E-MANUAL

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Model_____ Serial No._____

Contents

Connecting Antenna and External devices

Aerial Connection

Video Device Connection

8 HDMI Connection

9 Component Connection

10 External Input Connection

TV Audio through the External Speakers

12 Digital Audio (Optical) Connection

13 Audio Output Connection

Connecting to a Computer

15 Connecting via HDMI Port

16 Connecting with the HDMI (DVI) Port

17 Connecting via Samsung Link

17 Connecting via Home Network (DLNA)

Connecting with a Mobile Device

19 Mobile Device Screen on TV (Screen Mirroring)

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

21 Connecting via Samsung Link

21 Connecting via Home Network (DLNA)

21 Name of TV on Network

Input Signal Selection

Using Remote and Peripheral Devices

Displaying the Remote Control on the Screen

Controlling External Devices with the TV Remote (Universal Remote Setup)

24 Setting Up the Universal Remote Control

25 Controlling External Devices with the TV Remote

26 Universal Remote Features

Controlling the TV with a Keyboard

27 Connecting a Keyboard

28 Using the Keyboard

Controlling the TV with a Mouse

29 Connecting a Mouse

30 Using the Mouse

Entering Text Using QWERTY

31 Using Additional Functions

Internet Connection

Establishing a Wired Internet Connection

32 Connecting a LAN Cable

33 Connecting to a Wired Internet Network Automatically

33 Connecting to a Wired Internet Network Manually

Establishing a Wireless Internet Connection

35 Connecting to a Wireless Internet Network Automatically

36 Connecting to a Wireless Internet Network Manually

38 Connecting to a Wireless Internet Network with WPS

Troubleshooting Internet Connectivity Issues

39 Troubleshooting Wired Internet Connectivity Issues

41 Troubleshooting Wireless Internet Connectivity Issues

Mobile Network

43 Supported Telecom and Model Name

Checking the Internet Connection Status

Smart Features

Smart Hub

45 Testing Smart Hub connections

46 Opening the Home Screen

47 Moving to the Panel Screen

47 Using the Smart Hub Tutorial

47 Resetting Smart Hub

Using Smart Hub with Samsung Account

48 Creating a Samsung Account

49 Creating a Samsung Account using a Facebook Account

50 Signing into Samsung Account

51 Linking My Samsung and App Accounts

52 Changing and Adding Information to Samsung Account

52 Deleting All Samsung Accounts from the TV

Using SAMSUNG APPS Panel

54 Using Pop-Up Menu Functions

55 Installing an App

56 Default Apps

57 Using Web Browser

60 Rearranging Apps on the SAMSUNG APPS Screen

60 Removing an App from the TV

61 Rating/Reviewing an App

61 Updating an App

62 SAMSUNG APPS Features

Playing Photos, Videos, and Music (MULTIMEDIA)

63 Playing Media Contents from a USB Device

64 Playing Multimedia Content Saved in a Computer/Mobile Device

67 Buttons and Functions Available while Viewing Photos

68 Buttons and Functions Available while Watching Video

70 Buttons and Functions Available while Playing Music

71 Functions on the Media Content List Screen

TV Viewing

Setting Up a Schedule Viewing

72 Setting Up Schedule Viewing

73 Managing the Schedule Viewing List

Using the Channel List

Registering, Removing, and Editing Channels

75 Registering and Removing Channels

76 Editing Registered Channels

76 Enabling/Disabling Password Protection on Channels

76 Changing Numbers

76 Locking/ Unlocking Channels

Creating a Personal Favourites List

77 Registering a Channel as Favourites

78 Viewing Favourites List Channels Only

78 Editing a Favourites List

Adding Realism to Sports

81 Enabling Soccer Mode

TV-Viewing Support Features

82 PIP Broadcast Viewing

83 Scanning for Available Channels

Using the Channel Settings

84 Area

84 Manual Tuning

84 Fine-Tuning the Screen

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 PIP Broadcast Viewing

92 Changing the Picture Size and Position

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

93 Resetting the Picture Mode Settings

Changing the Sound Mode and Using Sound Effects

94 Choosing the Right Sound Mode for the Environment

95 Using Sound Effects

Sound Support Functions

96 Selecting Speakers

96 Designating the TV's Installation Type

97 Enabling the Sound (Additional Settings)

97 Resetting All Sound Settings

General

Setting the Time and Using the Timer

98 Setting the Current Time

99 Using the Timers

Using the Screen Burn Protection and Energy Saving Features

101 Preventing Screen Burn

101 Using Energy Saving Features

Using the e-Manual

102 Launching the e-Manual

102 Additional e-Manual Features

103 Updating the e-Manual to the Latest Version

Updating the Software

104 Updating Software over the Internet

104 Updating Software using a USB connection

105 Enabling Automatic Software Updates

Protecting the TV from Hacking and malicious code

106 Checking the TV and Connected Storage Media

106 Automatically Scanning when the TV is Powered On

106 Automatically Adding malicious code to the Blocked List

Using Other Functions

107 Enabling the High Contrast

107 Adjusting the Menu Transparency

108 Expanding the Smart Hub's Focus Area

108 Changing the Menu Language

108 Checking Notifications

108 Setting Up a Password

109 Enabling Game Mode

109 Enjoying Rich Colours and Superior Picture Quality (BD Wise)

109 Locking/Unlocking the Panel Keys

109 Showing/Hiding the Samsung Logo while Booting

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

111 Restoring the TV to the Factory Settings

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

Teletext Feature

Troubleshooting

Getting Support

114 Support through Remote Management

115 Finding the Information You Need for Service

There is a problem with the screen

116 Testing the Picture

I can't hear the sound clearly

119 Testing the Sound

There is a problem with the broadcast.

The computer won't connect.

I can't connect to the Internet.

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

Photo, Video, and Music File Limitations

127 Storage Device File Transfers

128 Supported External Subtitles

128 Supported Internal Subtitles

129 Supported Image Formats and Resolutions

129 Supported Music Formats and Codecs

130 Supported Video Codecs

Read After Installing the TV

132 Picture Sizes and Input Signals

132 Installing an Anti-Theft Kensington Lock

133 Read Before Setting Up a Wireless Internet Connection

Read Before Connecting a Computer (Supported Resolutions)

134 LED 4 series

136 LED 5, 6 series

138 Supported Resolutions for Video Signals

Licence

Glossary

Aerial Connection

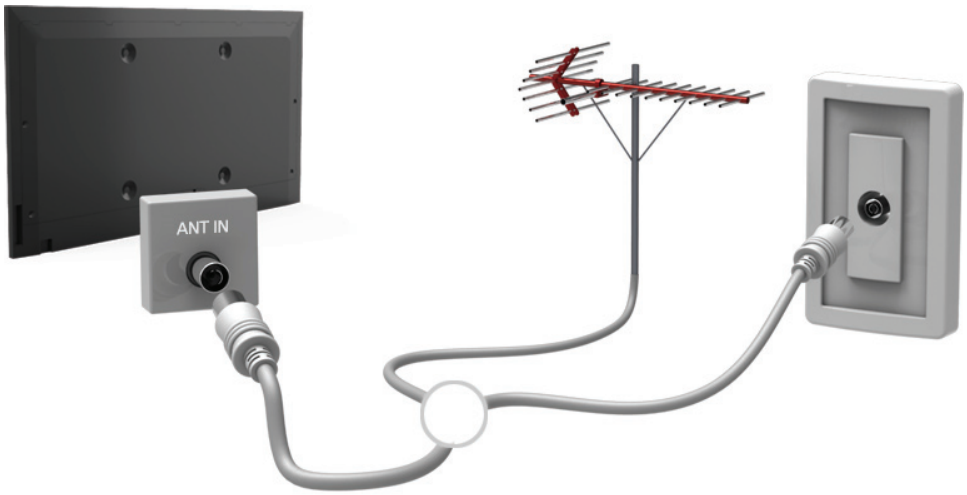
Availability depends on the specific model and area.

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
- External Input

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:

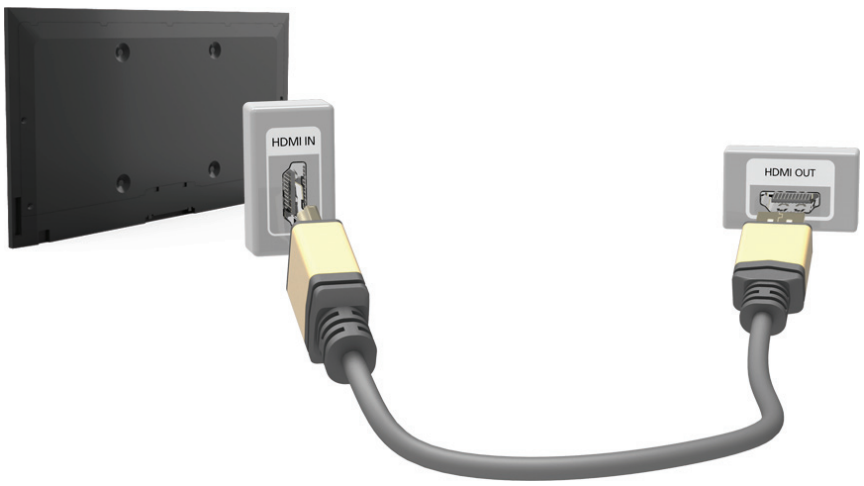
- High-Speed HDMI Cable
- High-Speed HDMI Cable with Ethernet

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 standardized 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 AV 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.

External Input 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

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.

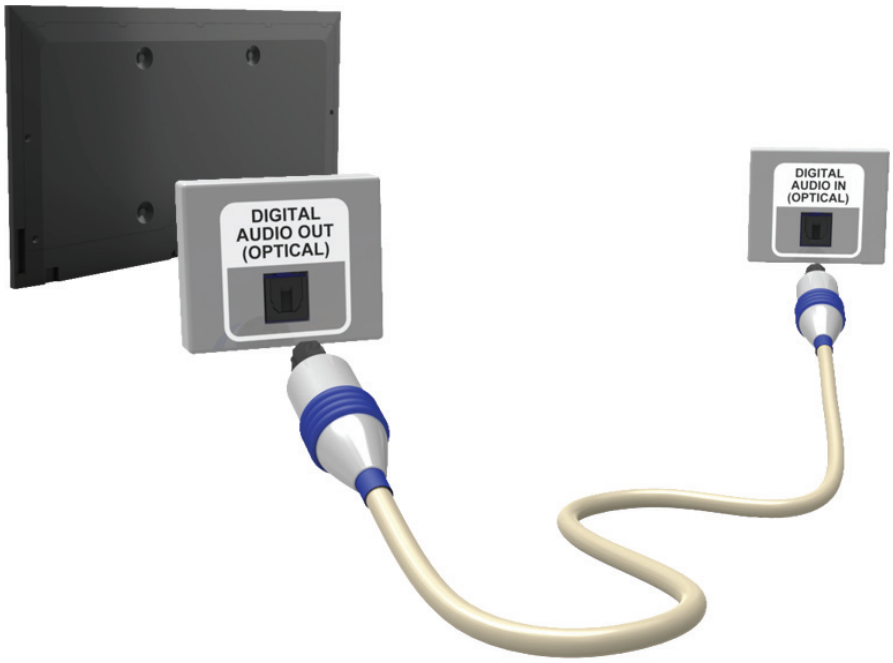
Connecting an AV receiver to the TV via a digital audio (optical) connector lets you listen to digital audio.

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.



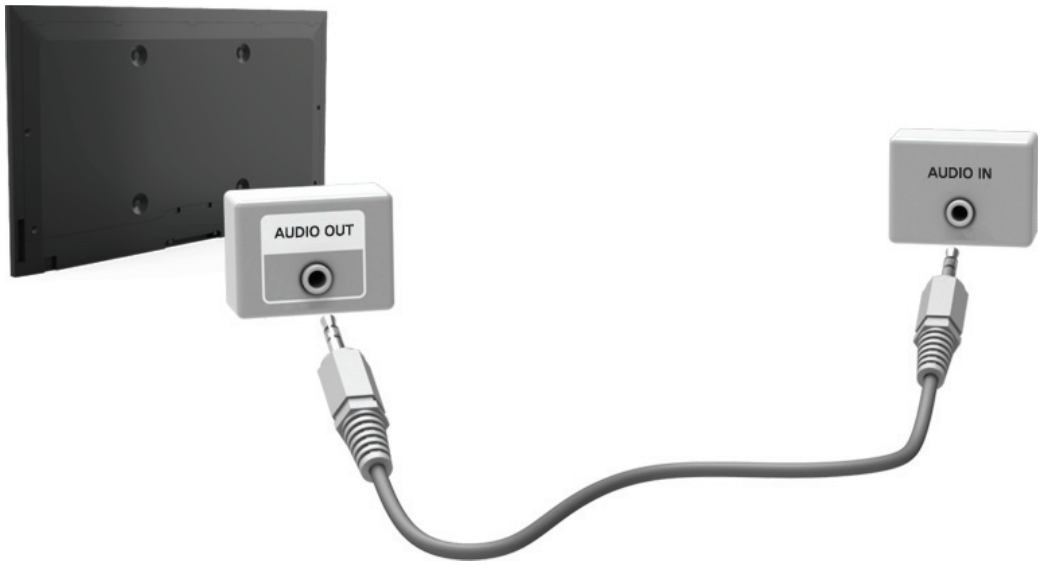
Audio Output Connection

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 Samsung Link**

  Quickly access the photo, video and music files saved on a computer on which Samsung Link software is installed, even if you do not connect the TV directly to the computer.

- **Connecting via Home Network (DLNA)**

  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

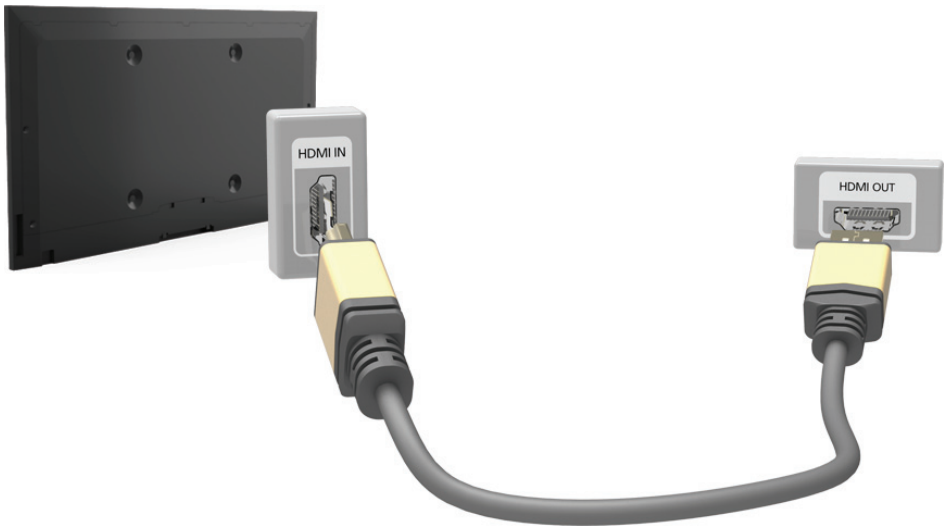
Use an HDMI cable with a thickness of 14 mm or less. Using a non-certified HDMI cable may result in a blank screen or a connection error.

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 standardized 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 video device'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 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 Samsung Link

Quickly access photo, video and music files saved on a computer with Samsung Link software installed. Also, use Samsung Link to play and view the contents of a computer that has been registered to Samsung Link under your Samsung account, even if the computer and the TV are not connected to the same router or AP.

1. Visit the Samsung content and service portal (http://link.samsung.com) on a computer and sign into your Samsung account.

   To install Samsung Link desktop software, you will need to first sign into your Samsung account. If you don't have a Samsung account, create one first.

2. Install Samsung Link desktop software. When the installation is complete, the computer will be registered to Samsung Link.

3. Specify the folder you wish to link to the TV. You can view and play photo, video and music files contained in the specified folder on the TV screen. For more information on multimedia content, refer to the "Playing Multimedia Content Saved in a Computer/Mobile Device" section.

   For more information on using Samsung Link desktop software, refer to the software's Help section.

Connecting via Home Network (DLNA)

Quickly access and view/play photo, video and music files from a computer on the TV screen.

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 (DLNA) 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.

- **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.

- **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 Samsung Link**

  Samsung Link enables you to play photo, video and music files from a Samsung Link-enabled mobile device without having to manually connect the device to the TV.

- **Connecting via Home Network (DLNA)**

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

Mobile Device Screen on TV (Screen Mirroring)

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.

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 Samsung Link

Samsung Link enables you to view/play photo, video and music files from a Samsung Link-enabled mobile device with ease. Also use Samsung Link to play and view the contents of a mobile device that has been registered to Samsung Link under your Samsung account, even if the mobile device and the TV are not connected to the same router or AP.

1. Run the Samsung Link app on the mobile device and then sign in with your Samsung account.

   To use Samsung Link, you have to sign in with a Samsung account. If you don't have a Samsung account, create one first.

2. Quickly access and play photo, video and music files from the mobile device running Samsung Link app under your Samsung account. For more information on multimedia contents, refer to the "Playing Multimedia Content Saved in a Computer/Mobile Device" section.

   For more information on using the Samsung Link app, refer to the Help section of the manual.

Connecting via Home Network (DLNA)

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 (DLNA) 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.

  – 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.

- Universal remote setup

  Select Universal remote setup on the screen to configure the universal remote function. By configuring a universal remote control, you can control cable boxes, Blu-ray players, home theatres, and other external devices using a single remote control.

  Availability depends on the specific model.

Displaying the Remote Control on the Screen

Press the KEYPAD button to display the virtual remote control on the screen. You can easily enter digits, control content, and use TV buttons with the virtual remote control.

The virtual remote control buttons may vary depending on the TV's current status.

Button	Description
Web Browser	Launch the Web Browser.
PIP	Display the video from an external device or computer on the main screen and the TV as a picture-in-picture.
P.Mode	Lets you select the Picture Mode.
Speaker Settings	Select the speakers which you want to use to listen to the TV's sound. To set this option, external speakers must be connected to the TV.
Schedule Manager	Move to the Schedule Manager screen. Availability depends on the specific model.
Media Play	Run the Media Play. Lets you play media content saved on USB devices.
MENU	Displays a menu on the screen.
e-Manual	Launch the e-Manual.

Controlling External Devices with the TV Remote (Universal Remote Setup)

System > Universal Remote Setup

Availability depends on the specific model and area.

The universal remote control feature lets you control cable boxes, Blu-ray players, home theatres, and other external devices connected to the TV using the TV's remote control. In order to use the TV's remote control as a universal remote, you must first connect the IR extender cable (included).

Certain external devices connected to the TV may not support the universal remote feature.

Setting Up the Universal Remote Control

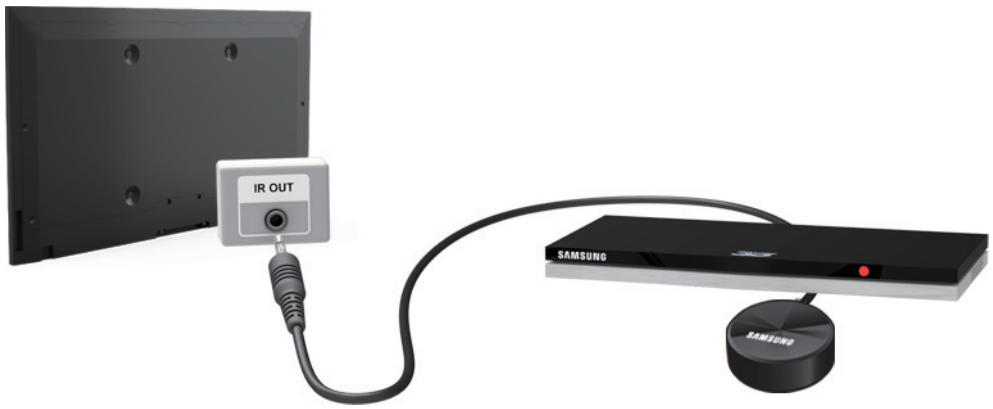
Before connecting any external devices and cables to the TV, first verify the model number of the purchased TV. A sticker containing the model number is attached to the back of the TV. The connection method varies depending on the model.

To use the TV remote as a universal remote, connect the IR extender cable (included) to the TV and position it within 10 cm of the external device's remote control receiver.

The colour and design of the IR extender cable may vary depending on the model.

When you connect the cable, you have to match the cable's colour and socket's colour.

Connect the IR extender cable to the TV's IR output connector as shown in the diagram and place the transmitter end within 10 cm of the external device's receiver pointing in the direction of the remote receiver. However, there must be no obstacles between the IR extender cable and the external device. The presence of obstacles interferes with the transmission of the remote control signal.



Controlling External Devices with the TV Remote

External Device Registration

1. Turn on the external device to set up the universal remote function for, and bring up the **Source** screen.
2. Select **Universal remote setup** from the top of the screen. This initiates the universal remote setup process.
3. Follow the onscreen instructions and register the external device.

Using the TV Remote

Registering an external device to the TV remote also registers the connector through which the device is connected. Accordingly, simply selecting the external device using the SOURCE button makes it possible to control the device using the TV's remote.

Universal Remote Features

1. Press SOURCE to bring up the Source screen.
2. Select Universal remote setup from the top of the screen. This initiates the universal remote setup process.
3. Select an external registered device on the Universal remote setup screen. The following options are available:

- **Use with Home Cinema**

  Listen to the audio from the external device through the connected home theater.

  This is available only on the set-top box or Blu-ray player.

- **Use with Set-Top Box**

  Listen to the audio from the set-top box through the home theater that is connected to the TV.

  This is available only on the home theater system.

- **Use with Blu-ray player**

  Listen to the audio from the Blu-ray player through the home theater that is connected to the TV.

  This is available only on the home theater system.

- **Source Setup**

  Change the TV's input source to your selected external device.

- **Sync with TV power**

  Configure the set-top box to turn off when the TV is turned off

  This is available only on the set-top box.

- **Rename**

  Rename the registered external device (up to 15 characters long)

- **Delete**

  Remove the registered external device.

Controlling the TV with a Keyboard

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 (), F6 (SOURCE Button), F7 (CH LIST Button), F8 (MUTE 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

Availability depends on the specific model.

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

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 onscreen 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:

- **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

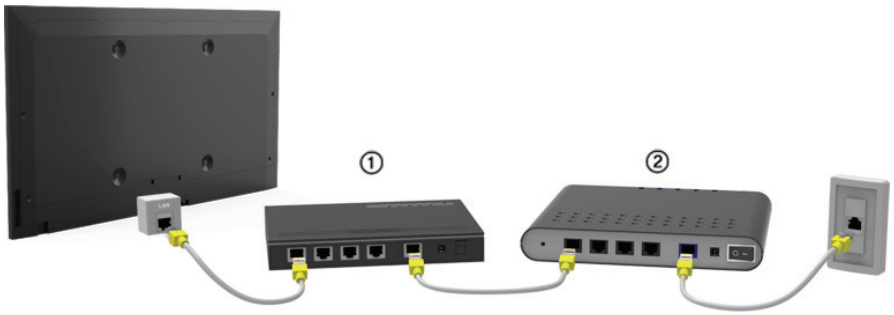
Use a LAN cable.

- 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.

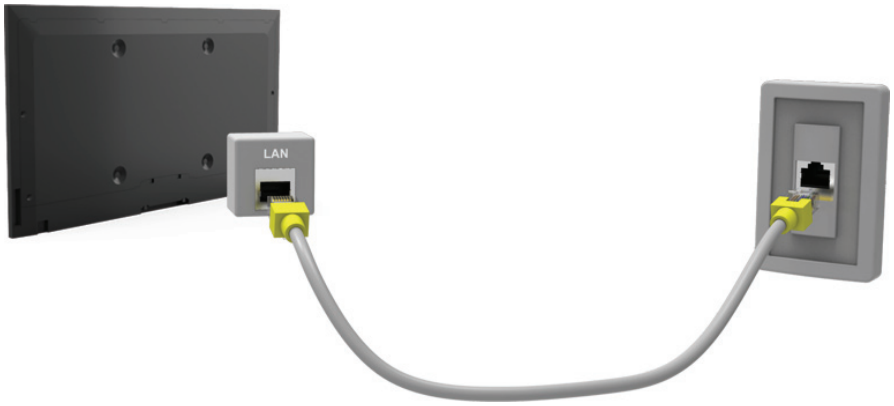
There are three ways to connect the TV to the Internet. Refer to the diagrams and connect the LAN cable to the LAN connector on the back of the TV.

- 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.

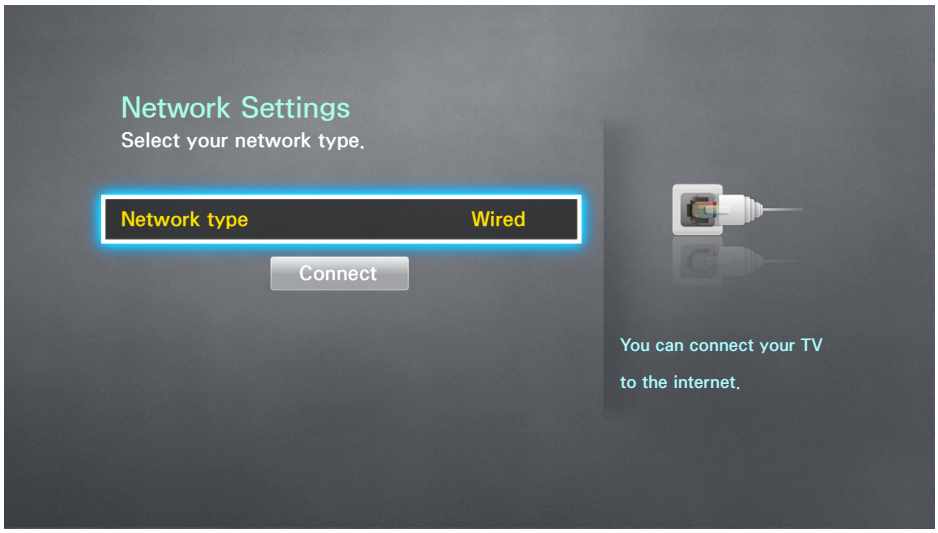
Connecting to a Wired Internet Network Manually

Network > **Network Settings**

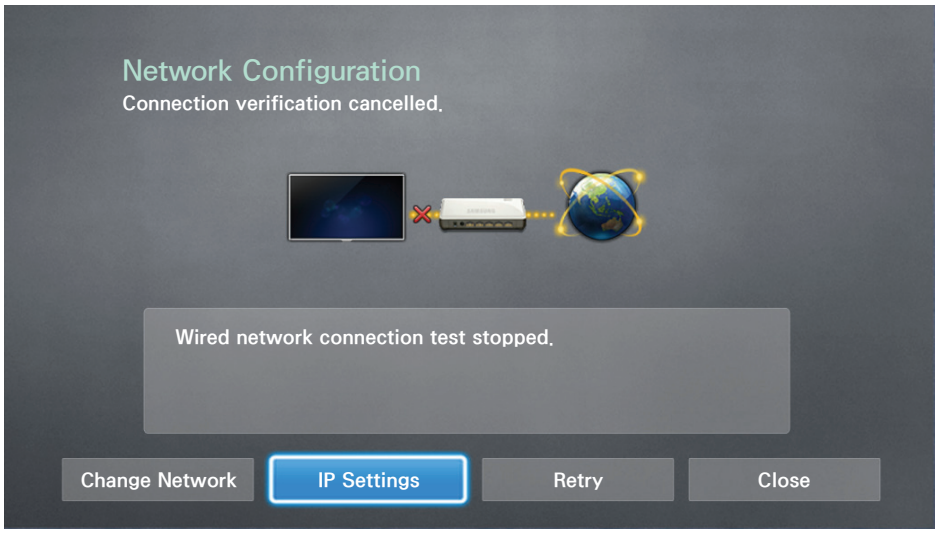
With networks that require a static IP address, you will need to enter the IP address, subnet mask, gateway, and DNS values manually to connect to the network. To get these values, contact your Internet Service Provider (ISP).

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**.



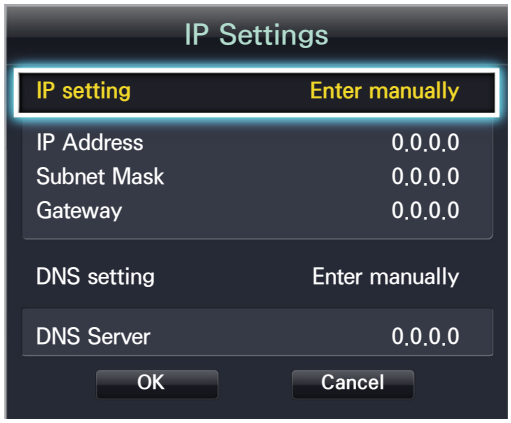
2. Select **Stop** when the TV attempts to connect to the network. Once the network connection has been interrupted, select **IP Settings**.



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

The connection method varies depending on the model.

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.

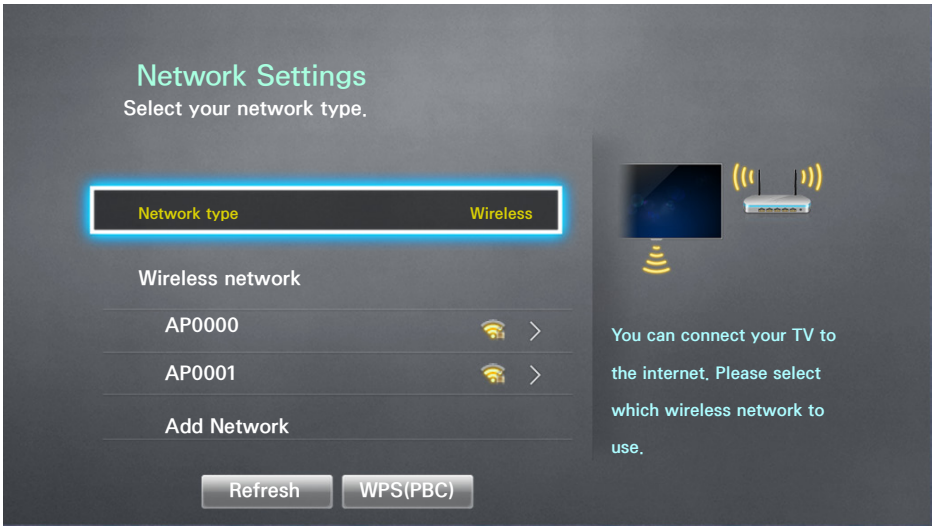
Connecting to a Wireless Internet Network Manually

Network > **Network Settings**

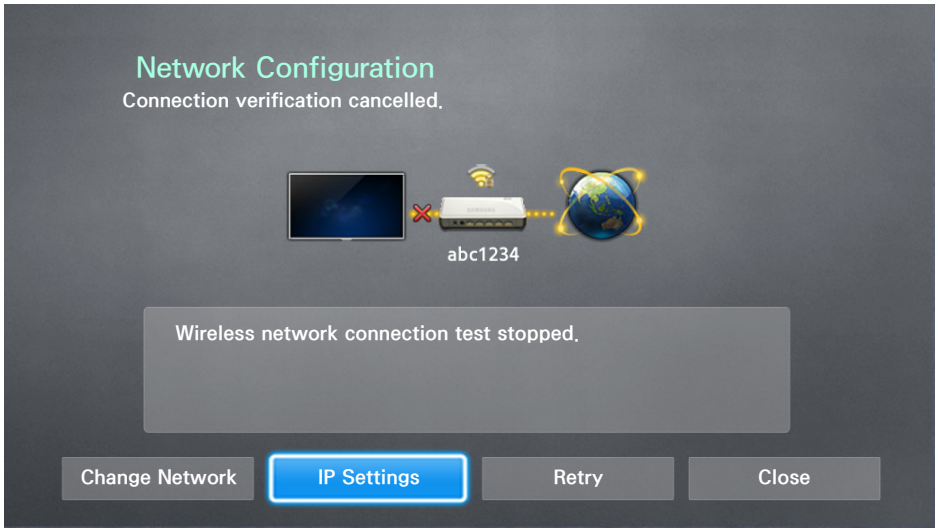
With networks that require a static IP address, you will need to enter the IP address, subnet mask, gateway and DNS values manually to connect to the network. To get the IP address, subnet mask, gateway and DNS values, contact your Internet Service Provider (ISP).

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.



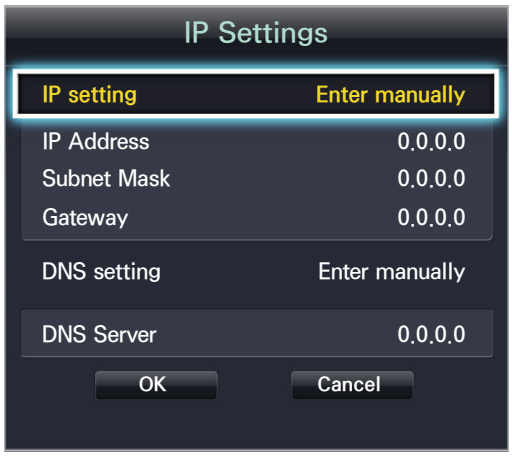
2. Select the network (SSID) you want to connect to. If the wireless router doesn't appear in the list, select **Add Network**, and enter the network's SSID manually.
3. Enter the security key and select **OK**. If the selected network is not security-enabled, the TV attempts to connect right away.
4.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



5. 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.



6. 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.

1. Setting the **Network type** to **Wireless** automatically displays a list of available wireless networks.
2. Select **WPS(PBC)** and then press the WPS or PBC button located on the wireless router within two minutes.
3. 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 Try Now Try Now

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 Try Now

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 Try Now

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 Try Now

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 Try Now

If the problem persists, contact your Internet Service Provider.

Troubleshooting Wireless Internet Connectivity Issues

Wireless network connection failed, Try Now Try Now

Selected wireless router not found. Go to **Network Settings** and select the correct router.

Unable to connect to a wireless router Try Now Try Now

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 Try Now

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 Try Now

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 Try Now

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 Try Now

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.

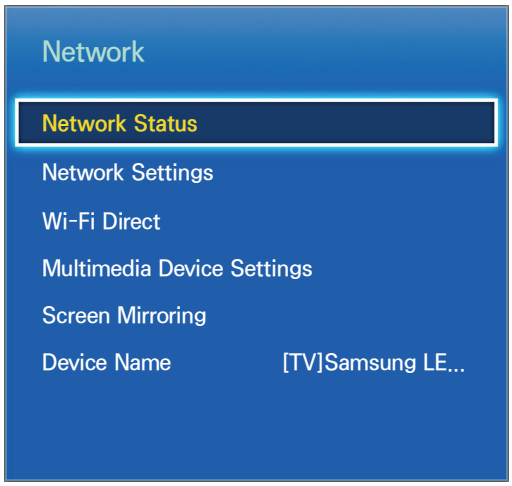
If you have any problems using online services, please contact your Internet service provider.

Supported Telecom and Model Name

- 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)
- Telcomsel (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 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 button to open the **Home Screen**, and move to a desired item.
2. Press and hold 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 Enter button to display the context-sensitive menu. Then, select **Remove from Favourites**.

Deleting browsing history

1. Press the 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 button to open the **Home Screen**, and select the Panel icon. On the Panel screen for each service panel, the following are available:

Usability depends on the specific model and local region.

- **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**

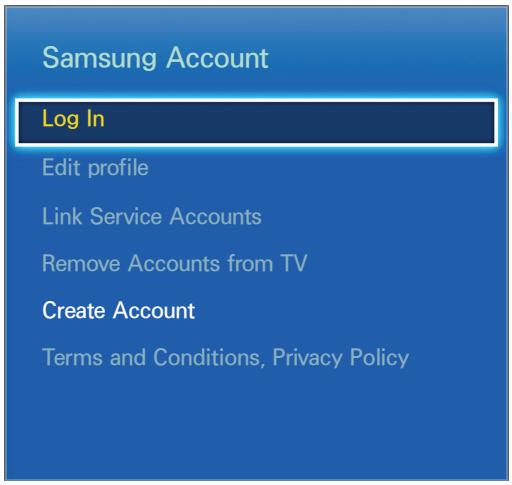
From the **Support** menu, select **Smart Hub Tutorial**. This will familiarize yourself with the basics of Smart Hub and panels.

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.

- **Add a Credit Card to Your Samsung Account**

  Select **Add Card** to add a credit card to your Samsung Account. Adding a credit card to your account makes it easier to purchase online movies and TV shows. Follow the easy directions on the screen.

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

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

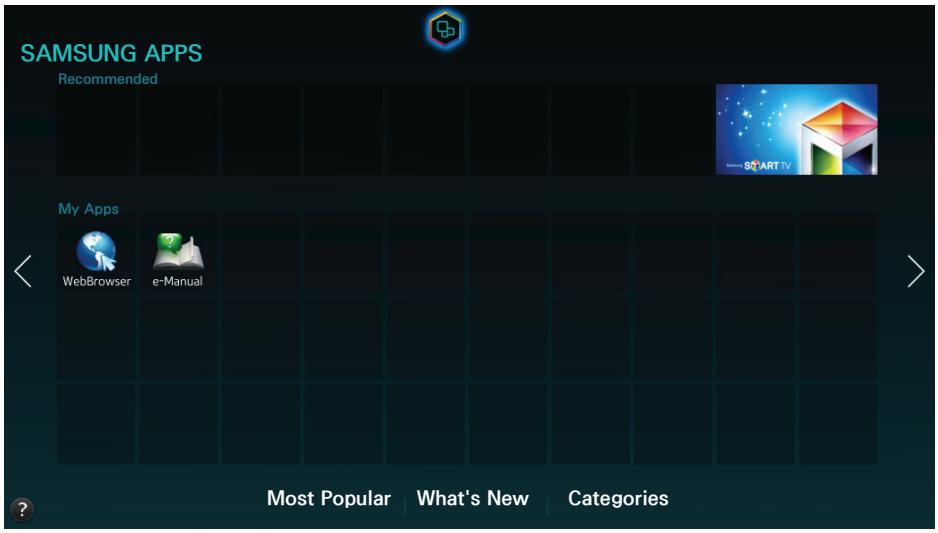
Deleting All Samsung Accounts from the TV

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.

Using Web Browser

Web Browser is an Internet browsing app. Using Web Browser, you can surf the Internet on the TV in the same manner as you would using a PC even while watching a TV programme on PIP.

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

The browsing screen may differ from that on a PC.

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.

- **100% Zoom**

  Zoom in or out of the current web page.

- **PIP**

  Use **Web Browser** while watching a TV programme on the same screen.

- **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.

- **PIP Settings**

  Configure the PIP settings.

  This is available only if watching TV in PIP mode.

  Position: Select the position of the sub picture.

- **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 Try Now

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**

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.

Playing Photos, Videos, and Music (MULTIMEDIA)

- You cannot play media content if the content or the storage device are not supported by the TV. For more information, refer to "Photo, Video, and Music File Limitations".
- 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. To use multimedia function, press the KEYPAD button, and then select Media Play. 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

To view a guide about the PC connection, select **Connect to a PC** under **Network 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 DLNA DMC device. DLNA DMC 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 (DLNA)

- To connect a computer through home network (DLNA), refer to "Connecting to a Computer" section.
- To connect a mobile device through home network (DLNA), refer to the "Connecting with a Mobile Device" section.
- You may experience compatibility issues when attempting to play media files via a third-party DLNA server.
- 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 (DLNA). 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.

When Connected through Samsung Link

- To connect a computer through Samsung Link, refer to "Connecting to a Computer" section.
- To connect a mobile device through Samsung Link, refer to "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 **Smart Hub** > **Samsung Account** menu and select **Log In** to sign in with your the Samsung Account.
2. Select **Multimedia Device Settings** from the **Network** menu. Devices connected to the TV are listed.
3. Select a device connected via Samsung Link. Folders and files shared by the selected device will be listed.
4. 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	Chapter Titles: Select and play another video in the same folder. Time Bar: You can use the ◀, ▶ buttons to scan through the video in 1-minute intervals or enter a specific time value to jump to that point in the video.
Subtitles	Control the subtitle of the video. Language: Turn the subtitles on or off. Sync: When the video and the subtitles are not synchronized, you can adjust the synchronization. Reset Sync: Reset the subtitle synchronization adjustment to 0. Size: Choose the font size for the subtitles. Encoding: If the subtitles are broken, you can change the encoding language.
Repeat	Set the repeat mode. Repeat One repeats the current programme only. Repeat All repeats all programmes contained in the folder.
Picture Size	Change the picture size. However, the supported picture size is determined by the video content.
Picture Mode	Change the Picture Mode setting.
Sound Mode	Change the Sound Mode setting.
Select Speakers	Choose a speaker to play the audio.
Audio language	Choose a desired audio language. This option works only when the video supports multi-track sound.
Information	View detailed information about the video.

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.

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 Set** (**System** > **Time** > **Clock Set**).

Setting Up Schedule Viewing

Channel Schedule Viewing

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

1. Run **Schedule Manager** and then select **Schedule**. A pop-up menu will appear. Select **Schedule Viewing** to process.
2. Specify that programme's **Channel**, **Repeat**, and **Start Time** 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**.

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:

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

- **Using Options**

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

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

- A : 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**

  Selects all channels displayed in the **Edit Channel** screen.

- **Edit Favourites**

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

- **Rename channel**

  Rename analog 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.

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 the channels from the list in the middle of the screen.
3. Select Change Fav. and then change the Favourites 1 to the Favourites 5 you want to use.
4. 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.

- **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.

Adding Realism to Sports

Availability depends on the specific model and area.

System > **Soccer Mode** Try Now

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

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

Enabling Soccer Mode

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

System > **Soccer Mode** > **Soccer Mode**

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

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

Press ⚽ while watching TV to activate/deactivate **Soccer Mode**.

TV-Viewing Support Features

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.

- 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.

Using the Channel Settings

Broadcasting > Channel Settings

Area

Broadcasting > Channel Settings > Area

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

Availability depends on the specific model and area.

Manual Tuning

Broadcasting > Channel Settings > Manual Tuning

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 model and area.

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 positio n 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.

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 utilize 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.

- 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 Soccer Mode (System → Soccer 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.

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: Adjust 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: Adjust 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 / **G-Offset** / **B-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.

  This feature is only available when the **Picture Mode** is set to **Standard**.

  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.

  Available for analogue channels only.

- **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).

- **Auto Motion Plus**

  Availability depends on the specific model.

  Removes blurring and judder from scenes with rapid movement. If you select **Custom**, you can configure Blur Reduction and Judder Reduction manually and set **LED Clear Motion** on for a sharper LED image.

  The Info screen on your TV displays the resolution and frequency of the incoming signal (60Hz), but not the frequency the TV is generating for the image it is displaying by using **Auto Motion Plus** function.

  If noise occurs on the screen, please set up the **Auto Motion Plus** to **Off**. If **Auto Motion Plus** is **Custom**, you can set up the **Blur Reduction Judder Reduction**, **LED Clear Motion** and **Reset** manually.

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

  Blur Reduction: Adjusts the blur reduction level from video sources.

  Judder Reduction: Adjusts the judder reduction level from video sources when playing films.

  LED Clear Motion: Removes drag from fast scenes with a lot of movement to provide a clear picture.

  Reset: Reset the custom settings to the factory defaults.

  If you have **Auto Motion Plus** on, and then bring up the INFO screen, the INFO screen displays the resolution and frequency of the incoming video signal (60Hz). This frequency is not the same as the frequency of the picture the TV is displaying when **Auto Motion Plus** is on.

- **Analogue Clean View**

  Availability depends on the specific model.

  This function reduces diagonal noise in the picture caused by signal crosstalk (interference). If your TV picture displays diagonal noise or distortion when you watch, turn on this function.

Picture Support Functions

PIP Broadcast Viewing

Picture > **PIP**

Use the **PIP** ("Picture-In-Picture") function to watch TV in a small window while also watching content from a DVD player, Blu-ray player, computer, or a different external device 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.

- **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.

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.

- **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.

- **Smart View 1**

  Reduces a 16:9 picture by 50%.

- **Smart View 2**

  Reduces a 16:9 picture by 25%.

Adjusting the Screen Position

Picture > **Picture Size** > **Zoom/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.

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

Picture > **Picture Off** Try Now

Turns off the screen and plays audio through the speakers only. To turn the screen back on, press any button other than the **TV** and **VOLUME** buttons.

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 emphasizes normal music instead of voice.

- Movie

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

- Clear Voice

  This mode emphasizes 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 Soccer Mode (System > Soccer 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 Try Now

Sound > **Speaker Settings** > **TV Sound Output**

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**

  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

  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

  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 Set Try Now

Set the Date and Time manually. You can set the current date and time using your remote.

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

Time Offset

System > Time > Time Offset Try Now

If the set time is not accurate, users can set the Time Offset to adjust the time difference hourly from -12 to +12 hour. Changing Time Offset is only available, when the Time is set to auto, and is set through a network.

The current time will be set through a network, if the TV fails to receive the time information including the broadcast signal from TV stations. (ex: Watching TV via set-top box, Satellite receiver, or etc)

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 Set** 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.

- **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.Enabling Automatic Software Updates
- 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 Set** 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**.

- **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 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. 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

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.

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.

Using Other Functions

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 Hubs.

Changing the Menu Language

System > Menu Language Try Now

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

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"(For France, Italy: "1-1-1-1"): In Standby mode, press the following buttons on the remote to reset the PIN to 0000: MUTE → 8 → 2 → 4 → POWER (On).

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 Standard and the Sound Mode to Movie.
- To use a different external device, first disconnect the game console and disable Game Mode.

Enjoying Rich Colours and Superior Picture Quality (BD Wise)

Availability depends on the specific model.

System > General > BD Wise

Connecting a Samsung DVD player, Blu-ray player, or home theatre system that supports BD Wise enables the richest colours and best possible picture quality. Enabling BD Wise automatically optimises the TV's resolution.

This feature is only available when the external device is connected via an HDMI cable.

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** Try Now

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.

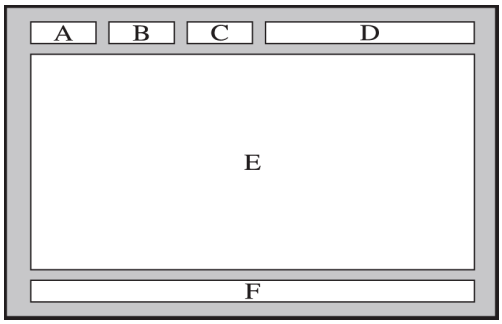
Page down: Displays the previous Teletext page.

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	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).
Component Connections/Screen Colour	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: • Confirm that the TV's video input connectors are connected to the correct external device video output connectors. • 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	If the colours on your Samsung TV are correct but just a little too dark or bright, try adjusting the following settings first. • Go to the Picture menu and adjust the Contrast, Brightness, Sharpness, Colour, and Tint (G/R) settings.
Auto Motion Plus/Blur	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. Availability depends on the specific model.
Unwanted Powering Off	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.
Problems Powering On	When the TV is turned on, the remote control receiver flashes 5 times before the screen turns on. 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.
Unable to find a Channel	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).

The Problem	Try this!
The TV image does not look as good as it did in the store.	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. • Cable/Satellite Subscribers: Try HD channels from the channel lineup. • Terrestrial/Cable Aerial Connection: Try HD channels after running the Auto Tuning function. Adjust the cable/satellite box's video output resolution to 1080i or 720p.
The picture is distorted.	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.
The colour is wrong or missing.	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.
The colour is poor or the picture is not bright enough.	Go to the Picture menu and then adjust the Picture Mode, Brightness, Sharpness, and Colour settings. See if Energy Saving (System > Eco Sensor > Energy Saving) has been enabled. Try resetting the picture. (Picture > Reset Picture)
There is a dotted line on the edge of the screen.	If the Picture Size has been set to Screen Fit, change the setting to 16:9. Change the cable/satellite box resolution.
The picture is black and white.	If you are using AV composite input, connect the video cable (yellow) to the TV's green component jack.
When changing channels, the picture freezes or is distorted or delayed.	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.

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. If your TV has a headphone jack, make sure there is nothing plugged into it. 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: • 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.

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 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.

The Problem	Try this!
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 utilizes 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 Set** (**System** > **Time** > **Clock Set**) 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.)

Photo, Video, and Music File 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 does not support HDDs (Hard Disk Drives) connected to the USB port.
- 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. USB devices that use high-power input should be connect the USB [5V, 1A] port.
- 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	DLNA Device, SugarSync, Dropbox, SkyDrive, Mobile Device
Camera	DLNA Device
DLNA Device	USB 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	.ttxt
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
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	NonSmart not supported
*.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.

<table>
<tr><th>File Format</th><th>Container</th><th>Video Codecs</th><th>Resolution</th><th>Frame Rate (fps)</th><th>Bitrate (Mbps)</th><th>Audio Codec</th></tr>
<tr><td>*.avi
*.mkv
*.asf</td><td rowspan="8">AVI
MKV
ASF
MP4
3GP
MOV
FLV
VRO
VOB
PS
TS</td><td>Motion JPEG</td><td>640x480</td><td rowspan="8">MAX 30</td><td>8</td><td rowspan="8">Dolby Digital
LPCM
ADPCM(IMA, MS)
AAC
HE-AAC
WMA
Dolby Digital Plus
MPEG(MP3)
DTS(Core, LBR)
G.711(A-Law, µ-Law)</td></tr>
<tr><td>*.wmv
*.mp4
*.mov</td><td>H.264 BP / MP / HP</td><td rowspan="6">1920x1080</td><td rowspan="6">30</td></tr>
<tr><td>*.3gp
*.vro</td><td>DivX 3.11 / 4 / 5 / 6</td></tr>
<tr><td>*.mpg
*.mpeg
*.ts</td><td>MPEG4 SP/ASP</td></tr>
<tr><td>*.tp
*.trp
*.mov</td><td>Window Media Video v9(VC1)</td></tr>
<tr><td>*.flv
*.vob</td><td>MPEG2</td></tr>
<tr><td>*.svi
*.divx</td><td>MPEG1</td></tr>
<tr><td>*.webm</td><td>WebM</td><td>VP8</td><td>1920x1080</td><td>6~30</td><td>20</td><td>Vorbis</td></tr>
</table>

Other Restrictions

- Codecs may not function properly if there is a problem with the content.
- 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 has an error, the Seek (Jump) function will 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 is supported up to 10 Pro 5.1 channels. Supports up to the M2 profile.
- WMA lossless audio 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
16:9	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)
Wide Zoom, Zoom	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)
4:3	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)
Smart View 1	HDMI (480i/p, 576i/p, 720p, 1080i, 1080p)
Smart View 2	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)

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 via DLNA 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. The optimal resolution is 1366 x 768 @ 60 Hz. 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	+/+
1366x768	60Hz	47.712	59.790	85.500	+/+

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 x1080.

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 Resolutions for Video Signals

CEA-861

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	+/+

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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 standardized 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.