Export channel list to USB. This function is available when USB is connected.

Satellite System

 Availability depends on the specific model and area.

[Broadcasting](#) > [Channel Settings](#) > [Satellite System](#)

A set of satellite dish settings must be configured for each wanted satellite before performing a channel scan.

[Satellite System](#) is available when [Aerial](#) is set to [Satellite](#). When the PIN input screen appears, enter the PIN.

- [Satellite Selection](#): You can choose the satellites for this TV.
- [LNB Power](#): Enables or disables the power supply for the LNB.
- [LNB Settings](#): Configures the outdoor equipment.

[Satellite](#): Selects the satellite for receiving digital broadcasts.

[Transponder](#): Selects a transponder from the list or adds a new transponder.

[DiSEqC Mode](#): Selects DiSEqC mode for the selected LNB.

[Lower LNB Oscillators](#): Sets the LNB oscillators to a lower frequency.

[Upper LNB Oscillators](#): Sets the LNB oscillators to a higher frequency.

[Tone 22 kHz](#): Selects the Tone 22 kHz depending on the LNB type. For a universal LNB it should be [Auto](#).

- **Positioner Settings:** Configures the aerial positioner.

Positioner: Enables or disables the positioned control.

Positioner Type: Sets the positioned type between DiSEqC 1,2 and USALS (Universal Satellite Automatic Location System).

- **My Longitude:** Sets the longitude for my location.
- **My Latitude:** Sets the latitude for my location.
- **Satellite Longitude Settings:** Sets the longitude of user defined satellites.

User Mode: Sets the position of satellite aerial according to each satellite.

If you store the current position of satellite aerial according to a certain satellite, when the signal of that satellite is needed, the satellite aerial can be moved to pre-populated position.

- **Satellite:** Selects the satellite to set the position for.
- **Transponder:** Selects a transponder from the list for signal reception.
- **Moving Mode:** Selects the movement mode between discrete and continuous movement.
- **Step Size:** Adjusts the step size degrees for the aerial rotation, Step Size is available when Moving Mode is set to Step.
- **Go To Stored Position:** Rotates the aerial to the stored satellite position.
- **Aerial Position:** Adjusts and stores the aerial position for the selected satellite.
- **Store Current Position:** Stores current position as the selected positioner limit.

Installer Mode: Sets limits to the scope of movement of satellite aerial or reset the position. Generally, installation guide uses this function.

- **Limit Position:** Selects the direction of the positioner Limit.
 - **Aerial Position:** Adjusts and stores the aerial position for the selected satellite.
 - **Store Current Position:** Stores the current position as the selected positioner Limit.
 - **Go to zero:** Moves the aerial to the reference position.
 - **Reset positioner limit:** Allows the aerial to rotate over the full arc.
- **Reset all settings:** All satellite settings will be reset to the initial values.

Changing the Picture Mode and Adjusting the Picture Quality

Choosing the Right Picture Mode for the Viewing Environment

Picture > Picture Mode [Try Now](#)

The following picture modes utilise different contrast and brightness settings to provide the best viewing experience for the environment.

 When a PC is connected to the TV, **Standard** and **Entertain** modes are only available.

- **Dynamic**

If the ambient lighting is too bright and makes the screen blurry, use this mode to make the picture clearer.

- **Standard**

This is the default mode suitable for most environments.

- **Natural**

This mode is useful for reducing eye strain.


 Availability depends on the specific model and area.

- **Movie**

Appropriate for darkened rooms, for watching movies, and when experiencing eye fatigue. Darkens the screen and reduces glare.


- **Entertain**

Sharpens images for a more dynamic viewing experience.

 When a PC is connected to the TV, **Entertain** mode is available. If **Entertain** mode is not available, set **Edit Name** to **DVI PC** or **PC**.

- **Stadium**

Setting **Sports Mode** (**System** → **Sports Mode**) to **On** automatically configures **Picture Mode** to **Stadium** for a more realistic viewing experience.


 **Stadium** cannot be selected by the user.

 Whether **Soccer Mode** or **Sports Mode** is displayed depends on the area.

Adjusting the Picture Quality for Each Picture Mode

Picture > **Backlight**, **Contrast**, **Brightness**, **Sharpness**, **Colour** or **Tint (G/R)**

Select one of the settings to display its slide bar. Change the adjustment value using ◀, ▶. Change the item using ▲, ▼. Adjusted values are applied to the current source and picture mode.

 The **Colour** and **Tint (G/R)** settings cannot be adjusted when the TV is connected to a computer via an HDMI to DVI cable.

Choose a **Picture Mode** and then adjust the settings.

- **Backlight** [Try Now](#)

Adjusts the brightness of individual pixels. Decreasing the brightness reduces power consumption.

- **Contrast** [Try Now](#)

Adjusts the screen contrast.

- **Brightness** [Try Now](#)

Adjusts the overall brightness.

- **Sharpness** [Try Now](#)


Sharpens or dulls the edges of objects.

- **Colour** [Try Now](#)

Adjusts the overall colour saturation.

- **Tint (G/R)** [Try Now](#)

Adjusts the ratio of green to red. Increase the green value to saturate the greens and the red value to saturate the reds.

 Adjusted values are saved by the TV for the current source and picture mode, and remain in effect each time the source and picture mode are selected. Consequently, the TV can have different picture settings for each external source.

 In analogue **TV**, **AV** modes of the PAL system, the **Tint (G/R)** function is not available.

Applying the Current Picture Settings to Other Input Sources

Picture > **Apply Picture Mode** [Try Now](#)



You can apply the picture quality setting that you configured for the TV to all external devices connected to the TV or to the current source only.

To apply the setting to all external devices connected to the TV, select **All Sources**. To apply the setting to the current input only, select **Current Source**.


Fine-Tuning Each Picture Mode (Advanced Settings)

[Picture](#) > [Advanced Settings](#) [Try Now](#)

Select [Picture](#) > [Advanced Settings](#) to fine-tune how images are displayed on the TV screen for each **Picture Mode**.

-  **Advanced Settings** is only available when the **Picture Mode** is set to **Standard** or **Movie**.
-  When the TV is connected to a computer via an HDMI-DVI cable, only **White Balance** and **Gamma** can be adjusted.

Choose a **Picture Mode** and then adjust the settings.

- **Dynamic Contrast** [Try Now](#)
Automatically adjusts the screen contrast. Use this option to achieve the optimal contrast setting.
- **Black Tone** [Try Now](#)
Adjusts the black colour depth.
- **Flesh Tone** [Try Now](#)
Darkens or lightens skin tones.
- **RGB Only Mode** [Try Now](#)
Adjusts the red, green, and blue levels individually.
- **Colour Space** [Try Now](#)
Adjusts the range of colours that can be displayed on screen. **Auto** automatically adjusts the colour space depending on the input signal. **Native** applies a range that is wider than the input signal. **Custom** allows you to adjust the colour space manually.
 The availability of **Custom** depends on the specific model and area.


- **White Balance** [Try Now](#)

Adjusts the colour temperature of the picture to make white objects look white, and the overall picture appear natural.

 Availability depends on the specific model and area.

2 Point: Adjusts each of the 3 colour's luminosity with the offset menu and the brightness with the gain menu. To restore the default values, select **Reset**.

10 Point: Adjusts the white balance by adjusting the brightness of each of the 10 sections of red, green, and blue colours of the input signal. To choose a section, select a desired section in **Level** field.

 You can use the **10 Point** function only when the **Picture Mode** is set to **Movie**. Some external devices may not support this.

Adjust each colour's luminosity with the offset menu and the brightness with the gain menu. To restore the default values, select **Reset**.

 Availability depends on the specific model and area.

R-Offset / B-Offset / G-Offset: Adjust each colour's (red, green, blue) darkness.

R-Gain / G-Gain / B-Gain: Adjust each colour's (red, green, blue) brightness.

- **Gamma** [Try Now](#)

Adjusts the primary colour intensity.

- **Motion Lighting** [Try Now](#)

Adjusts the brightness in response to on-screen movements to reduce power consumption.

 Adjusting the **Contrast**, **Brightness**, and other picture quality settings deactivates the feature.

Adjusting the Picture for Easier Viewing (Picture Options)

[Picture](#) > [Picture Options](#) [Try Now](#)


Select [Picture](#) > [Picture Options](#) to make additional adjustments for an easier viewing experience.

 When the TV is connected to a computer via an HDMI-DVI cable, only [Colour Tone](#) can be adjusted.

Choose a [Picture Mode](#) and then adjust the settings.

- [Colour Tone](#) [Try Now](#)

Adjusts the colour tone. The setting is applied on an individual [Picture Mode](#) basis. When a [Picture Mode](#) is changed, the corresponding setting will be applied automatically.

 If the [Picture Mode](#) is set to [Dynamic](#), you will only be able to choose [Cool](#) or [Standard](#).

- [Digital Clean View](#) [Try Now](#)


Reduces static and ghosting caused by a weak signal. Selecting [Auto Visualisation](#) displays the signal strength at the bottom the screen. Green indicates the best possible signal.

- [MPEG Noise Filter](#) [Try Now](#)

Reduces MPEG noise and improves video quality.

- [HDMI Black Level](#) [Try Now](#)

Some external devices connected to the TV via an HDMI cable can have issues, such as low black level, low contrast, and dull colours. Use HDMI Black Level to adjust the black level to compensate.

 This is only available when the Input Signal, connected to the TV via an HDMI connector, is set to RGB444.

- **Film Mode** [Try Now](#)


Optimises the picture quality for movies. Select this mode for watching movies.

 This feature is only available when watching TV or when the input signal is AV, Component (480i, 1080i), or HDMI (1080i).

- **LED Clear Motion**

 Availability depends on the specific model and area.

Removes drag from fast scenes with a lot of movement to provide a clear picture.

 When **LED Clear Motion** is **On**, the screen appears darker than when it is **Off**.

 If **LED Clear Motion** is **On** at 60 Hz video signal, the screen may flicker.


Picture Support Functions

Changing the Picture Size and Position

Choosing the Right Screen Size

[Picture](#) > [Picture Size](#) > [Picture Size](#) [Try Now](#)

Most TV programmes and videos are displayed in full screen, but some programmes and videos are larger or smaller. Change the screen size for such programmes and videos so that the picture fits the screen better.

 Supported screen sizes vary depending on the input signal. Refer to the "Picture Sizes and Input Signals" section for more information about supported screen sizes.

- **Auto Wide**

Automatically adjusts the picture size to the 16:9 aspect ratios.

 Availability depends on the specific model and area.

- **16:9**

Set the picture to the 16:9 wide-screen format.

- **Wide Zoom**

Magnifies the picture size more than 4:3. A magnified picture can be moved up and down.

- **Zoom**

Magnifies the 16:9 wide pictures vertically to fit the screen size. A magnified picture can be moved up and down.

 **Zoom** is not available when **Picture Size** set to **Wide Zoom**.

- **4:3**

Sets the picture to basic 4:3 mode.

⚠ Do not leave the TV in 4:3 mode for an extended period. The dark borders displayed on the left and right / top and bottom of the screen may cause image retention. This phenomenon can appear on LED and PDP TVs. (Screen burn - this phenomenon can appear on PDP TVs.) This is not covered by the warranty.

- **Screen Fit**

Displays the full image without any cutoff.

- **Custom**

Magnifies or shrinks 16:9 pictures vertically and/or horizontally. A magnified or shrunk picture can be moved left, right, up, and down.

Adjusting the Screen Position

[Picture](#) > [Picture Size](#) > [Zoom/Position](#) or [Position](#)

Adjusts the screen position.

This option is only available with [Picture Size](#) set to [Wide Zoom](#), [Zoom](#), or [Screen Fit](#). When the TV is tuned to a digital channel, the screen position cannot be adjusted if the [Picture Size](#) is set to [Screen Fit](#).

1. To adjust the screen's position, select [Picture](#) > [Picture Size](#) > [Zoom/Position](#) or [Position](#). A pop-up window appears.
2. Select [Zoom](#) or [Position](#) again from the pop-up window.
3. Adjust the screen. Once done, select [Zoom](#) or [Position](#) and then [Close](#). Select [Reset](#) to reset the screen position.

Adjusting the 4:3 Screen Size

[Picture](#) > [Picture Size](#) > [4:3 Screen Size](#)

Available only when picture size is set to Auto Wide. You can determine the desired picture size at the 4:3 WSS (Wide Screen Service) size or the original size.

 Availability depends on the specific model and area.

 Not available in Component or HDMI mode.

Listening to Audio Only with the Screen Turned Off (Picture Off)

[Picture](#) > [Picture Off](#) [Try Now](#)

The screen is turned off but the sound remains on. Press any button except the power key or volume button to turn on the screen.

Resetting the Picture Mode Settings

[Picture](#) > [Reset Picture](#) [Try Now](#)


Use this option to reset the current [Picture Mode](#) to its factory settings. This does not affect the settings of other Picture Modes.

Changing the Sound Mode and Using Sound Effects

Choosing the Right Sound Mode for the Environment

Sound > Sound Mode [Try Now](#)

Sound modes apply preset adjustments to the sound output, optimised for different viewing and listening circumstances.

 The sound modes cannot be used when you are listening to audio through external speakers.

- **Standard**

This is the normal sound mode.

- **Music**

This mode emphasises normal music instead of voice.

- **Movie**

This mode is calibrated to provide the best sound for movies.

- **Clear Voice**

This mode emphasises voice.

- **Amplify**

This mode increases the overall intensity of high-frequency sounds for a better listening experience. It is designed for hearing-impaired listeners.

- **Stadium**

Setting **Sports Mode** (**System** > **Sports Mode**) to **On** automatically configures **Sound Mode** to **Stadium** for a more realistic viewing experience.

 **Stadium** cannot be selected by the user.

 Whether **Soccer Mode** or **Sports Mode** is displayed depends on the area.

Using Sound Effects

[Sound](#) > [Sound Effect](#) [Try Now](#)

Use sound effects to alter how the TV projects sound.

Restrictions:

- Sound effects can only be used with the [Sound Mode](#) set to [Standard](#).
- Sound effects cannot be used when you are listening to audio through external speakers.

Choose a [Sound Effect](#) and then adjust the settings.

- [DTS TruSurround](#) [Try Now](#)

Produces sound that will make you feel like you are sitting in a movie theatre or concert hall.

- [DTS TruDialog](#) [Try Now](#)

Increases voice intensity to make dialog clearer.

- [Equaliser](#) [Try Now](#)


Lets you adjust the speaker balance and make bandwidth adjustments. Select [Reset](#) to reset the settings.

Sound Support Functions

Selecting Speakers

[Sound](#) > [Speaker Settings](#) > [TV Sound Output](#) [Try Now](#)

This lets you choose which speakers the TV uses for audio output. To listen to the audio through the speakers of a connected receiver or home theatre only, select Receiver or Audio Out. To listen to audio through the TV's speakers and the speakers of a connected AV receiver or home theatre simultaneously, select **TV Speaker**. If this causes an echo effect, choose any speaker option other than **TV Speaker** to mute the TV speakers, or turn off the receiver or home theatre.

 Using external speakers alone disables the volume button and the mute function. In addition, certain **Sound** options will also be disabled.

Designating the TV's Installation Type

[Sound](#) > [Speaker Settings](#) > [TV Installation Type](#)

Specify the TV's installation type. Choose between **Wall Mount** and **Stand** to optimise the TV's sound automatically.

Enabling the Sound (Additional Settings)

[Sound](#) > [Additional Settings](#) [Try Now](#)

Configure additional settings for optimum audio output.

- **DTV Audio Level** [Try Now](#)

(Digital channels only)

The TV cannot freely control the volume of the digital audio that it sends to the AV receiver. Use this to set the digital audio volume at a comfortable level.

 According to the type of broadcast signal, MPEG / HE-AAC can be adjusted between -10dB and 0dB.

 To increase or decrease the volume, adjust between the range 0 and -10 respectively.

- [Audio Format](#), [Audio Delay](#)

(Depending on the country and model)

This Smart TV is SPDIF-enabled. The Sony Philips Digital Interface (SPDIF) provides digital audio output to speakers and various digital devices, including A/V Receivers and home theatres.

[Audio Format](#) [Try Now](#)

(Depending on the country and model)

Selects the Digital Audio output (SPDIF) format. The available Digital Audio output (SPDIF) formats may vary depending on the input source.

[Audio Delay](#) [Try Now](#)

(Depending on the country and model)

This setting helps correct timing mismatches between the audio and video tracks when you are watching TV and listening to audio through a digital audio device. Enabling the feature displays a slide bar that you can use to adjust the delay by up to 250ms.

- [Dolby Digital Comp](#)

 Availability depends on the specific area.

Some digital TV programmes provide 5.1-channel Dolby audio. This TV converts Dolby audio to stereo audio so that it can play the sound through the TV's speakers. There are two methods to choose from. **RF** is for better sound at lower volumes, and **Line** is for higher volumes.

- [Auto Volume](#) [Try Now](#)

When you change channels, video sources, or content, Auto Volume automatically adjusts the TV's volume level so that the volume level remains the same for all sources. For example, if you switch from a streaming video application to a Blu-ray player or a favourite TV channel, Auto Volume can modify the volume up to 12db to equalise the sound.

The Auto Volume function has two settings: **Normal** and **Night**. **Normal** applies a normal level of volume adjustment. **Night** applies a slightly lower volume level and is ideal for late-night TV viewing. If you want to use the volume control of a connected source device to control the sound, deactivate the Auto Volume function. When you use the Auto Volume function with a source device, the device's volume control may not function properly.

Resetting All Sound Settings

[Sound](#) > [Reset Sound](#) [Try Now](#)

Use to reset all sound settings to the factory defaults.

Setting the Time and Using the Timer

Setting the Current Time

[System](#) > [Time](#) > [Clock](#) [Try Now](#)

Set the clock manually or automatically. Once the clock has been set, you can select the **INFO** button to check the current time.

 The clock must be reset every time the power is disconnected.

Setting the Clock using Digital Broadcast Info


[System](#) > [Time](#) > [Clock](#) > [Clock Mode](#) [Try Now](#)


Set **Clock Mode** to **Auto**. The TV automatically downloads the correct time from a digital channel. To enable this option, the TV's Antenna jack must be connected to either an antenna or a cable output and must be receiving digital broadcasts. The accuracy of the time information received may vary depending on the channel and signal. If your TV is connected to a set-top-box or satellite box using HDMI or Component connections, you must set the time manually.

If the Clock is Wrong in Auto Mode

[System](#) > [Time](#) > [Clock](#) > [Time Offset](#) [Try Now](#)

If the time set automatically is incorrect, you can offset the clock in 1-hour increments by as much as +/- 12 hours. Select [System](#) > [Time](#) > [Clock](#) > [Time Offset](#) and offset the clock to the correct time.

 **Time Offset** adjusts the time through network connections and is only available if the **Clock Mode** is set to **Auto** and the TV is connected to the Internet through a local area network.


 **Time Offset** will adjust the time if the TV fails to receive time information through normal digital broadcast signals.

Setting the Clock Manually

Manually enter the time. Set **Clock Mode** to **Manual** and then select **Clock Set** to enter the current time and date.

Clock Set: Set the current **Date** and **Time**.

Time Zone: Select your time zone.

 This function is only available when the **Clock Mode** is set to **Auto**.

 The **Time Zone** function may not be supported depending on the region.

Using the Timers

Using the Sleep Timer

[System](#) > [Time](#) > [Sleep Timer](#) [Try Now](#)

This automatically shuts off the TV after a preconfigured period of time. Select [System](#) > [Time](#) > [Sleep Timer](#). You can set the timer up to 180 minutes in 30-minute increments.

Turning On the TV using On Timer

[System](#) > [Time](#) > [On Timer](#) [Try Now](#)

Set the On Timer so that the TV turns on automatically at a chosen time. Select [System](#) > [Time](#) > [On Timer](#). The timer configuration window appears. Configure the following settings:

 The [On Timer](#) is only available if the [Clock](#) has been set.

- [Setup](#)

Specify the dates and the duration. Use [Manual](#) to specify the days of the week.

- [Time](#)

Set the time that the TV turns on automatically.

- [Volume](#)

Specify the volume when the TV turns on.

- [Source](#)

Select the signal source from the list. Specify the channel or source to be displayed when the TV turns on. To specify a USB device, a USB device must first be connected to the TV. To play media from an HDMI or Component source such as a DVD player or Blu-ray player, the device must already be turned on, and playing the media when the TV is turned on.

- **Aerial**

Set the **Source** to **TV** to select a broadcast signal.

- **Channel**

Set the **Source** to **TV** to select a channel.

- **Music / Photo**

Set the **Source** to **USB** to choose a USB folder that contains music or photo files. Selecting both music and image files plays the music files and displays the images at the same time.

Restrictions:

- This feature will not function properly if the selected USB device does not contain media files or a folder has not been specified.
- The slideshow will not start if there is only one image file on the USB device.
- Folders with long names cannot be selected.
- Always use different folder names for multiple USB devices.
- Use a USB memory stick or multi-card reader. The **On Timer** may not work with certain battery-powered USB devices, MP3 players, or PMPs because the TV may take too long to recognise the device.

Turning Off the TV Using Off Timer

System > **Time** > **Off Timer** [Try Now](#)

Set the Off Timer to turn the TV off automatically at a specific time. Select **System** > **Time** > **Off Timer**. The timer configuration window appears. Configure the following settings:

 The **Off Timer** is only available if the **Clock** has been set.

- **Setup**

Specify the dates and the duration. Use **Manual** to specify the days of the week.

- **Time**

Set the time that the TV turns off automatically.

Using the Screen Burn Protection and Energy Saving Features

Preventing Screen Burn

[System](#) > [Auto Protection Time](#) [Try Now](#)

Still images can leave burned-in after-images on the screen if left for a long time. Use Screen Burn Protection to protect the screen. Select [System](#) > [Auto Protection Time](#) and then choose a time setting from the list. If a still image is shown on the screen for longer than the time you selected, the TV will automatically activate Screen Burn Protection to prevent burned-in after-images that may damage the screen.

Using Energy Saving Features

[System](#) > [Eco Solution](#) [Try Now](#)

Eco Solution adjusts the TV's brightness level and prevents overheating to reduce overall power consumption.

- [Energy Saving](#) [Try Now](#)

Select a brightness setting from the list to reduce the TV's power consumption.

- [Eco Sensor](#) [Try Now](#)

Automatically adjusts the TV's brightness level based on the ambient light level to reduce the TV's power consumption. If the Eco Sensor has adjusted the screen's brightness level, you can manually adjust the screen's minimum brightness level by adjusting the [Min. Backlight](#). Changing the [Picture](#) menu's [Backlight](#) setting while [Eco Sensor](#) is running automatically disables [Eco Sensor](#).

 Availability depends on the area or language.

- [No Signal Power Off](#) [Try Now](#)

Select a time from the list. If no signal is received for the specified duration, the TV automatically cuts off the power to reduce power consumption.

- [Auto Power Off](#) [Try Now](#)

If the TV remains turned on for four hours without any user input, the TV will automatically turn off to prevent overheating.

Using Anynet+ (HDMI-CEC)

Use Anynet+ (HDMI-CEC) to control all external devices that support HDMI-CEC using just the TV's remote control. Note that Anynet+ (HDMI-CEC) only works with the TV's remote control and not with the panel keys.

You can configure the TV's universal remote function to control third-party cable boxes, Blu-ray players, and home theatres that do not support HDMI-CEC using the TV's remote control.

Anynet+ Requirements:

- Anynet+ cannot be used to control external devices that do not support HDMI-CEC.
- Anynet+ devices must be connected to the TV using an HDMI cable. Some HDMI cables may not support Anynet+ (HDMI-CEC). In this case, you will need to replace the HDMI cable.
- The TV remote control may not function under certain circumstances. If this occurs select the Anynet+ device again.
- Anynet+ (HDMI-CEC) only works with external devices that support HDMI-CEC and only when those devices are either in standby mode or turned on.
- Anynet+ (HDMI-CEC) can control up to 12 compatible external devices (up to 3 of the same type). With home theatre systems, however, the number of systems that can be controlled is limited to one.
- To listen to 5.1-channel audio from an external device, connect the device to the TV via an HDMI cable and the device's digital audio output connector directly to the home theatre system.

 Depending on the country and model.

- A home theatre system that has been connected to the TV using an HDMI cable and an optical cable supports 2-channel audio only. 5.1-channel audio is, however, available for digital broadcasts with 5.1-channel audio.

 Depending on the country and model.

Setting Up Anynet+ (HDMI-CEC)

System > Anynet+ (HDMI-CEC) [Try Now](#)

- [Anynet+ \(HDMI-CEC\)](#) [Try Now](#)

Enables/disables [Anynet+ \(HDMI-CEC\)](#). Set to **Off** to disable all Anynet+ related features. Set to **On** to enable all [Anynet+ \(HDMI-CEC\)](#) related features.

- [Auto Turn Off](#) [Try Now](#)

When set to **Yes**, turns off [Anynet+ \(HDMI-CEC\)](#) compatible external devices when the TV is turned off.



Some [Anynet+ \(HDMI-CEC\)](#) compatible devices do not support this feature.

- [Search for Devices](#) [Try Now](#)

Search for [Anynet+ \(HDMI-CEC\)](#) compatible devices.

Using Anynet+ (HDMI-CEC)

Selecting an External Device

1. Select **TOOLS**. The **Tools** list appears.
2. Select [Anynet+ \(HDMI-CEC\)](#) from the list. The **Select Device** screen appears.
3. Select a device and wait for the switch to take place. This process may take up to 2 minutes to complete and cannot be cancelled once started.

Accessing the External Device's Menu

Once the TV has switched over to the selected device, you can access the device's menu using the TV's remote control.

Select **TOOLS**. The following list appears, though it may differ based on the external device:

- **Anynet+ (HDMI-CEC)**


Displays a list of HDMI-CEC-compliant devices connected to the TV. Select **View TV** to exit Anynet+ (HDMI-CEC), and start watching TV. To switch to the screen of an external device, simply select that respective device.

- (Connected Device) **Menu**

Display the menu of the connected device. If the target device is a DVD player, the DVD menu is shown.


- (Connected Device) **Tools**

Displays a list of frequently-used functions available for the device. If the target device is a DVD player, the DVD playback menu is shown.

 Some external devices may not support this option.

- (Connected Device) **Title Menu**

Display the connected device's title menu. If the target device is a DVD player, the DVD title menu is shown.


 Some external devices may not support this option.

Using the e-Manual

Launching the e-Manual

Support > e-Manual

The embedded e-Manual contains information.

 You can also download a copy of the e-Manual from Samsung's website, and read it on your computer or print it out.

 Yellow words indicate a menu item; white bold words indicate remote control buttons. Arrows are used to indicate the menu path. (Example: **Picture** > **Picture Mode**)

1. Select **e-Manual**. The e-Manual loads.
2. Select a category from the side of the screen. Once a selection has been made, the contents of the selected category appear.
3. Select an item from the list. This opens the e-Manual on the corresponding page.

If a description doesn't fit on a single screen

You can scroll pages in one of the following ways.

- Position the focus on the page to display  /  on the screen. Press ,  button.

Additional e-Manual Features

Loading Pages using Keywords

Select **Search** from the side of the screen to bring up the search screen. Enter a search term and then select **Done**. Select an item from the search results to load the corresponding page.

Loading Pages from the Index Page


Select **Index** from the side of the screen to bring up the index screen. Select a keyword from the list to navigate to the relevant page.

 Availability depends on the area or language.

Using History to Load Previously Read Pages

Select **Recent pages** from the side of the screen. A list of previously read pages is shown. Select a page. The e-Manual jumps to the selected page.


Accessing the Menu from the e-Manual (Try Now)

Select  (**Try Now**) on a feature-description to directly move to the corresponding menu and try out the feature.

If you want to read an **e-Manual** entry on a specific screen menu feature, press the **E-MANUAL** button.

 Certain menu options cannot be used.

Loading Reference Pages

Select  (**Link**) from the side of a feature-description page to access the corresponding reference page.

Updating the e-Manual to the Latest Version

You can update the e-Manual in the same way as updating apps.

1. Select the **e-Manual** item in the **SAMSUNG APPS** screen.
2. Press and hold the Enter button. The Options menu appears.
3. From the Options menu on the screen, select **Update apps**. A pop-up window appears.

 **Update apps** is shown on the screen only when an update is required.

4. Select **e-Manual** in the pop-up window and then select **Update**. You can update the e-Manual to the latest version.

Updating the Software

[Support](#) > [Software Update](#) [Try Now](#)

Check your TV's software version and upgrade it if necessary.

If the TV is connected to the Internet, TV is set to update software automatically. If you don't want to update it automatically, set [Auto update](#) ([Software Update](#) > [Auto update](#)) to **Off**.

Updating Software over the Internet

[Support](#) > [Software Update](#) > [Update now](#)

Select [Support](#) > [Software Update](#) > [Update now](#). An online upgrade downloads and installs the upgrade software directly from the Internet.

 This option requires an Internet connection.


⚠ DO NOT turn off the TV's power until the upgrade is complete. The TV will turn off and on automatically after completing the software upgrade. All video and audio settings return to the default settings after a software upgrade.

Updating Software using a USB connection

 Availability depends on the specific model.

[Support](#) > [Software Update](#) > [Update now](#)

1. Visit Samsung's website on a computer and download the update package to a USB device.

 Save the update package in the USB device's top-level folder. Otherwise, the TV will not be able to locate the update package.

2. Connect the USB device with the update package to the TV.


3. Select [Support](#) > [Software Update](#) > [Update now](#). The software is updated using the update package on the USB device.

⚠ DO NOT turn off the TV's power until the upgrade is complete. The TV will turn off and on automatically after completing the software upgrade. All video and audio settings return to the default settings after a software upgrade.

Enabling Automatic Software Updates

[Support](#) > [Software Update](#) > [Auto update](#) [Try Now](#)

If the TV is connected to the Internet, the [Auto update](#) option upgrades the TV's software while it is in Standby Mode. In Standby Mode, the TV appears to be turned off, but still has access to the Internet. This allows the TV to upgrade itself automatically while it is not in use.

 This option requires an Internet connection.

Because the TV's internal processes are operating, the screen may emit a faint glow, and this may continue for more than 1 hour until the software download is complete.

If you agree to the Smart Hub terms and conditions, [Auto update](#) will be set to **On**. If you don't want the TV's software updated automatically, set [Auto update](#) ([Support](#) > [Software Update](#) > [Auto update](#)) to Off.

1. Select [Support](#) > [Software Update](#) > [Auto update](#).
2. Specify when you want the upgrade to take place. The TV will connect to the server at the specified time, download the update package, and upgrade its own software.

Software update via satellite channel

[Support](#) > [Software Update](#) > [Manage Satellite Channels](#)

(When the [Aerial](#) was set to [Satellite](#)) Manage software downloads via a satellite channel.

 Availability depends on the specific model and area.

Protecting the TV from Hacking and malicious code

[System](#) > [Smart Security](#) [Try Now](#)

When the TV is connected to the Internet, it is vulnerable to hacks and malicious code. **Smart Security** protects the TV and storage media connected to the TV from such threats.

Navigate to [System](#) > [Smart Security](#) and set **Smart Security** to **On**. [Try Now](#)

Checking the TV and Connected Storage Media

[System](#) > [Smart Security](#) > [Scan](#)

Navigate to [System](#) > [Smart Security](#) and select **Scan**. This scans the TV and connected media for the presence of malicious code. If no malicious code is detected, a notification window appears on the screen.

If malicious code is detected

If malicious code was found, the results of the scan will appear on the screen. This result window displays all malicious code found, and provides options to either quarantine the code or allow them to continue.

1. Select all malicious code to quarantine or allow.
2. Select **Block** or **Allow**. This moves the selected malicious code to the **Isolated List** or **Allowed List**.



The **Isolated List** displays all blocked malicious code. You can also relocate codes from this list to the Allowed List.



The **Allowed List** displays all allowed malicious code. You can also relocate codes from this list to the Isolated List.

Automatically Scanning when the TV is Powered On

[System](#) > [Smart Security](#) > [Settings](#) > [Auto Scan](#)

Navigate to [System](#) > [Smart Security](#) > [Settings](#) and then set [Auto Scan](#) to **On**. This automatically scans the TV and connected storage media when the TV is powered on.

Automatically Adding malicious code to the Blocked List

[System](#) > [Smart Security](#) > [Settings](#) > [Move to Isolated List automatically](#)

Navigate to [System](#) > [Smart Security](#) > [Settings](#) and set [Move to Isolated List automatically](#) to **On**. Malicious code found during the scanning process is automatically added to the Blocked List.

Enabling the High Contrast

[System](#) > [Accessibility](#) > [High Contrast](#) [Try Now](#)

Navigate to [System](#) > [Accessibility](#) and set the [High Contrast](#) option to **On**. This option changes major service screens to white text on black background or change the transparent TV menus to opaque so that text can be more easily read.

Adjusting the Menu Transparency

[System](#) > [Accessibility](#) > [Menu Transparency](#) [Try Now](#)

Navigate to [System](#) > [Accessibility](#) and adjust the opacity level. Adjust the menu's transparency.

 When the [High Contrast](#) ([System](#) > [Accessibility](#) > [High Contrast](#)) setting is set to **On**, menu display is automatically set to opaque and you cannot change the [Menu Transparency](#) settings.

Expanding the Smart Hub's Focus Area


System > **Accessibility** > **Enlarge** [Try Now](#)

Navigate to **System** > **Accessibility** and set **Enlarge** to **On**. This zooms in the focused item when you use Smart Hub.

Changing the Menu Language

System > **Menu Language**

Select **System** > **Menu Language** and then choose a language from the list. Use this option to change the menu language.

 Availability depends on the specific area.

Checking Notifications

System > **Notifications** [Try Now](#)

Select **Notifications** from the **System** menu to view the list of event messages generated by the TV. **Notifications** appear on the screen when events such as an update release for an app or Samsung Account login/logout occurs.

 Select **Delete All** to delete all notifications.



 Select **Service Notice** to check the SMART TV service notifications in a web browser.

Setting Up a Password

System > **Change PIN** [Try Now](#)

Set a PIN (Personal Identification Number) to lock channels, reset the TV, and change the TV settings.

1. Select **System** > **Change PIN**. The PIN input window appears.
2. Enter a PIN. The default PIN is 0000.
3. Enter a new PIN and then enter it again to confirm it. The PIN change is complete.

 If you forget the PIN code, press the buttons in the following sequence which resets the PIN to "0-0-0-0": In Standby mode, press the following buttons on the remote to reset the PIN to 0000:  → **8** → **2** → **4** → **POWER** (on).

Programme Rating Lock

[Broadcasting](#) > [Programme Rating Lock](#) [Try Now](#)

The **Programme Rating Lock** blocks programmes with ratings higher than those desired. This is useful for controlling what children watch on TV. This will not function for programmes originating from external sources, such as DVD players or USB files.

This PIN is required to watch a blocked programme.

The **Programme Rating Lock** is not available in HDMI or Component mode.

Enabling Game Mode

[System](#) > [General](#) > [Game Mode](#) [Try Now](#)

Game Mode optimises the TV's settings for playing video games on a gaming console such as PlayStation™ or Xbox™.

Requirements:

- Game Mode cannot be used for normal TV viewing.
- Connect the gaming console before enabling Game Mode. Otherwise, the picture quality may suffer.
- The screen may shake a little.
- Enabling **Game Mode** automatically sets the **Picture Mode** to **Game** and the **Sound Mode** to **Game**.
- To use a different external device, first disconnect the game console and disable Game Mode.

Locking/Unlocking the Panel Keys

[System](#) > [General](#) > [Panel Lock](#) [Try Now](#)

Use to lock and unlock the TV's panel buttons.

Showing/Hiding the Samsung Logo while Booting




[System](#) > [General](#) > [Boot Logo](#) [Try Now](#)

Use to enable or disable the Samsung logo display that appears when the TV starts up.

Registering the TV as a DivX-Certified Device (Watching Paid DivX Movies)

System > DivX® Video On Demand

Viewing DivX® DRM-protected DivX movies on the TV first requires registration of the TV as a DivX-certified device.


-  DRM ("Digital rights management") Digital Rights Management is a digital security measure designed to protect copyright.
 -  You can watch personally-created and free DivX content without registering the TV.
 -  Visit the DivX website (<http://www.divx.com>) and log into your user account before registering the TV as a DivX-certified device. If you do not have an account, please create one.
1. Select **System > DivX® Video On Demand**. A window with a registration code appears on the screen.
 2. Visit the DivX website on a computer and click [Register Your Device] under [Support] from the top menu.
 3. Enter the registration code shown on the TV's screen in the [Enter your registration code] field.
 4. Enter the TV's name in the [Name your device] field and then select [NEXT].
 5. Click [DOWNLOAD] and save the [device_name.divx] file.
 6. Transfer the [device_name.divx] file from the computer onto a USB device and then plug the USB device into the TV.
 7. Play the [device_name.divx] file on the TV to register the TV as a DivX-certified device.

Restoring the TV to the Factory Settings

[Support](#) > [Self Diagnosis](#) > [Reset](#) [Try Now](#)

This option restores all TV settings (excluding the Internet) to the factory defaults.

1. Select [Support](#) > [Self Diagnosis](#) > [Reset](#). The Security PIN entry window appears on the screen.
2. Enter the Security PIN and then select [Yes](#). All settings are then reset. The TV turns off and on again automatically, and then displays the [Setup](#) screen.


 For more information on Setup, refer to the user manual that came with the TV.

Turning the TV into a Display Model (for retail stores)


[Support](#) > [Use Mode](#) [Try Now](#)

Select [Support](#) > [Use Mode](#) > [Store Demo](#). This turns the TV into a display model for use in a retail environment.


 For all other uses, select [Home Use](#).


 [Store Demo](#) should be used in retail environments only. With [Store Demo](#), certain functions are disabled and the TV automatically resets itself after a certain amount of time.


Teletext Feature


 Availability depends on the specific area.


The index page of the Teletext service gives you information on how to use the Service. For Teletext information to be displayed correctly, channel reception must be stable. Otherwise, information may be missing or some pages may not be displayed.

 You can change Teletext pages by select numeric using your remote control.



 **Teletext on / mix / off:** Activates the Teletext mode for the current channel. Press twice to overlap the Teletext mode with the current broadcasting screen. Press it one more time to exit teletext.

 **Store:** Stores the Teletext pages.


 **Size:** Displays the teletext on the upper half of the screen in double-size. To move the text to the lower half of the screen, press it again. For normal display, press it once again.


 **Hold:** Holds the display at the current page, in the case that there are several secondary pages that follow automatically. To undo, press it again.

Colour buttons (red, green, yellow, blue): If the FASTEXT system is used by the broadcasting company, the different topics on a Teletext page are colour-coded and can be selected by coloured buttons. Press the colour corresponding to the topic of your choice. A new colour coded page appears. Items can be selected in the same way. To display the previous or next page, select corresponding coloured button.


 **Mode:** Selects the Teletext mode (LIST / FLOF). If pressed during LIST mode, switches the mode to List save mode. In List save mode, you can save a Teletext page into a list using the  (store) button.

 **Sub-page:** Displays the available sub-page.

 **Page up:** Displays the next Teletext page.

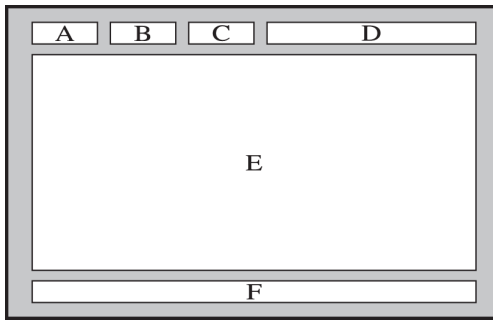
 **Page down:** Displays the previous Teletext page.

 **Index:** Displays the index (contents) page at any time while you are viewing Teletext.

 **Reveal:** Displays the hidden text (answers to quiz games, for example). To display the normal screen, press it again.

 **Cancel:** Shrinks the Teletext display to overlap with the current broadcast.

Typical Teletext page



Part	Contents
A	Selected page number.
B	Broadcasting channel identity.
C	Current page number or search indications.
D	Date and time.
E	Text.
F	Status information, FASTEXT information.

Getting Support

The TV has several built-in systems designed for user and TV system support.

Support through Remote Management

[Support](#) > [Remote Management](#) [Try Now](#)

If you need assistance with your TV, you can use this feature to let Samsung Electronics diagnose your TV remotely. You will need to read and agree to the service agreement before using this feature. A Samsung Electronics technician will then diagnose, repair, and update your TV remotely.

 This option requires an Internet connection.

What Does Remote Service Do?

Samsung Remote Support service offers you one-on-one support with a Samsung Technician who can remotely.

- **Diagnose** your TV
- **Adjust the TV settings** for you
- **Perform a factory reset** your TV
- Install recommended **firmware updates**

How Does it Work?

Having a Samsung Tech remotely service your TV is easy.



Call the Samsung Contact Centre and ask for remote support.



Open the menu on your TV and go to the Support section.



Select Remote Management, and then read and agree to the service agreements. When the PIN screen appears, provide the PIN number to the agent.



The agent accesses your TV.

Finding the Information You Need for Service

[Support](#) > [Contact Samsung](#) [Try Now](#)

Use this option to find the support service website's address and contact number, your TV's model number, your TV's software version, the Smart Hub info, and other information you need to receive the service support.



 Press **A** to view the open source licence.

There is a problem with the screen.

Testing the Picture

[Support](#) > [Self Diagnosis](#) > [Picture Test](#) [Try Now](#)

Before you review the list of problems and solutions below, run the Picture Test to determine if the problem is caused by the TV. The Picture Test displays a high definition picture you can examine for flaws or faults. If the test picture does not appear or there is noise or distortion, the TV may have a problem. Contact Samsung's Call Centre for assistance. If the test picture is displayed properly, there may be a problem with an external device. Please check the connections. If the problem persists, check the signal strength or refer to the external device's user manual.

-  If the test picture does not appear or there is noise or distortion, the TV may have a problem. Contact Samsung's Call Centre for assistance.
-  If the test picture is displayed properly, there may be a problem with the external device. Please check the connections. If the problem persists, check the signal strength or refer to the external device's user manual.

The Problem	Try this!
Flickering and Dimming	<p>If your Samsung Television is flickering or dimming sporadically, you may need to disable some of the energy efficiency features. Disable Energy Saving (System > Eco Solution > Energy Saving) or Eco Sensor (System > Eco Solution > Eco Sensor).</p>
Component Connections/Screen Colour	<p>If the colour on your Samsung television screen is not correct or the black and white colours are off, run Picture Test (Support > Self Diagnosis > Picture Test). If the test results indicate that the problem is not caused by the TV, do the following:</p> <ul style="list-style-type: none"> • Make sure to connect to an external device. • Check the other connections as well. If the TV is connected to an external device via a component cable, confirm that the Pb, Pr, and Y jacks are plugged into their proper connectors.
Screen Brightness	<p>If the colours on your Samsung TV are correct but just a little too dark or bright, try adjusting the following settings first.</p> <ul style="list-style-type: none"> • Go to the Picture menu and adjust the Contrast, Brightness, Sharpness, Colour, and Tint (G/R) settings.
Auto Motion Plus/Blur	<p>If you notice ghosting or blurring on the screen, use the Auto Motion Plus option (Picture > Picture Options > Auto Motion Plus) to resolve the issue.</p>
Unwanted Powering Off	<p>If your Samsung TV appears to turn off by itself, try disabling some of the TV's energy efficiency features. See if Sleep Timer (System > Time > Sleep Timer) has been enabled. The Sleep Timer automatically turns the TV off after a specified period of time. If the Sleep Timer has not been enabled, see if No Signal Power Off (System > Eco Solution > No Signal Power Off) or Auto Power Off (System > Eco Solution > Auto Power Off) has been enabled and disable them.</p>
Problems Powering On	<p>When the TV is turned on, the remote control receiver flashes 5 times before the screen turns on.</p> <p>If you are having problems powering on your Samsung television, there are a number of things to check before calling the service department. Confirm that the TV's power cord is connected correctly at both ends and that the remote control is operating normally. Make sure that the antenna cable or cable TV cable is firmly connected. If you have a cable/satellite box confirm that it is plugged in and turned on.</p>
Unable to find a Channel	<p>Launch Setup (System > Setup) or Auto Tuning (Broadcasting > Auto Tuning). If your TV is not connected to a cable box or satellite box, run Setup (System > Setup) or Auto Tuning (Broadcasting > Auto Tuning).</p>


The Problem	Try this!
<p>The TV image does not look as good as it did in the store.</p>	<p>Store displays are all tuned to digital, HD (high definition) channels. If you have an analogue cable/set top box, upgrade to a digital set top box. Use HDMI or Component cables to deliver HD (high definition) picture quality. Many HD channels are upscaled from SD (Standard Definition) content. Look for a channel that is broadcasting true HD content.</p> <ul style="list-style-type: none"> • Cable/Satellite Subscribers: Try HD channels from the channel lineup. • Terrestrial/Cable Aerial Connection: Try HD channels after running the Auto Tuning function. <p>Adjust the cable/satellite box's video output resolution to 1080i or 720p.</p>
<p>The picture is distorted.</p>	<p>The compression of video content may cause picture distortions, especially in fast moving pictures from sports programmes and action movies. A weak or bad quality signal can cause picture distortions. This is not an issue with the TV. Mobile phones used close to the TV (within 1 m) may cause noise in analogue and digital channels.</p>
<p>The colour is wrong or missing.</p>	<p>If you're using a Component connection, make sure that the Component cables are connected to the correct jacks. Incorrect or loose connections may cause colour problems or a blank screen.</p>
<p>The colour is poor or the picture is not bright enough.</p>	<p>Go to the Picture menu and then adjust the Picture Mode, Brightness, Sharpness, and Colour settings. See if Energy Saving (System > Eco Solution > Energy Saving) has been enabled. Try resetting the picture. (Picture > Reset Picture)</p>
<p>There is a dotted line on the edge of the screen.</p>	<p>If the Picture Size has been set to Screen Fit, change the setting to 16:9. Change the cable/satellite box resolution.</p>
<p>The picture is black and white.</p>	<p>Make sure to properly connect any external device to the TV properly.</p>
<p>When changing channels, the picture freezes or is distorted or delayed.</p>	<p>If the TV is connected to a cable box, try to reset the box. (Disconnect and then reconnect the AC cord and wait until the cable box reboots. It may take up to 20 minutes.) Set the output resolution of the cable box to 1080i or 720p.</p>


I can't hear the sound clearly.

Testing the Sound

[Support](#) > [Self Diagnosis](#) > [Sound Test](#) [Try Now](#)

Before you review the list of problems and solutions below, make sure that the **Speaker Select** menu item is set to **TV Speaker**, and then listen to the speakers again. If the TV still does not play audio, run the Sound Test. The **Sound Test** uses a built-in melody to check for sound problems. If the TV does not play sound during the **Sound Test**, or the sound is distorted, there may be a problem with the TV. Contact Samsung's Call Centre for assistance. If the TV plays the Sound Test melody without distortion, there may be a problem with an external device. Please check the connections. If the problem persists, refer to the external device's user manual.

 If you can't hear the melody or there is a problem, make sure [Sound](#) > [Speaker Settings](#) > [TV Sound Output](#) is set to **TV Speaker** and then try again. If the problem persists, there may be a problem with the TV. Contact Samsung's Call Centre for assistance.

 If the melody is played, there may be a problem with the external device. Please check the connections. If the problem persists, refer to the external device's user manual.

The Problem	Try this!
There is no sound or the sound is too low at maximum volume.	Check the volume control of the device (cable/satellite box, DVD, Blu-ray, etc.) connected to your TV.
The picture is good but there is no sound.	Set Sound > Speaker Settings > TV Sound Output to TV Speaker . If you are using an external device, check the device's audio output option. (For example, you may need to change your cable box's audio option to HDMI if the box connected to your TV is using an HDMI cable.) To listen to the computer sound, connect the external speaker to the computer's audio output connector. Reboot the connected device by disconnecting and then reconnecting the device's power cable.
The speakers are making an odd sound.	Make sure that the audio cable is connected to the correct audio output connector on the external device. For antenna or cable connections, check the signal information. A low signal level may cause sound distortions. Run Sound Test (Support > Self Diagnosis > Sound Test).

There is a problem with the broadcast.

The Problem	Try this!
The TV is not receiving all channels.	If your TV is not connected to a cable box or satellite box: <ul style="list-style-type: none">• Confirm that the coaxial cable is securely connected to the TV.• If you are using an antenna, verify it is positioned correctly and the all the connections are secure.• Run Setup (System > Setup) or Auto Tuning (Broadcasting > Auto Tuning).
There are no captions with digital channels.	Go to Subtitle (System > Accessibility > Subtitle) and change the Subtitle Mode . Some channels may not have caption data.
The picture is distorted.	The compression of the video content may cause picture distortions. This is especially true with fast moving pictures from sports programmes and action movies. A weak signal can cause picture distortions. This is not a problem with the TV.

The computer won't connect.

The Problem	Try this!
The "Mode Not Supported" message appears.	Set your PC's output resolution so it matches a resolution supported by the TV.
The video is OK but there is no audio.	If you are using an HDMI connection, check the audio output setting on your PC. If you are using a DVI to HDMI cable, a separate audio cable is required.

I can't connect to the Internet.

The Problem	Try this!
The wireless network connection failed.	Make sure the TV is connected to a wireless IP router.
The software update over the Internet has failed.	Check the network connection status. If the TV is not connected to a network, connect to a network. The upgrade stops if you already have the latest software version.

Anynet+ (HDMI-CEC) isn't working.

The Problem	Try this!
Anynet+ does not work.	<p>Confirm that the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.</p> <p>Check if the power cord of the Anynet+ device is properly connected.</p> <p>Check the cable connections of the Anynet+ device.</p> <p>Go to System and see if Anynet+ (HDMI-CEC) has been set to On.</p> <p>Check whether the TV remote control is in TV mode.</p> <p>Check whether the remote control is Anynet+ compatible.</p> <p>Anynet+ may not function when certain functions are operational. (Channel Search, Smart Hub, set up, etc.)</p> <p>If you have disconnected and then reconnected the HDMI cable, scan for devices again or turn your TV off and on.</p>
I want to start Anynet+.	<p>Check if the Anynet+ device is properly connected to the TV and then navigate to the System menu to see if Anynet+ (HDMI-CEC) is set to On.</p> <p>Once verified, select TOOLS button. A list appears. Select Anynet+ (HDMI-CEC) from the list and then a device.</p>
I want to exit Anynet+.	<p>Select View TV from the Anynet+ menu.</p> <p>Select a non-Anynet+ device from the Source list.</p>
The message "Connecting to Anynet+ device..." or "Disconnecting from Anynet+ device" appears on the screen.	<p>You cannot use the remote control when you are configuring Anynet+ or switching to a viewing mode. Use the remote control after the TV has completed the Anynet+ configuration or has switched to a viewing mode.</p>
The Anynet+ device won't play.	<p>You cannot use the play function when Setup is in progress.</p>
The connected device is not displayed.	<p>Check whether the device supports Anynet+.</p> <p>Check whether the HDMI cable is properly connected.</p> <p>Go to System and see if Anynet+ (HDMI-CEC) has been set to On.</p> <p>Scan for Anynet+ devices again.</p> <p>Anynet+ devices must be connected to the TV using an HDMI cable. Make sure the device is connected to your TV with an HDMI cable. Some HDMI cables may not support Anynet+.</p> <p>If the connection is terminated because there has been a power failure or the HDMI cable has been disconnected, please scan for the device again.</p>
The TV audio is not being played through the receiver.	<p>Connect an optical cable to the TV and the receiver.</p> <p>ARC enables digital sound to be outputted via the HDMI (ARC) port.</p> <p>However, ARC is only available when the TV is connected to an audio receiver that supports ARC.</p>

I am having trouble launching/using apps.

The Problem	Try this!
I launched an app, but it's in English. How can I change the language?	Languages supported by the app may be different from the user interface language. The ability to change the language depends on the service provider.
My application is not working.	Check with the service provider. Refer to the help section on the application service provider's website.

My file won't play.

The Problem	Try this!
Some files can't be played.	This problem may occur with high-bitrate files. Most files can be played back, but you might experience problems with high-bitrate files.

I want to reset the TV.

Reset	Path	Description
Reset Settings	Support > Self Diagnosis > Reset	Reset Picture , Sound , Channel , Smart Hub , and all other settings except for the network settings to their factory default settings.
Resetting Smart Hub	Smart Hub > Reset Smart Hub	Reset all saved information relating to Samsung accounts and linked service accounts, as well as Smart Hub service agreements and applications.

Other Issues

The Problem	Try this!
The TV is hot.	Watching TV for an extended period of time causes the panel to generate heat. The heat from the panel is dissipated through internal vents running along the top of the TV. The bottom, however, may feel hot to the touch after extended use. Children watching TV need constant adult supervision to prevent them from touching the TV. This heat, however, is not a defect and does not affect the TV's functionality.
The picture won't display in full screen.	HD channels will have black bars on either side of the screen when displaying upscaled SD (4:3) content. Black bars will appear at the top and bottom of the screen when you watch movies that have aspect ratios different from your TV. Adjust the picture size options on your external device or set the TV to full screen.
The "Mode Not Supported" message appears.	The output resolution of the attached device is not supported by the TV. Check the supported resolutions of the TV and adjust the external device's output resolution accordingly.
The Subtitle item in the TV menu is grayed out.	You cannot select the Subtitle menu if you have selected a source connected to the TV via HDMI or Component connections. To view subtitle, turn on the external device's subtitle function.
The TV smells of plastic.	This smell is normal and will dissipate over time.

The Problem	Try this!
The Signal Information option under Self Diagnosis isn't activated.	Verify that the current channel is a digital channel. The Signal Information is only available for digital channels.
The TV is tilted to the side.	Remove the base stand from the TV and reassemble it.
The Broadcasting option has been deactivated.	Broadcasting is only available when the Source is set to TV . The Broadcasting menu cannot be accessed while watching TV using a cable box or satellite receiver.
The settings are lost after 5 minutes or every time the TV is turned off.	If the Use Mode is set to Store Demo , the TV's audio and video settings are automatically reset every 5 minutes. Change the Use Mode (Support > Use Mode) to Home Use .
There is an intermittent loss of audio or video.	Check the cable connections and reconnect them. Loss of audio or video can be caused by using overly rigid or thick cables. Make sure the cables are flexible enough for long term use. If you are mounting the TV to a wall, we recommend using cables with 90-degree connectors.
There are small particles on the TV's bezel.	This is part of the product's design and is not a defect.
The PIP menu is not available.	PIP functionality is only available when you are using an HDMI or Component source.
A POP (TV's internal banner ad) appears on the screen.	Change the Use Mode (Support > Use Mode) to Home Use .
The TV is making a popping noise.	The expansion and contraction of the TV's outer casing may cause a popping noise. This does not indicate a product malfunction. The TV is safe to use.
The TV is making a humming noise.	Your TV utilises high-speed switching circuits and high levels of electrical current. Depending on the TV's brightness level, the TV may seem slightly noisier than a conventional TV. Your TV has undergone strict quality control procedures that meet our demanding performance and reliability requirements. Some noise coming from the TV is considered normal and is not an acceptable cause for an exchange or refund.

Read Before Using SAMSUNG APPS

- Due to the product characteristics featured on the Samsung Smart Hub, as well as limitations in available content, certain features, applications, and services may not be available on all devices or in all territories. Some Smart Hub features may also require additional peripheral devices or membership fees. Visit <http://www.samsung.com> for more information on specific device information and content availability. Services and content availability are subject to change without prior notice.
- Samsung Electronics takes no legal responsibility whatsoever for any interruption of app services caused by the service provider for any reason.
- Application services may be provided in English only and available content may vary depending on the area.
- For more information about applications, visit the applicable service provider's website.
- An unstable Internet connection may cause delays or interruptions. In addition, applications may terminate automatically depending on the network environment. If this occurs, check your Internet connection and try again.
- Application services and updates may become unavailable.
- Application content is subject to change by the service provider without prior notice.
- Specific services may vary depending on the version of the application installed on the TV.
- An application's functionality may change in future versions of the application. If this occurs, run the application's tutorial or visit the service provider's website.
- Depending on the service provider's policies, certain applications may not support multitasking.

Web Browser Restrictions

- Select **Web Browser**. The browsing screen may differ from the one on your computer.
- The web browser is not compatible with Java applications.
- You cannot download files. If you attempt to download a file, you will receive an error message instead.
- The web browser may not be able to access certain websites.
- Playing Flash videos is not supported.
- E-commerce for online purchases is not supported.
- With websites that have scrollable windows, scrolling a window can result in corrupted characters.
- ActiveX is not supported.
- Certain options are not accessible in Link Browsing mode. (Switch to Pointer Browsing to activate those options.)
- Only a limited number of fonts are supported. Certain symbols and characters may not be displayed properly.
- The response to remote commands and the resulting on-screen display may be delayed while a webpage is loading.
- Loading a webpage may be delayed or suspended completely with certain operating systems.
- The copy and paste operations are not supported.
- When composing an email or a simple message, certain functions such as the font size and colour selection may not be available.
- There is a limit to the number of bookmarks and the size of the log file that can be saved.
- The number of windows that can be opened concurrently varies depending on the search conditions and the TV model.

- The web browsing speed will vary depending on the network environment.
- Playing embedded video automatically disables PIP. Video playback may not commence after PIP is disabled. In this case, you will have to reload the page.
- The web browser supports .mp3 audio files only.
- The web browser supports a specific file format for importing and exporting bookmarks. (Compatible Format: Netscape-bookmark file- 1)
- The folder tree information is not included when importing and exporting bookmarks.
- Exporting bookmarks to a USB device connected to the TV saves the bookmarks under a folder named "Samsung SmartTV Bookmark".
- If the **Clock (System > Time > Clock)** has not been set, the browsing history will not be saved.
- The browsing history is saved from latest to oldest, with the oldest entries being overwritten first.
- Video sources from PC-optimised streaming service providers may not play properly on our proprietary web browser.
- Using the on-screen QWERTY keyboard automatically disables PIP. (Except when entering a URL.)

Read Before Playing Photo, Video, or Music Files

 Availability depends on the specific model.

Photo, Video, and Music File Use Limitations

- The TV supports MSC (Mass Storage Class) USB devices only. MSC is a class designation for mass USB Drives. Types of MSC devices include external hard drives, flash card readers, and digital cameras. (USB hubs are not supported.) These kinds of devices must be connected directly to the TV's USB port. The TV may not be able to recognise the USB device or read the files on the device if it is connected to the TV via a USB extension cable. Do not disconnect the USB device while transferring files.
- A USB device that requires high power (more than 500mA or 5V) may not be supported. The TV may not support HDDs (Hard Disk Drives) connected to the USB port, depending on the model.
- Certain digital cameras and audio devices may not be compatible with the TV.
- If there are multiple USB devices connected to the TV, the TV might not be able to recognise some or all the devices.
- The TV supports the FAT, exFAT, and NTFS file systems.
- After sorting files in the Folder view mode, the TV can display up to 1000 files per folder. If the USB device contains more than 8,000 files and folders, however, some files and folders might not be accessible.
- The PTP (pier to pier) connection mode is available only for digital cameras. If you connect a smartphone or tablet to the TV using PTP mode, the TV will not recognise it.

Storage Device File Transfers

Storage device containing media content	Target device
USB Device	SugarSync, Dropbox, SkyDrive, Mobile Device
SugarSync, Dropbox, SkyDrive	USB Device
Mobile Device	USB Device

Supported External Subtitles

 Certain files, depending on how they were encoded, may not play on the TV.

 Certain files are not available depending on the model.

Name	Format
MPEG-4 Timed text	.txt
SAMI	.smi
SubRip	.srt
SubViewer	.sub
Micro DVD	.sub or .txt
SubStation Alpha	.ssa
Advanced SubStation Alpha	.ass
Powerdivx	.psb
SMPTE-TT Text	.xml

Supported Internal Subtitles

 Certain files, depending on how they were encoded, may not play on the TV.

 Certain files are not available depending on the model.

Name	Container
Xsub	AVI
SubStation Alpha	MKV
Advanced SubStation Alpha	MKV
SubRip	MKV
VobSub	MKV
MPEG-4 Timed text	MP4
TTML in smooth streaming	MP4
SMPTE-TT TEXT	MP4
SMPTE-TT PNG	MP4

Supported Image Formats and Resolutions

 Certain files, depending on how they were encoded, may not play on the TV.

 Certain files are not available depending on the model.

File Extension	Format	Resolution
*.jpg *.jpeg	JPEG	15360x8640
*.png	PNG	4096x4096
*.bmp	BMP	4096x4096
*.mpo	MPO	15360x8640


Supported Music Formats and Codecs

 Certain files, depending on how they were encoded, may not play on the TV.

 Certain files are not available depending on the model.

File Extension	Format	Codec	Note
*.mp3	MPEG	MPEG1 Audio Layer 3	
*.m4a *.mpa *.aac	MPEG4	AAC	
*.flac	FLAC	FLAC	Supports up to 2 channels
*.ogg	OGG	Vorbis	Supports up to 2 channels
*.wma	WMA	WMA	Supports up to 10 Pro 5.1 channels WMA lossless audio is not supported Supports up to the M2 profile
*.wav	wav	wav	
*.mid *.midi	midi	midi	Supports type 0 and type 1 "Seek" not supported Available only on USB storage devices
*.ape	ape	ape	
*.aif *.aiff	AIFF	AIFF	
*.m4a	ALAC	ALAC	

Supported Video Codecs

 Certain files, depending on how they were encoded, may not play on the TV.

 Certain files are not available depending on the model.

File Format	Container	Video Codecs	Resolution	Frame Rate (fps)	Bitrate (Mbps)	Audio Codec	
*.avi *.mkv *.asf *.wmv *.mp4 *.mov *.3gp *.vro	AVI MKV ASF MP4	Motion JPEG	640x480		8	Dolby Digital LPCM	
*.mpg *.mpeg *.ts	3GP MOV FLV	H.264 BP/MP/HP	1920x1080	MAX 30	30	ADPCM(IMA, MS) AAC	
*.tp *.trp *.mov	VRO VOB	DivX 3.11/4/5/6				Window Media Video v9(VC1)	Dolby Digital Plus MPEG(IMP3)
*.flv *.vob	PS TS	MPEG4 SP/ASP				MPEG2	DTS(Core, LBR) G.711(A-Law, μ-Law)
*.svi *.divx		MPEG1					
*.webm	WebM	VP8	1920x1080	6~30	20	Vorbis	

Other Restrictions

- Codecs may not function properly if there is a problem with the content data.
- Video content does not play or does not play correctly if there is an error in the content or container.
- Sound or video may not work if they have standard bit rates/frame rates above the TV's compatibility ratings.
- If the Index Table is wrong, the Seek (Jump) function does not work.
- When playing video over a network connection, the video may not play smoothly because of data transmission speeds.
- Some USB/digital camera devices may not be compatible with the player.
- The menu display is delayed when transmitting at or higher than 10Mbps.

Video Decoders

- Supports up to H.264, Level 4.1 (does not support FMO/ASO/RS)
- VC1 AP L4 is not supported.
- GMC 2 or above is not supported.

Audio Decoders

- WMA supports up to 10 Pro 5.1 channels. Supports up to the M2 profile. This does not support WMA lossless audio.
- WMA 10 Pro M3 is not supported.
- QCELP and AMR NB / WB are not supported.
- Vorbis is supported for up to 2 channels.
- Dolby Digital Plus is supported for up to 5,1 channels.
- The DTS LBR codec is only available for MKV/MP4/TS containers.


Read After Installing the TV

Picture Sizes and Input Signals

Picture Size	Input Signal
Auto Wide	ATV, AV, DTV (576i/p, 720p), DTV (1080i, 1080p)
16:9	ATV, AV, DTV (576i/p, 720p, 1080i, 1080p), Component (480i/p, 576i/p, 720p, 1080i, 1080p), HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)
Wide Zoom, Zoom	ATV, AV, DTV (576i/p, 720p, 1080i, 1080p), Component (480i/p, 576i/p, 720p, 1080i, 1080p), HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)
4:3	ATV, AV, DTV (576i/p, 720p, 1080i, 1080p), Component (480i/p, 576i/p, 720p, 1080i, 1080p), HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)
Smart View 1 (Depending on the country and model)	HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)
Smart View 2 (Depending on the country and model)	DTV (576i/p, 720p, 1080i, 1080p), HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)
Screen Fit	DTV (1080i, 1080p), Component (1080i, 1080p), HDMI (720p, 1080i, 1080p)
Custom	ATV, EXT, AV, DTV (576i/p, 720p, 1080i, 1080p), Component (480i/p, 576i/p, 720p, 1080i, 1080p), HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)

The **Picture Size** setting is applied to the current source. The applied **Picture Size** will remain in effect whenever you select that source unless you change it.

Installing an Anti-Theft Kensington Lock

A Kensington Lock is a physical device that can be used to protect the TV against theft. Look for the Kensington slot on the back of the TV. The slot has a  icon next to it. To use the lock, wrap the lock cable around an object that is too heavy to carry and then thread it through the TV's Kensington slot. The lock is sold separately.

The method of using a Kensington Lock may differ for each TV model. Refer to the Kensington Lock manual for more information.

Read Before Setting Up a Wireless Internet Connection

Wireless Internet Precautions

- This TV supports the IEEE 802.11a/b/g /n communication protocols. Samsung recommends using IEEE 802.11n. Video files stored on a device connected to the TV may not play back smoothly.
- To use wireless Internet, the TV must be connected to a wireless router or modem. If the wireless router supports DHCP, the TV can use a DHCP or static IP address to connect to the wireless network.
- Select a channel that is not currently in use for the wireless router. If the channel set for the wireless router is currently being used by another device, the result is usually interference and/or a communications failure.
- Most wireless networks have an optional security system. To enable a wireless network's security system, you need to create a security key using characters and numbers. This security key is then needed to connect to a security-enabled AP.

Wireless Security Protocols

The TV only supports the following wireless network security protocols and is unable to connect to non-certified wireless routers:

- Authentication Modes: WEP, WPAPSK, WPA2PSK
- Encryption Types: WEP, TKIP, AES

In compliance with the newest Wi-Fi certification specifications, Samsung TVs do not support WEP or TKIP security encryption in networks running in the 802.11n mode.

If the wireless router supports WPS (Wi-Fi Protected Setup), you can connect the TV to your network using PBC (Push Button Configuration) or a PIN (Personal Identification Number). WPS automatically configures the SSID and WPA key settings.

Read Before Connecting a Computer (Supported Resolutions)

LED 4 series

After connecting a computer to the TV, set the screen resolution for the TV on the computer. If it is set to any other than in the table below, the TV may display nothing. Set the resolution properly, referring to the user guide of the computer or its graphic card.

IBM

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
720x400	70Hz	31.469	70.087	28.322	-/+

MAC

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
640x480	67Hz	35.000	66.667	30.240	-/-
832x624	75Hz	49.726	74.551	57.284	-/-

VESA DMT

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
640x480	60Hz	31.469	59.940	25.175	-/-
640x480	72Hz	37.861	72.809	31.500	-/-
640x480	75Hz	37.500	75.000	31.500	-/-
800x600	60Hz	37.879	60.317	40.000	+/+
800x600	72Hz	48.077	72.188	50.000	+/+
800x600	75Hz	46.875	75.000	49.500	+/+
1024x768	60Hz	48.363	60.004	65.000	-/-
1024x768	70Hz	56.476	70.069	75.000	-/-
1024x768	75Hz	60.023	75.029	78.750	+/+
1280x720	60Hz	45.000	60.000	74.250	+/+
1360x768	60Hz	47.712	60.015	85.500	+/+
1366x768	60Hz	47.712	59.790	85.500	+/+

 Optimal resolution depends on your model.

LED 5, 6 series

When you connect your TV to a computer, set the computer's video card to one of the standard resolutions listed in the tables below or on the next page. The TV will automatically adjust to the resolution you choose. Note that the optimal and recommended resolution is 1920 x 1080.

Choosing a resolution not included in the tables can result in a blank screen or just the power indicator turning on. Refer to the user manual of your graphics card for compatible resolutions.

IBM

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
720x400	70Hz	31.469	70.087	28.322	-/+

MAC

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
640x480	67Hz	35.000	66.667	30.240	-/-
832x624	75Hz	49.726	74.551	57.284	-/-
1152x870	75Hz	68.681	75.062	100.000	-/-

VESA DMT

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/ Vertical)
640x480	60Hz	31.469	59.940	25.175	-/-
640x480	72Hz	37.861	72.809	31.500	-/-
640x480	75Hz	37.500	75.000	31.500	-/-
800x600	60Hz	37.879	60.317	40.000	+/+
800x600	72Hz	48.077	72.188	50.000	+/+
800x600	75Hz	46.875	75.000	49.500	+/+
1024x768	60Hz	48.363	60.004	65.000	-/-
1024x768	70Hz	56.476	70.069	75.000	-/-
1024x768	75Hz	60.023	75.029	78.750	+/+
1152x864	75Hz	67.500	75.000	108.000	+/+
1280x720	60Hz	45.000	60.000	74.250	+/+
1280x800	60Hz	49.702	59.810	83.500	-/+
1280x1024	60Hz	63.981	60.020	108.000	+/+
1280x1024	75Hz	79.976	75.025	135.000	+/+
1366x768	60Hz	47.712	59.790	85.500	+/+
1440x900	60Hz	55.935	59.887	106.500	-/+
1600x900RB	60Hz	60.000	60.000	108.000	+/+
1680x1050	60Hz	65.290	59.954	146.250	-/+
1920x1080	60Hz	67.500	60.000	148.500	+/+

Supported Video Resolutions

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
720(1440)x480i	60Hz	15.734	59.940	27.000	-/-
720(1440)x576i	50Hz	15.625	50.000	27.000	-/-
720x480	60Hz	31.469	59.940	27.000	-/-
720x576	50Hz	31.250	50.000	27.000	-/-
1280x720	60Hz	45.000	60.000	74.250	+/+
1280x720	50Hz	37.500	50.000	74.250	+/+
1920x1080i	60Hz	33.750	60.000	74.250	+/+
1920x1080i	50Hz	28.125	50.000	74.250	+/+
1920x1080	60Hz	67.500	60.000	148.500	+/+
1920x1080	50Hz	56.250	50.000	148.500	+/+
1920x1080	30Hz	33.750	30.000	74.250	+/+
1920x1080	25Hz	28.125	25.000	74.250	+/+
1920x1080	24Hz	27.000	24.000	74.250	+/+

Licence



This DivX Certified® device has passed rigorous testing to ensure it plays DivX® video.

To play purchased DivX movies, first register your device at vod.divx.com. Find your registration code in the DivX VOD section of your device setup menu.

DivX Certified® to play DivX® video up to HD 1080p, including premium content.

DivX®, DivX Certified® and associated logos are trademarks of DivX, LLC and are used under license.

Covered by one or more of the following U.S. patents: 7,295,673; 7,460,668; 7,515,710; 8,656,183; 8,731,369; RE45,052.



For DTS patents, see <http://patents.dts.com>. Manufactured under license from DTS, Inc. DTS, the Symbol, DTS in combination with the Symbol, DTS Premium Sound|5.1, DTS Digital Surround, DTS Express, and DTS Neo2:5 are registered trademarks or trademarks of DTS, Inc. in the United States and/or other countries.

© DTS, Inc. All Rights Reserved.

(Depending on the country and model.)



For DTS patents, see <http://patents.dts.com>. Manufactured under license from DTS Licensing Limited. DTS, the Symbol, DTS in combination with the Symbol, and DTS Studio Sound are registered trademarks or trademarks of DTS, Inc. in the United States and/or other countries. © DTS, Inc. All Rights Reserved.



For DTS patents, see <http://patents.dts.com>. Manufactured under license from DTS, Inc. DTS, the Symbol, DTS in combination with the Symbol, DTS Premium Sound, DTS Digital Surround, and DTS Express are registered trademarks or trademarks of DTS, Inc. in the United States and/or other countries.

© DTS, Inc. All Rights Reserved.

(Depending on the country and model.)



Manufactured under license from Dolby Laboratories.

Dolby and the double-D symbol are trademarks of Dolby Laboratories.

HDMI

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Open Source License Notice

Open Source used in this product can be found on the following webpage.

(<http://opensource.samsung.com>) Open Source License Notice is written only English.



Glossary

- **480i/480p/720p/1080i/1080p**

Generally refers to the number of effective scanning lines that determines the screen's resolution. There are two scanning methods: interlaced and progressive.

- Scanning

Sequential projection of pixels to form images. The higher the number of pixels, the clearer and more vivid the images.

- Progressive

A sequential scanning method that scans every line, one after another.

- Interlaced

A staggered scanning method that scans every other line until the end of the screen and then fills in the remaining lines.

Example) If the number of horizontal scan lines is 480i

Scans 240 lines from start to finish and then scans the remaining 240 lines for a total of 480 lines.

* General differences between 480i and 480p are as follows:

	480i	480p
Horizontal Frequency	15.75Khz	31.5Khz
FPS	30	60
Lines on Screen	480	480

- **DVI (Digital Visual Interface)**

Connecting the TV's DVI connector to a computer's DVI connector via an HDMI-to-DVI cable lets you use the TV as a computer monitor. However, HDMI-to-DVI cables deliver video signals only. You must connect a set of speakers to the computer using a separate cable to hear the computer's audio.

- **HDMI (High Definition Multimedia Interface)**

HDMI is a method of transmitting both video and audio signals via a single cable.

- **Dynamic versus Static IP Addresses**

If the network requires a dynamic IP address, use an ADSL modem or router that supports the Dynamic Host Configuration Protocol (DHCP). Modems and routers that support DHCP automatically provide the IP address, subnet mask, gateway and DNS values the TV needs to access the Internet, so they do not have to be entered manually. Most home networks use a dynamic IP address.

If the network requires a static IP address, enter the IP address, subnet mask, gateway, and DNS values manually when setting up the network connection. To get the IP address, subnet mask, gateway and DNS values, contact your Internet Service Provider (ISP).

If the network requires a static IP address, use an ADSL modem that supports DHCP. ADSL modems that support DHCP also allow static IP addresses.

- **Ethernet**

Ethernet is a LAN (Local Area Network) that uses coaxial cables standardised by the IEEE.

- **Component Connection**

Component connections are mostly used for game consoles and transmit the video signal by splitting it into a luminance signal (Y) and two colour signals (Pb and Pr). The connector is marked as [Component IN]_(Pr, Pb, Y) on the back of the TV. On some devices, it is sometimes marked as Cr, Cb, Y. Cb and Cr are the digital conversions of the Pb and Pr signals.

The connectors are normally colour-coded red (R), blue (B), and green (G) and offer the best picture quality possible for an analogue connection.