

## CONNECTION GUIDE

You can view detailed information about external devices that can be connected to the TV.

It shows you how to connect various external devices, such as video devices, game consoles, and PCs using pictures.

If you select the connection method and an external device, the connection details appear.



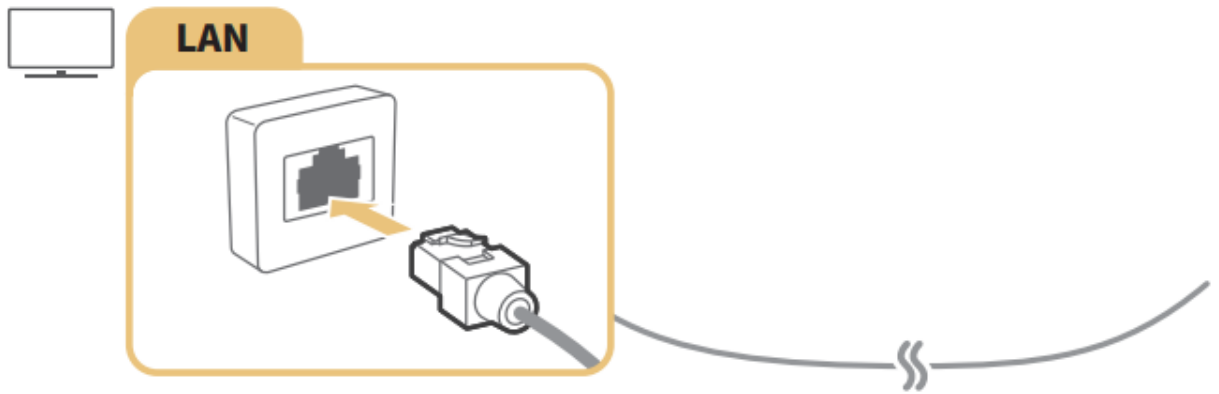
## CONNECTING AN ANTENNA

## CONNECTING TO THE INTERNET

 >  [Settings](#) > [General](#) > [Network](#) > [Open Network Settings](#)

### Establishing a wired Internet connection

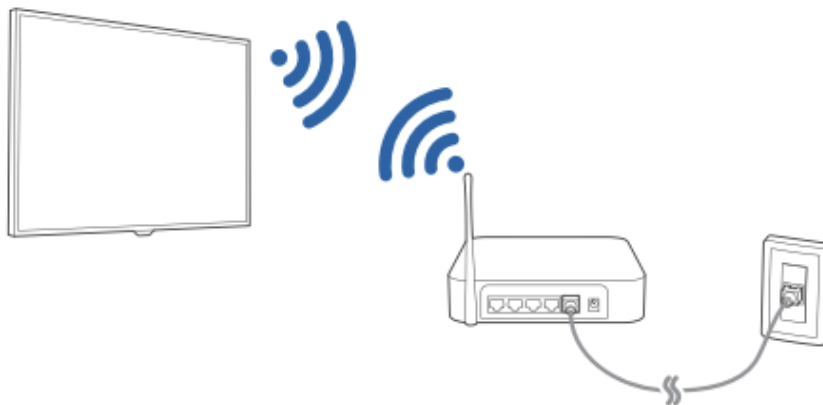
If you connect a LAN cable, the TV automatically accesses the Internet.



- Use a CAT 7 (\*STP type) cable for the connection. \* Shielded Twist Pair
- The TV will not be able to connect to the Internet if your network speed is below 10 Mbps.

### Establishing a wireless Internet connection

Make sure that you have the wireless router's SSID (name) and password settings before attempting to connect. The network name (SSID) and security key are available on the wireless router's configuration screen. See the wireless router's user manual for more information.




- The image on your TV may differ from the image above depending on your model and geographical area.
- If no wireless router is found, select Add Network at the bottom of the list and enter the network name (SSID).
- If your wireless router has a WPS or PBC button, select Use WPS at the bottom of the list, and then push the WPS or PBC button on your router within 2 minutes. The TV will connect automatically

### Checking the Internet connection status

### Resetting Your Network

## Turning on the TV with a mobile device

 >  [Settings](#) > [General](#) > [Network](#) > [Expert Settings](#) > [Power On with Mobile](#)

## Connecting an IP control device to the TV

 >  [Settings](#) > [General](#) > [Network](#) > [Expert Settings](#) > [IP Remote](#)

You can connect an IP control device to the TV remotely to manage your IP device.

- To use this function, Power On with Mobile must be turned on.
- Turning this feature on may allow other IP control devices to control your TV. We recommend turning this feature on only if an authorized third-party custom controller is installed and configured specifically for a Samsung TV and if your Wi-Fi network is password protected.
- This function may not be supported depending on the model or geographical area.



## Setting up network IP settings according to IPv6

 >  [Settings](#) > [General](#) > [Network](#) > [Expert Settings](#) > [IPv6](#)

## Checking an Internet connection set up over IPv6

 >  [Settings](#) > [General](#) > [Network](#) > [Expert Settings](#) > [IPv6 Status](#)

## Changing the name of the TV on a network

 >  [Settings](#) > [General](#) > [System Manager](#) > [Device Name](#)

## Troubleshooting Internet Connectivity Issues

### Troubleshooting wired Internet connectivity issues

After reading the following content, troubleshoot the wired Internet connection issue. If the problem persists, contact your Internet Service Provider.

#### No network cable found

Make sure that the LAN cable is plugged in on both ends. If it is plugged in, make sure that the router is turned on. If the router is on, try turning it off and then on.

### **IP auto setting failed**

1. Configure the settings in IP Settings.
2. Make sure that the DHCP server is enabled on the router, and then reset the router.

### **Unable to connect to the network**

1. Check all IP Settings.
2. After checking the DHCP server status (must be active) on the router, remove the LAN cable, and then connect it again.

### **Connected to a local network, but not to the Internet**

1. Make sure that the Internet LAN cable is connected to the router's external LAN port.
2. Check the DNS values in IP Settings.

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

If the problem persists, contact your Internet Service Provider.

### **IP auto setting failed**

1. Configure the settings in IP Settings.

 >  [Settings](#) > [General](#) > [Network](#) > [Network Status](#) > [IP Settings](#)

2. Make sure that the DHCP server is enabled on the router. Then, unplug the router and plug it back in.
3. Enter the correct password if required.
  - For wireless connection, enter the correct password if required.

### **Unable to connect to the network**

1. Check all IP Settings.

 >  [Settings](#) > [General](#) > [Network](#) > [Network Status](#) > [IP Settings](#)

2. After checking the DHCP server status (must be active) on the router, remove the LAN cable, and then connect it again
  - For wireless connection, enter the correct password if required.

## Connected to a local network, but not to the Internet

1. Make sure that the Internet LAN cable is connected to the router's external LAN port.
2. Check the DNS values in IP Settings.

 >  Settings > General > Network > Network Status > IP Settings

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

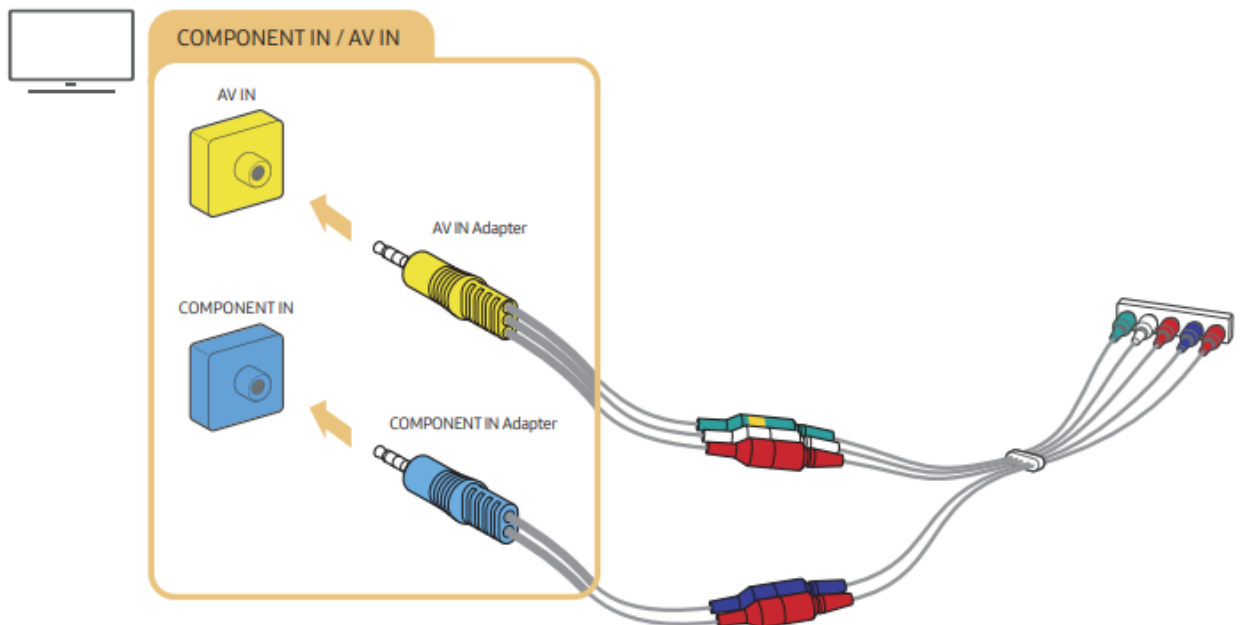
If the problem persists, contact your Internet Service Provider.

## CONNECTING VIDEO DEVICES

### Connecting with a component cable (Only for models with COMPONENT IN / AV IN)

A Component connection lets you enjoy video resolutions up to 1080p. To watch video from most DVD and Blu-ray players, use the Component connection.

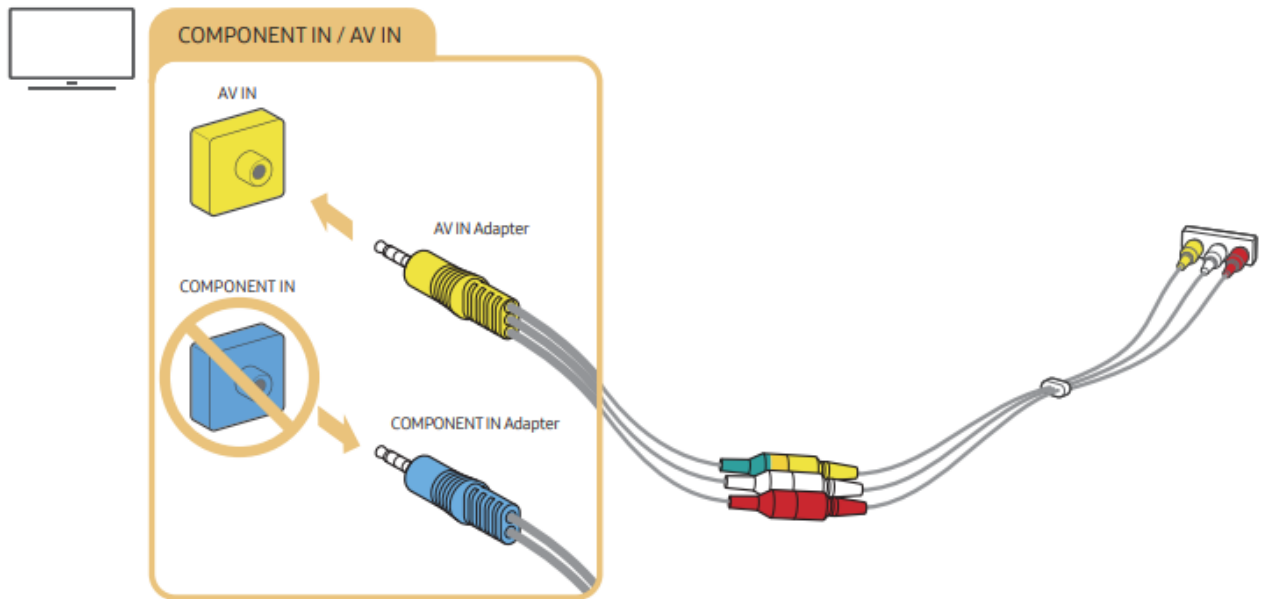
Review the illustration below, and then connect Component IN and AV IN on the TV to Component OUT on the external device by using the provided component and AV adaptors. Make sure to connect the same color connectors together. (blue to blue, yellow to yellow, etc.)



### Connecting with a composite cable (Only for models with COMPONENT IN / AV IN)

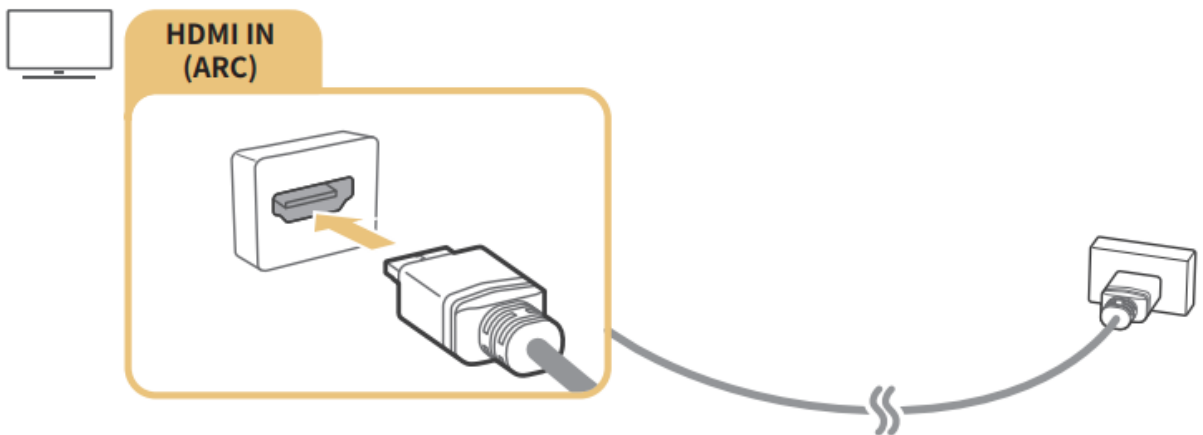
Through the AV connection, you can enjoy video resolution up to 480i.

Review the illustration below, and then connect AV IN on the TV to AV OUT on the external device by using the provided composite cable and AV adapter. When connecting the cables, be sure to match the colors of the cables to the colors of the ports.

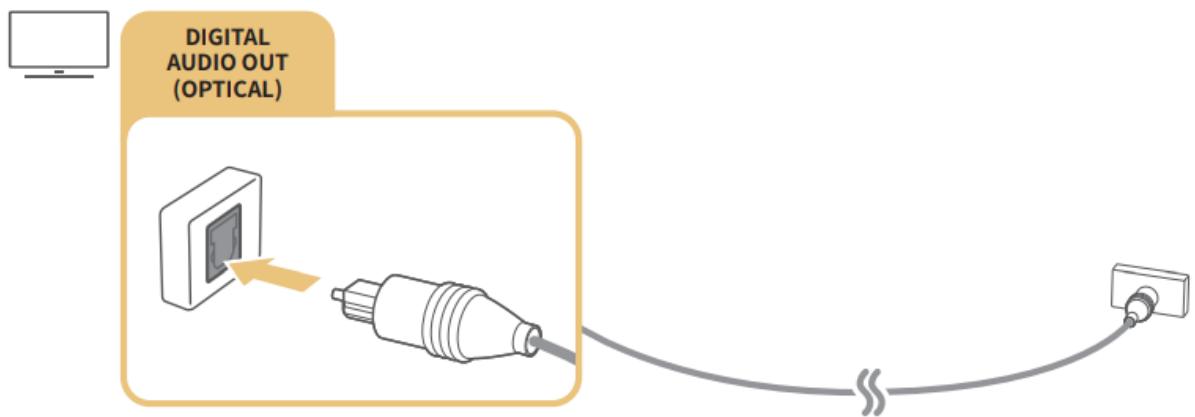


## AUDIO INPUT AND OUTPUT CONNECTIONS

### Connecting with an HDMI (ARC) cable



## Connecting with a digital audio (optical) cable



## Connecting through a wireless network

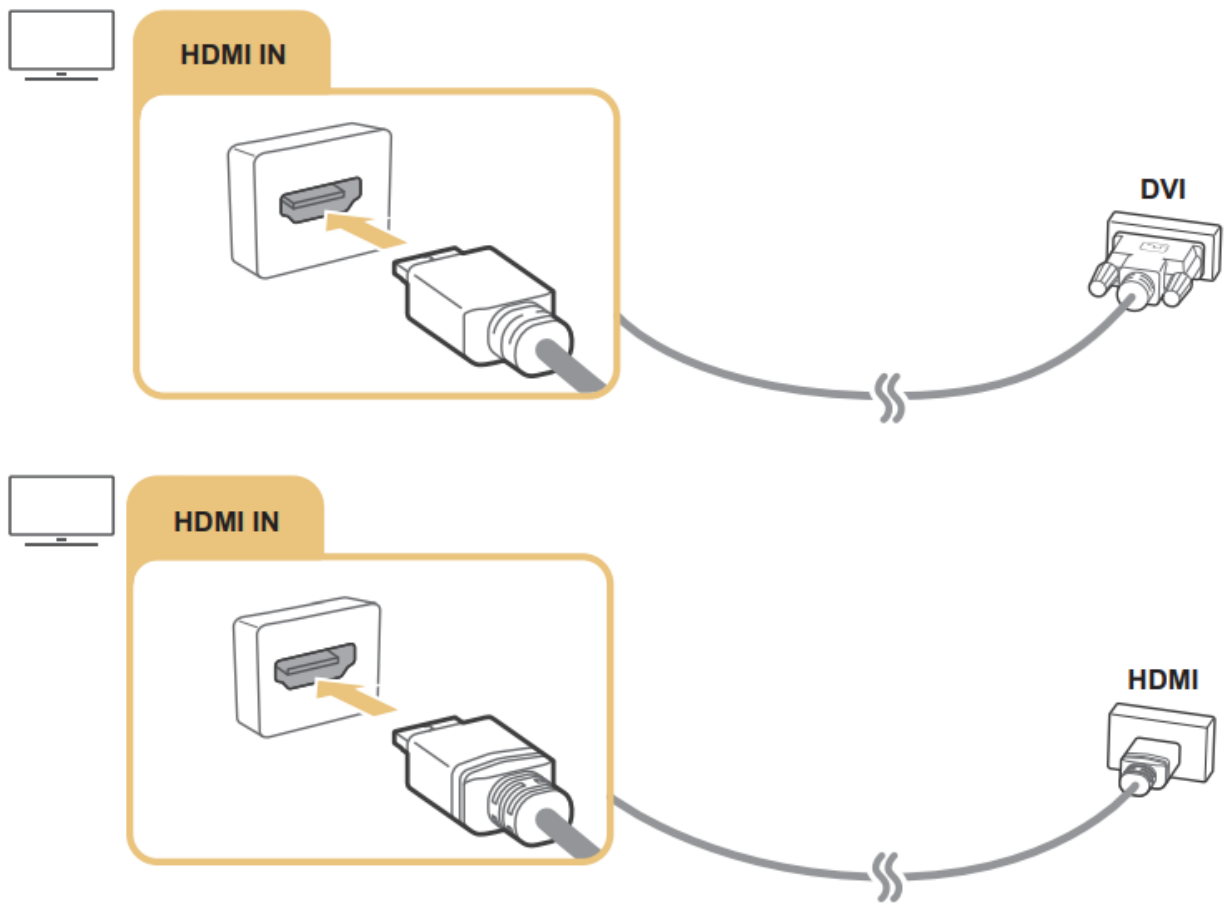
You can connect the TV to a Samsung wireless audio device through your wireless network. The two devices must be connected to the same network. For more information about the connection and its use, refer to the user manual of the audio device.

## Connecting Bluetooth Devices

For more information about how to connect and use external speakers, refer to the Connection Guide (🏠 > 📄 Source > Connection Guide > Audio Device > Bluetooth) and to the speakers' user manuals.

## CONNECTING A COMPUTER

### Connecting a Computer through the HDMI port — Screen sharing (HDMI)



## CONNECTING A MOBILE DEVICE

### Viewing the screen of a mobile device on your TV (Screen Sharing)

Connect your mobile device to the TV on the same network to control the TV with the mobile device or enjoy the content of the mobile device on the TV.

Use the SmartThings app on your mobile device to quickly and easily connect to the TV and control its main settings. In addition, you can remotely check and control the statuses of various devices such as Samsung smart devices, home appliances, and speakers registered to the server.

- Make sure that your TV supports SmartThings. You can check this with the Supported Devices menu in the SmartThings app.
- To use the SmartThings app, you must be signed in to your Samsung account on the TV.
- This function may not be supported depending on the TV model or mobile device.
- The supported functions may differ depending on the version of the SmartThings app.

You can install the SmartThings app from App Store or Google Play Store.

## Connecting to the TV via the SmartThings app



1. Turn on the TV.
2. Start the SmartThings app on your mobile device.
3. Tap Add Device on the dashboard of the SmartThings app. Connectable TVs are searched for.
4. From the search results, select the model of your TV.
5. Enter the PIN number displayed on the TV screen.

Once the TV is registered with your Samsung account, you can use the SmartThings app to control the TV.

## Bidirectionally mirroring your TV and mobile device using the SmartThings app

Bidirectional mirroring refers to either outputting the screen and sound of a mobile device on a TV or outputting the screen and sound of a TV on a mobile device. You can use the SmartThings app to enjoy the screen and sound of the TV on your mobile device or to play the screen and sound of your mobile device on the TV.

Start the SmartThings app on your mobile device. Tap your TV from the dashboard or device. You can use the following functions:

- You can enjoy the screen and sound of the mobile device on your TV.
  - After you connect a mobile device that supports screen mirroring to your TV, you can use screen mirroring to enjoy the screen and sound of the mobile device on your TV wirelessly and play the video, audio, or photo files currently playing on the mobile device on your TV.
- You can enjoy TV screen and sound on your mobile device.
- You can only listen to the TV sound on your mobile device.
- You can add a new device through the SmartThings app on your mobile phone. Please refer to the user guide in the SmartThings app for more details.
- This function may not be supported depending on the TV model or mobile device.
- The supported functions may differ depending on the version of the SmartThings app.
- If your TV is not found on your mobile device, turn both of them off and on, and then try again.
- If you have multiple TVs, assign a different name to each TV in  >  Settings > General > System Manager > Device Name to make selection easy.

## Managing a Mobile Device

 >  [Settings](#) > [General](#) > [External Device Manager](#) > [Device Connect Manager](#)

- **Access Notification** Set whether to display a notification when a mobile device attempts to connect to the TV for the first time.
- **Device List** View and manage a list of mobile devices that have requested permission to connect to the TV.





## CONNECTION NOTES

### Connection notes for HDMI

- The following types of HDMI cables are recommended:
  - High Speed HDMI Cable
  - High Speed HDMI Cable with Ethernet
- Use an HDMI cable with a thickness of 0.66 inches (17 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 Local Area Network (LAN) built with coaxial IEEE.
- Use a cable shorter than 10 feet (3 m) to get the best UHD viewing quality.
- Many computer graphics adaptors do not have HDMI ports, but have DVI ports instead. If your PC does not support HDMI video out, connect your PC with an HDMI-DVI cable.
- For One Connect supported models, when the TV is connected to an external device such as a DVD/BD player or a set-top box via HDMI, power sync mode will be automatically activated. In this power sync mode, the TV continues to detect and connect external devices via HDMI cable. This function can be deactivated by removing HDMI cable of connected device.

### Connection notes for audio devices

- For better audio quality, it is a good idea to use an AV receiver.
- Connecting a device using an optical cable does not automatically change the audio output to the device's speakers. To change the audio output to the device, do one of the following:
  - Use the Quick Settings screen to change to the connected device:

- Use the Select button to select Audio Out/Optical on the Sound Output menu.  
( >  Settings > up directional button > Sound Output).
- Use the Settings screen to change to the connected device:  
Select Audio Out/Optical on the Sound Output menu. ( >  Settings > Sound > Sound Output).
- An unusual noise coming from a connected 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's manufacturer.
- Digital audio is only available with 5.1 channel broadcasts.

### Connection notes for computers

- As long as file sharing is activated, unauthorized access may occur. When you do not need to access data, disable file sharing.
- Your PC and Smart TV must be connected to each other on the same network.
- When sharing content with other network-based devices such as those in an IP (Internet Protocol) storage system, sharing may not be supported due to the network's configuration, quality, or functionality, for example, if the network has an NAS (Network-Attached Storage) device.

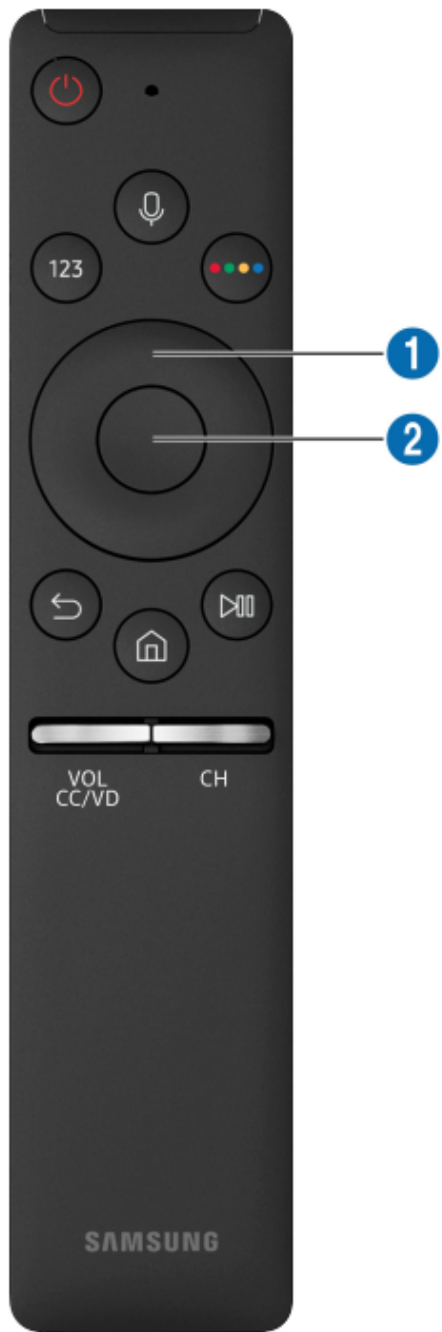
### Connection notes for mobile devices










- To use the Smart View function, the mobile device must support a mirroring function such as AllShare Cast or Smart View. To check whether your mobile device supports the mirroring function, please visit the mobile device manufacturer's website.
- To use Wi-Fi Direct, the mobile device must support the Wi-Fi Direct function. Please check if your mobile device supports Wi-Fi Direct.
- The mobile device and your Smart TV must be connected to each other on the same network.
- The video or audio may stop intermittently, depending on network conditions.
- When sharing content with other network-based devices such as those in an IP (Internet Protocol) storage system, sharing may not be supported due to the network's configuration, quality, or functionality, for example, if the network has an NAS (Network-Attached Storage) device.

## REMOTE CONTROL AND PERIPHERALS



### Samsung Smart Remote (UHD TV)

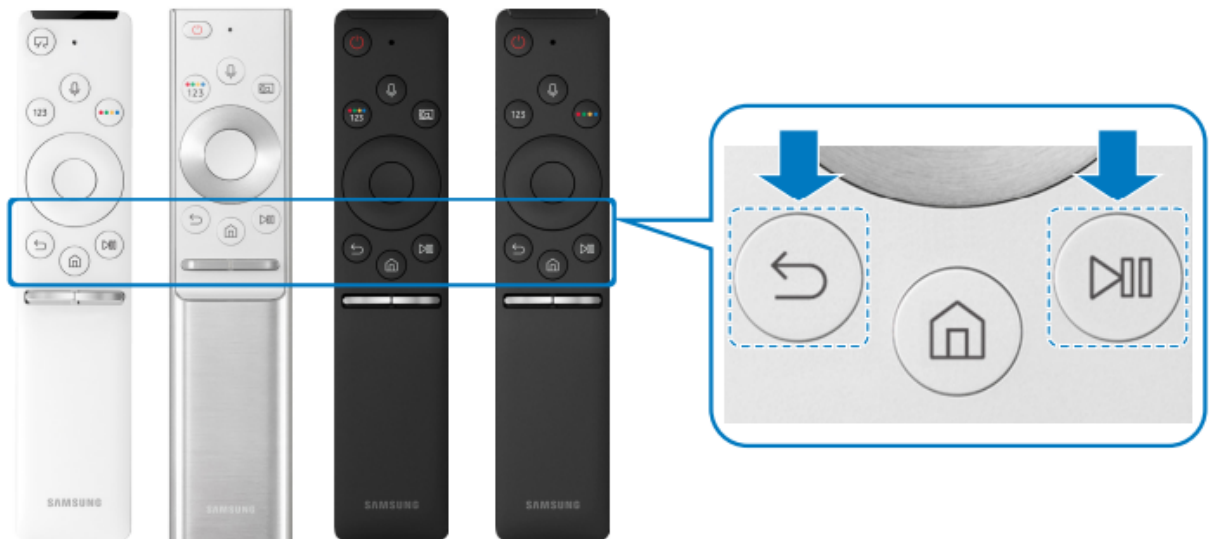
Learn about the buttons on the Samsung Smart Remote that comes with the UHD TV.



Button	Description
 (Bixby)	Runs <b>Bixby</b> . Press and hold the button, say a command, and then release the button to run <b>Bixby</b> . When you press the button, the <b>Explore Now</b> menu appears at the bottom of the screen.
 (Number button)	Press to bring up the virtual numeric pad on the screen. Use the numeric keypad to enter numeric values. Select numbers and then select <b>Done</b> to enter a numeric value. Use to change the channel, enter a PIN, enter a ZIP code, etc.
 (Color button)	When pressed, colored buttons appear on the screen. Use these colored buttons to access additional options that are specific to the feature in use.  These buttons are not available in the U.S.A. and Canada.
 Directional pad (up/down/left/right)	Moves the focus.
 Select	Selects or runs a focused item. When pressed while you are watching content, detailed program information appears.
 (Return)	Press to return to the previous menu. When pressed for 1 second or more, the running function is terminated. When pressed while you are watching a program, the previous channel appears.
 (Smart Hub)	Press to return to the Home Screen.
 (Play/pause)	When pressed, the playback controls appear. Using these controls, you can control the media content that is playing.
VOL (Volume)	Move the button up or down to adjust the volume. To mute the sound, press the button. When pressed for 1 second or more, the <b>Accessibility Shortcuts</b> appears.
CH (Channel)	Move the button up or down to change the channel. To see the <b>Guide</b> screen, press the button. Press and hold the button up or down to quickly change the channel.

## Connecting to the Samsung Smart Remote

When you turn on the TV for the first time, the Samsung Smart Remote pairs to the TV automatically. If the Samsung Smart Remote does not pair to the TV automatically, point it at the remote control sensor of the TV, and then press and hold the  and  buttons simultaneously for 3 seconds or more.



## Using Anynet+ (HDMI-CEC)

Control an external device connected via Anynet+ (HDMI-CEC) with the remote control.

### Connecting an external device through Anynet+ and using their menus

1. Set Anynet+ (HDMI-CEC) to On.
2. Connect an HDMI-CEC-compliant device to the TV.
3. Turn on the connected external device. The device is automatically connected to the TV. After the connection process is finished, you can access the menu of the connected device using your TV remote and control the device.

### Connecting a Bluetooth keyboard or mouse

 >  [Settings](#) > [General](#) > [External Device Manager](#) > [Input Device Manager](#)





### Connecting a USB keyboard or mouse


Plug the keyboard or mouse cable into the USB port.

### Connecting a Bluetooth keyboard or mouse

 >  [Settings](#) > [General](#) > [External Device Manager](#) > [Input Device Manager](#) > [Bluetooth Device List](#)

### Using the keyboard and mouse

Button	Description
Directional keys	Moves the focus
Windows key	Displays the TV settings
Enter key	Selects or runs a focused item
ESC key	Returns to the previous screen
F1 / F2 / F3 / F4 key	Color buttons —  /  /  / 
F5 key	Displays the Home Screen
F6 key	Displays the <a href="#">Source</a> screen
F7 key	Displays the <a href="#">Channel List</a>
F8 key	Mutes the sound
F9 / F10 key	Adjusts the volume
F11 / F12 key	Changes the channel

Button	Description
Page Up / Page Down	Scrolls a web page displayed by the <a href="#">Internet</a> app.
Left-click	Available only in the <a href="#">Internet</a> app. You can click a menu or link to start a function as you do on a PC.
Right-click	Available only in the <a href="#">Internet</a> app. You can use the following functions:  The options displayed in the menu may differ depending on the selected item. <ul style="list-style-type: none"> <li>• <a href="#">Open</a></li> <li>• <a href="#">Open Link in New Tab</a></li> <li>• <a href="#">Enable Scroll Mode</a></li> </ul>

## Entering Text using the On-Screen Virtual Keyboard



### 1. Recommended text

When you type a word you want to use as a search term, this function displays related suggestions from which you can choose one.

### 2. Options


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

- Recommended text
- Reset Recommended Text Memory
- Predict Next Character (when using direction buttons)
- Language

### 3. Predict Next Character

Each time you type a character on the virtual keyboard, the next characters predicted to be typed are displayed. You can use the directional buttons on the remote control to select one.





## Entering Text using the remote control's microphone and the on-screen virtual keyboard

When the virtual keyboard is on the screen, press and hold the button  on the Samsung Smart Remote, speak into the microphone on the Samsung Smart Remote, and then release the button. What you say appears on the screen as text.

# SMART FEATURES

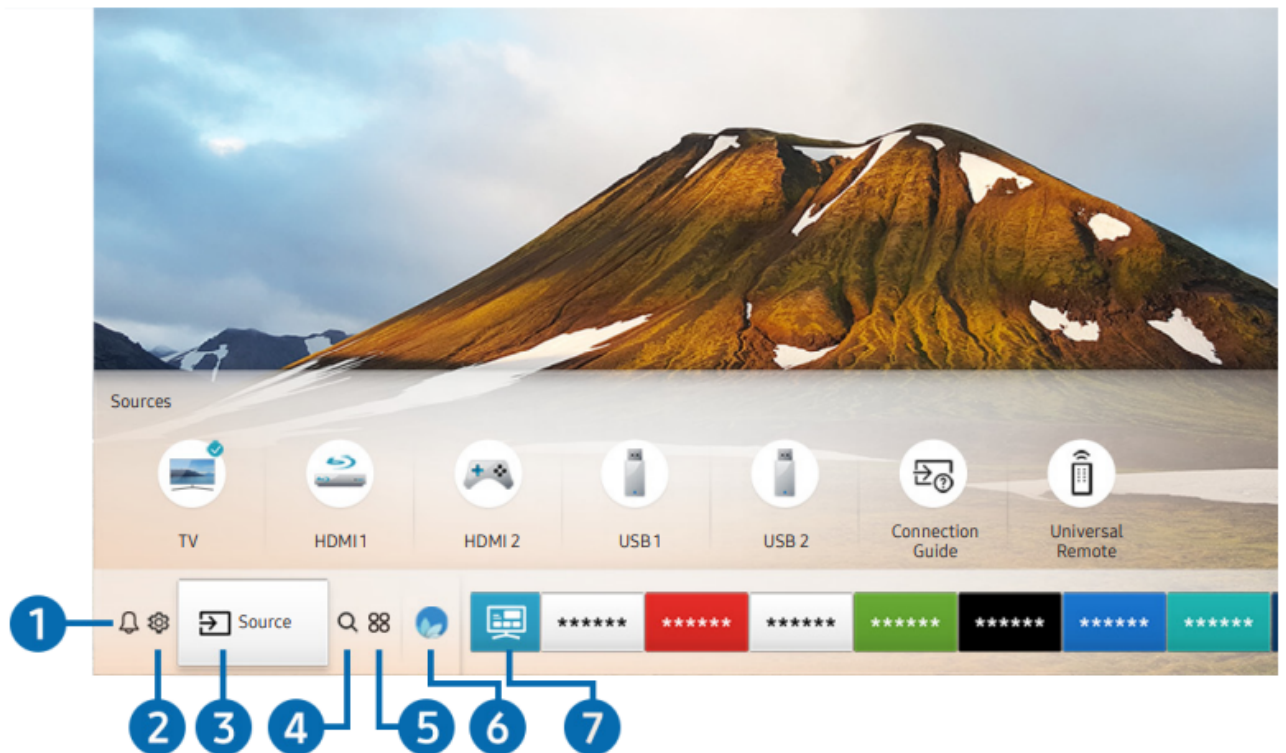
## Using Smart Hub

From Smart Hub, you can use the Internet search function, install and use various apps, view photos and videos, or listen to music stored on external storage devices, and perform more functions.

- Some Smart Hub services are paid services.
- To use Smart Hub, the TV must be connected to the Internet.
- Some Smart Hub features may not be supported depending on the service provider, language, or geographical area.
- Smart Hub service outages can be caused by disruptions in your Internet service.
- To use Smart Hub, you must agree to the Smart Hub service agreement, and collection and use of personal information. Without giving consent, you cannot use the additional features and services. You can view the entire text of the Terms & Privacy document by navigating to  >  Settings > Terms & Privacy.
- If you want to stop using Smart Hub, you can cancel the agreement. To cancel the Smart Hub service agreement, select Reset Smart Hub:  >  Settings > Support Device Care > Self Diagnosis Reset Smart Hub).

## Displaying the Home Screen



Press the  button.



## 1. Notification

You can view a list of notifications for all events that occur on your TV. A notification appears on the screen when it is time to schedule viewing, schedule recording, etc.

If you move the focus to Notification, and then press the Select button, a notification window appears on the right and the following functions are available:

-  Delete All: You can delete all your notifications.
-  Settings: You can select services you want to be notified about. When you select Allow sound, notifications are displayed with a notification sound.


## 2. Settings






- **Picture Mode:** You can select the picture mode that provides the best viewing experience. To change the picture mode, press the Select button. To make fine adjustments, press the up directional button, and then select Picture Setup.
- **Sound Mode** You can select a sound mode to optimise your listening experience. To change the sound mode, press the Select button. To make fine adjustments, press the up directional button, and then select Equaliser Setup.
- **Sound Output** You can select which speakers the TV uses for audio output. To change the audio output, press the Select button. To connect to a Bluetooth speaker, press the up directional button, and then select Bluetooth Speaker List.

- **Game Mode** You can enable game mode to optimize the TV's settings for playing video games with a gaming console, such as a PlayStation™, Xbox™, or Nintendo Switch™. To turn Game Mode on or off, press the Select button.
- **Caption** You can watch TV broadcasts with captions. To activate or deactivate the Caption function, press the Select button. To run Accessibility Shortcuts, press the up directional button, and then select Accessibility Shortcuts.
- **Sleep Timer** You can turn off the TV automatically at a specific time. To set the sleep time to up to 180 minutes, press the Select button. To make detail off timer, press the up directional button, and then select Set Up Off Timer.
- **Network** You can view the current network and Internet status. Press the up directional button, and then select Network Status or Network Settings.

3.  **Source:** You can select an external device connected to the TV.


4.  **Search:** You can search for channels, programs, movie titles, and apps from Smart Hub

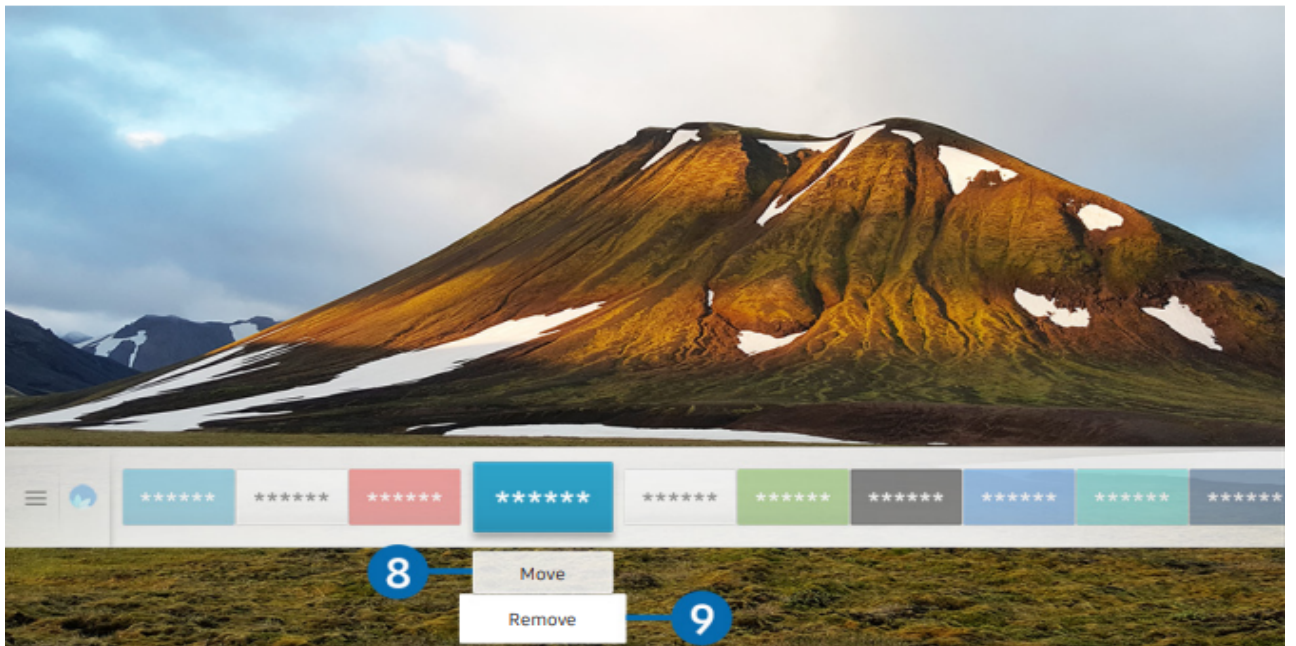
5.  **Apps:** You can enjoy a wide range of content, including news, sports, weather, and games by installing the corresponding apps on your TV.

6.  **Ambient Mode** In Ambient Mode, you can view beautiful screens, various visual information, and notifications. To enter Ambient Mode, press the  button. To return to the TV mode, press the  button. To shut off the TV, press the  button. If you press the  button when the TV is turned off, the TV turns on in Ambient Mode.

## 7. **Universal Guide**

Universal Guide is an app that allows you to search for and enjoy various content such as TV shows, dramas, and movies in one place. Universal Guide can recommend content tailored to your preferences and notify you of new drama series.

 **Art** You can use the Art Mode function to edit image content such as artworks or pictures when you are not watching TV or when the TV is turned off, and then display the content in full screen mode.



### 8. Moving an item on the Home Screen

Move the focus to the app you want to move, press and hold the Select button on the remote control, and then select Move in option menu. Move the app to the desired position by pressing the left or right directional button, and then press the Select button. The selected app is moved on the Home screen.

### 9. Removing an item on the Home Screen

Move the focus to the app you want to delete, press and hold the Select button on the remote control, and then select Remove in option menu. The selected app is deleted.

### Launching Smart Hub automatically

When you set Autorun Smart Hub to On, the TV displays the Home Screen automatically when you turn the TV on.

 >  [Settings](#) > [General](#) > [Smart Features](#) > [Autorun Smart Hub](#)

### Launching the last used app automatically

If Autorun Last App is set to On, the last used app is automatically run when you turn on the TV.

 >  [Settings](#) > [General](#) > [Smart Features](#) > [Autorun Last App](#)

### Testing Smart Hub connections

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

### Resetting Smart Hub

 >  [Settings](#) > [Support](#) > [Self Diagnosis](#) > [Reset Smart Hub](#)



### Using a Samsung account

 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#)

### Creating and managing your Samsung account

- You can view the entire text of the Terms & Policy in Settings General System Manager Samsung Account My Account Terms & Conditions, Privacy Policy after logging in to your Samsung account.
- You can also create a Samsung account at <http://account.samsung.com>. Once you have an account, you can use the same ID on both the TV and the Samsung website.
- Add Account appears or not, depending on whether you are logged in to your Samsung account.



### Creating a new account

 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#) > [\(Add Account\)](#) > [Create Account](#)


### Signing in to a Samsung account

 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#) > [Sign In](#)



### Changing and adding information to a Samsung account

 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#) > [My Account](#) > [Edit profile](#)



### Managing payment information saved on the TV

 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#) > [My Account](#) > [Payment Info](#)

### Configure the sync Internet settings

 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#) > [My Account](#) > [Sync Internet](#)





### Deleting a Samsung account from the TV



 >  [Settings](#) > [General](#) > [System Manager](#) > [Samsung Account](#) > [My Account](#) > [Remove Account](#)

## Signing out of your Samsung account

To sign out of your Samsung account, move the focus to your account at (🏠 > ⚙️ Settings > General > System Manager > Samsung Account, and then press the Select button. Or move to My Account (🏠 > ⚙️ Settings > General > System Manager > Samsung Account > My Account), and then select Sign Out.

## Using the Ambient Mode

In Ambient Mode, you can view beautiful screens, various visual information, and notifications. To enter Ambient Mode, press the  button. To return to the TV mode, press the  button. To shut off the TV, press the  button. If you press the  button when the TV is turned off, the TV turns on in Ambient Mode.

- If you use a remote control other than the Samsung Smart Remote, there may be restrictions to entering Ambient Mode.
- Because this function is a QLED TV-specific function, it may not be supported depending on the model.
- To activate the  and  menus, first select a content item in Ambient Mode.


## Screen states related to Ambient Mode

### Ambient Mode


In Ambient Mode, you can set up and enjoy visual information and design. In this state, less power is consumed and brightness is automatically adjusted by the illuminance sensor.


### Getting dark state

In Ambient Mode, the TV screen changes automatically according to the surroundings. When the surroundings get dark, the TV screen becomes darker. When the surroundings get bright before the TV screen turns completely black or when the remote control or the Bixby function is operated, the TV screen returns to Ambient Mode.



- You can change the auto brightness setting for Ambient Mode by using  in the Ambient Mode browser screen.
- In this state, the TV can activate voice guides and process voice commands

## Black screen state

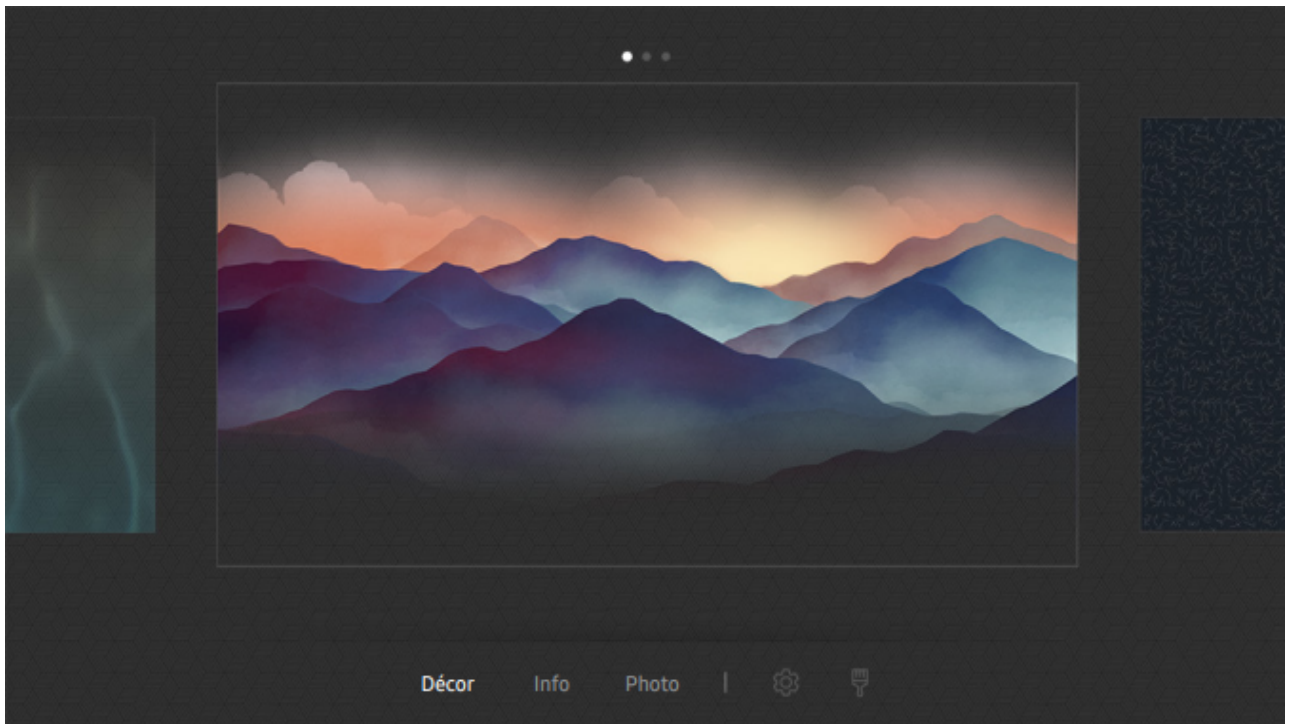
In Ambient Mode, if the surroundings get to a specific level of darkness, the TV turns soft-off. To turn the screen back on in Ambient Mode, press the  button on the remote control.



- You can change the auto brightness setting for Ambient Mode by using  in the Ambient Mode browser screen.
- In this state, the TV cannot activate voice guides and process voice commands.

## TV off state

To enter Ambient Mode when the TV is turned off, press the  button on the remote control. To enter TV mode when the TV is turned off, press the  button. In TV mode, you can watch broadcasts or enjoy the content on the external connected devices.

## Changing the content and settings for Ambient Mode



When you press the  or  button in Ambient Mode, the Ambient Mode browser screen appears. In the Ambient Mode browser screen, you can select content and change the Ambient Mode settings.

## Setting up the content for Ambient Mode


The Ambient Mode browser screen displays content at the top and categories at the bottom. Use the left or right directional buttons in the content list at the top to move the focus to content you want, and then press the Select button. The selected content is played in Ambient Mode.


In the future, more content that you can set up in the Ambient Mode browser will be provided.

You can select the following categories and content:


- **Décor:** Allows you to select beautiful screens.
- **Info:** Provides information such as weather, news headlines, and more.
- **Photo:** Allows you to set a picture stored in your mobile device as the wallpaper of the Ambient Mode screen. You can configure special layouts using your photos.
  - To save photos from your mobile device to the TV and import them in Ambient Mode, use the SmartThings app on your mobile device.

## Setting up the Ambient Mode details

In the Ambient Mode browser screen, move the focus to , and then press the Select button. You can change the following settings:

- **Brightness:** Adjusts the screen brightness for Ambient Mode.
- **Color Tone:** Adjusts the colors of the screen for Ambient Mode.
- **Auto Brightness:** Changes the auto brightness setting for Ambient Mode.
  - When this function is set to Off, the brightness level of the TV screen is not automatically adjusted according to the ambient light level.
  - This function may not be supported depending on the model.
- **Ambient Off Timer:** Sets the time that the Ambient Mode screen turns off automatically.
  - If there is no remote control input for the set time, the screen goes off. To turn the screen back on in Ambient Mode, press the  button on the remote control.

## Changing the background color of Ambient Mode

To change the background color of Ambient Mode, move the focus to  in the Ambient Mode browser screen, and then press the Select button. You can change the background color or pattern. Move the focus to a color or pattern you want, and then press the Select button.

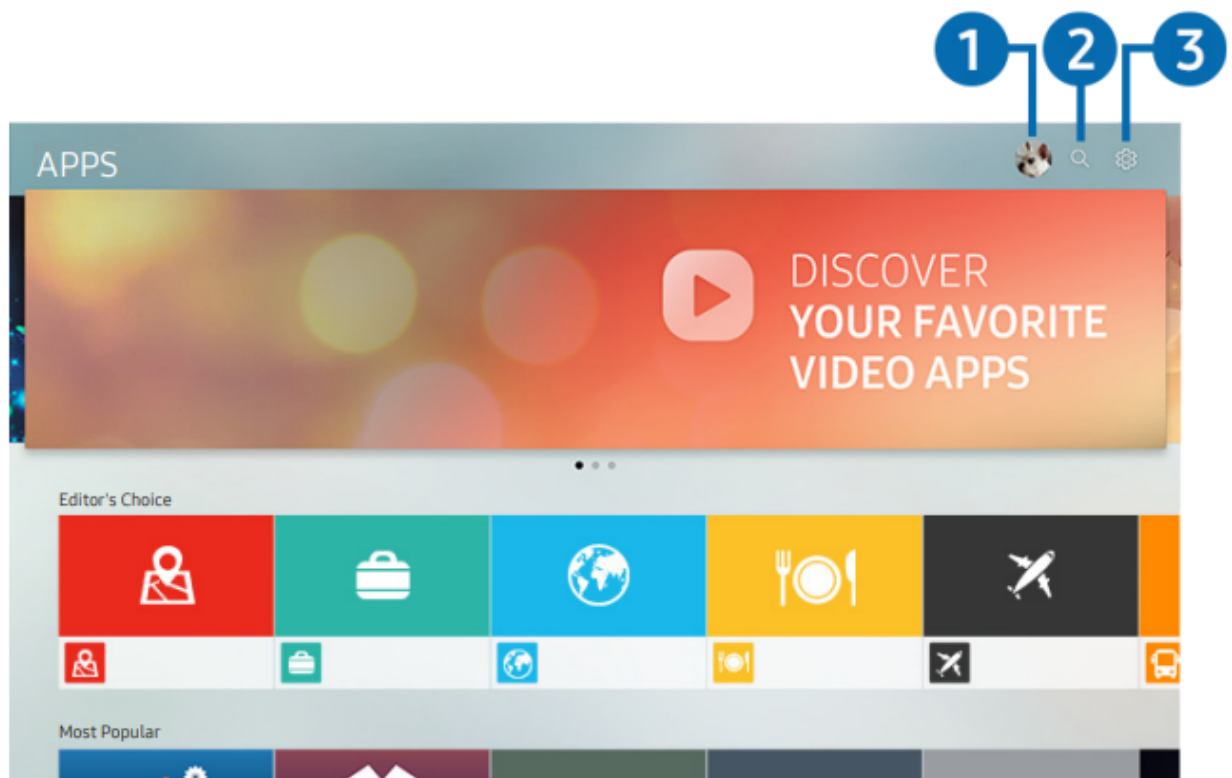
- Take a picture of a wall using the SmartThings app on your mobile device to set it as the background of Ambient Mode. This function may have a delay in image transmission and optimization depending on the network conditions.

## APPS Service

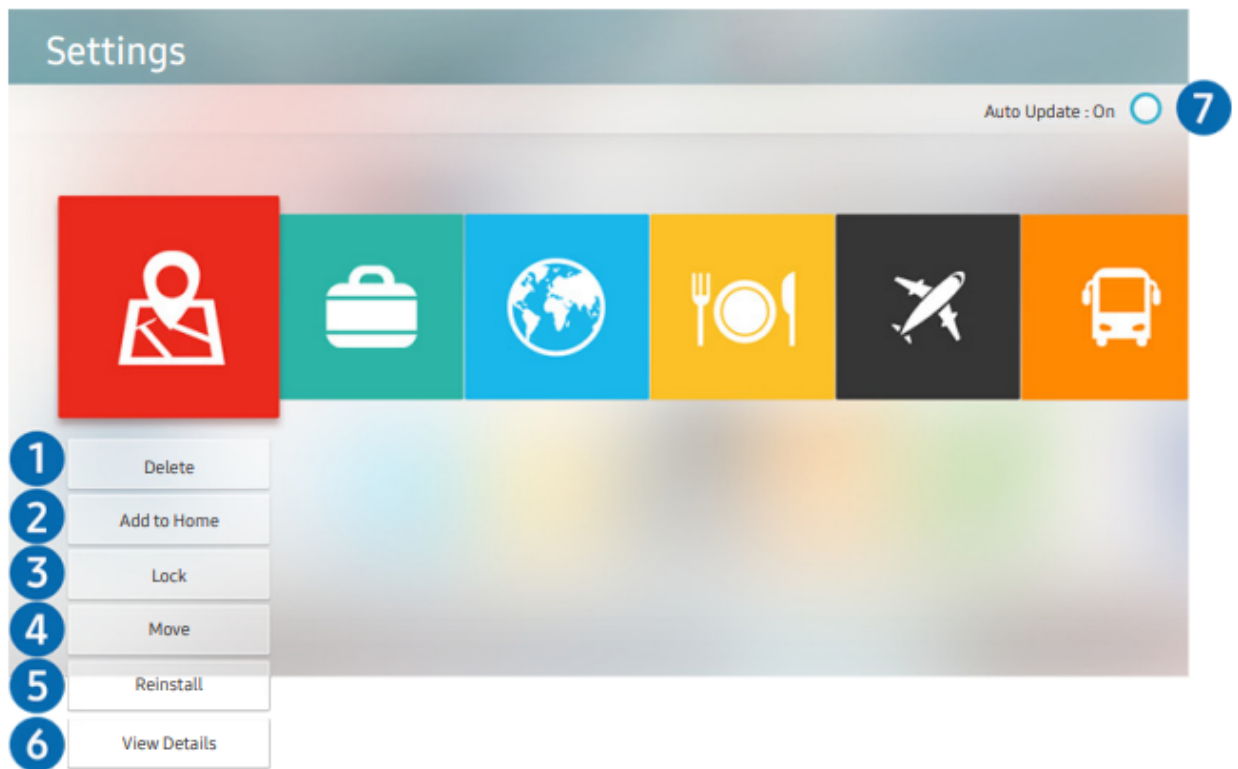


You can enjoy a wide range of content including news, sports, weather, and games by installing the corresponding apps on your TV.

- To use this feature, the TV must be connected to the Internet.
- When Smart Hub is launched for the first time, the default apps are automatically installed. The default apps may differ depending on the geographical area.



## Managing purchased or installed apps



### *Removing an app*

1. Select an app to delete.
2. Select Delete. The selected app is deleted.

### *Adding apps to the Home Screen*

1. Select an app to add.
2. Select Add to Home.
3. After the Home screen appears, move the selected app to the desired location.
4. Press the Select button. The selected app is added to the Home Screen.

### *Locking and unlocking apps*

1. Select an app to lock or unlock.
2. Select Lock/Unlock. The selected app is locked or unlocked.

### *Moving apps*

1. Select an app to move.
2. Select Move.
3. Move the app to the desired location.
4. Press the Select button.

### *Reinstalling an app*

1. Select the app to install again.
2. Select Reinstall. Reinstallation starts.

### *Checking the app information details*

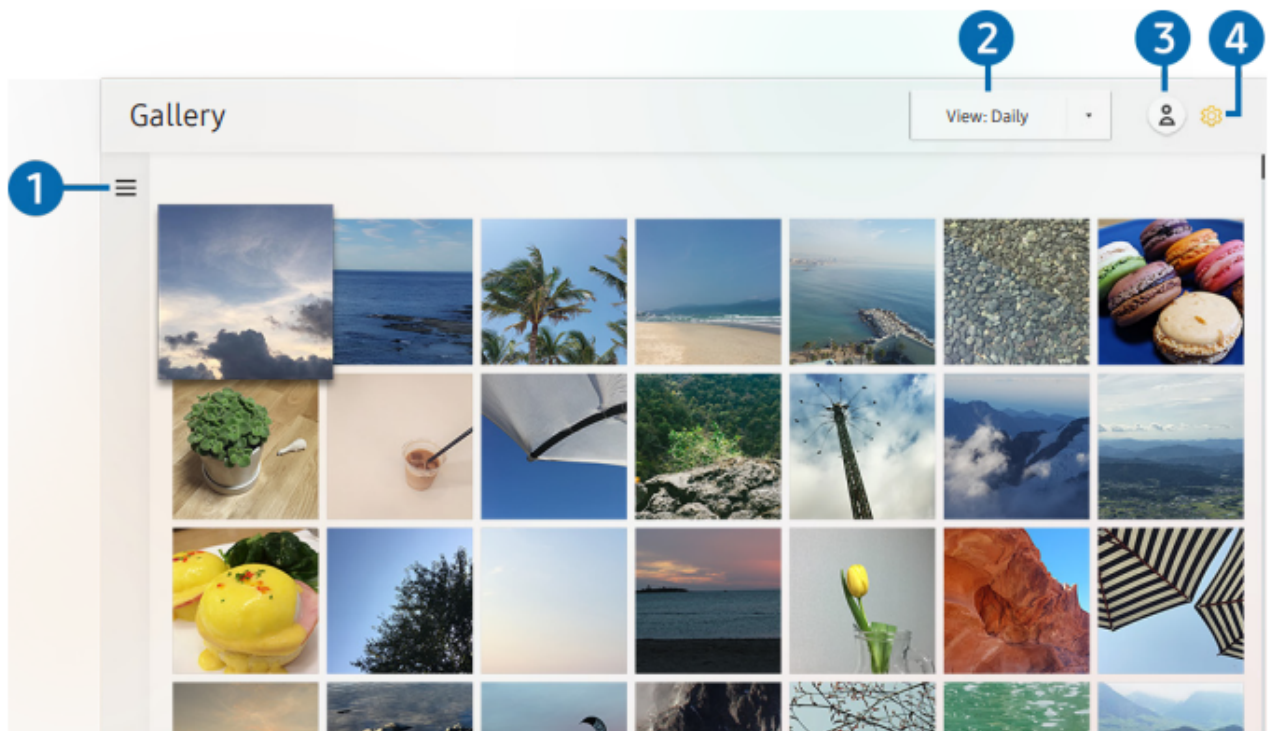
1. Select the app to check.

2. Select View Details.
3. The app information screen appears.

### *Automatically updating apps*

Installed apps can be automatically updated. If you do not want apps automatically updated, set Auto Update to OFF.

## Using the Gallery App



You can enjoy various content synchronized with a mobile device that supports the Samsung cloud. The available content types are photos, videos, stories, and other content shared through your groups. If you have shared content from your groups, you can access them in notifications.

### 1. ☰ **Open category**

Move to ☰ at the top left of the screen using the directional buttons on the remote control to view by category the content synchronized with the Samsung Cloud.

### 2. **View: Daily / View: Monthly**

Sort the content by day or month.

### 3. 👤 **Sign In**

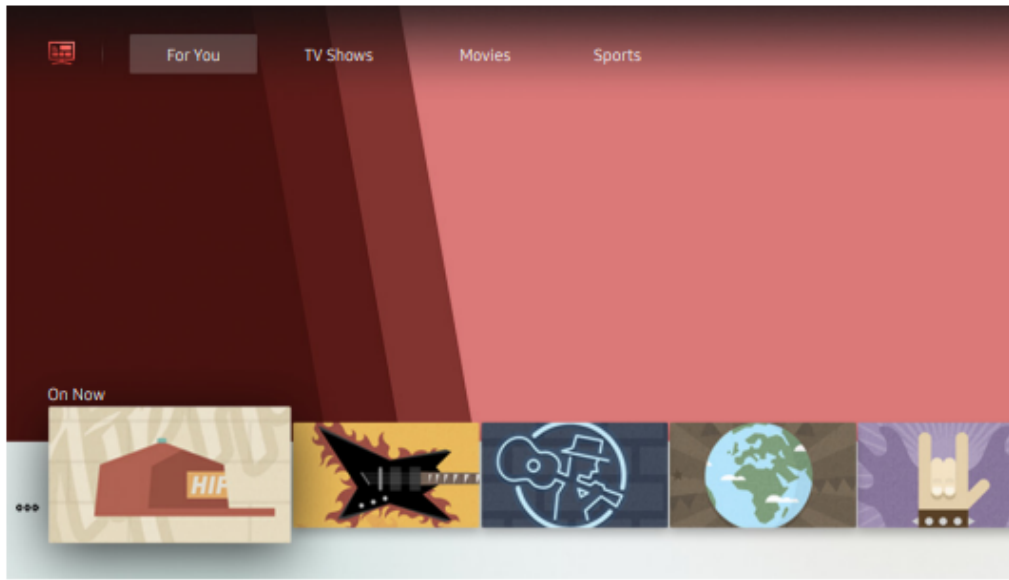
Go to the Samsung Account screen to create a new account or sign in to your account.

#### 4. Gallery Settings

Restrict access to the Gallery app to protect your privacy, or view the user agreement and privacy policy.

### Universal Guide App

 >  Universal Guide

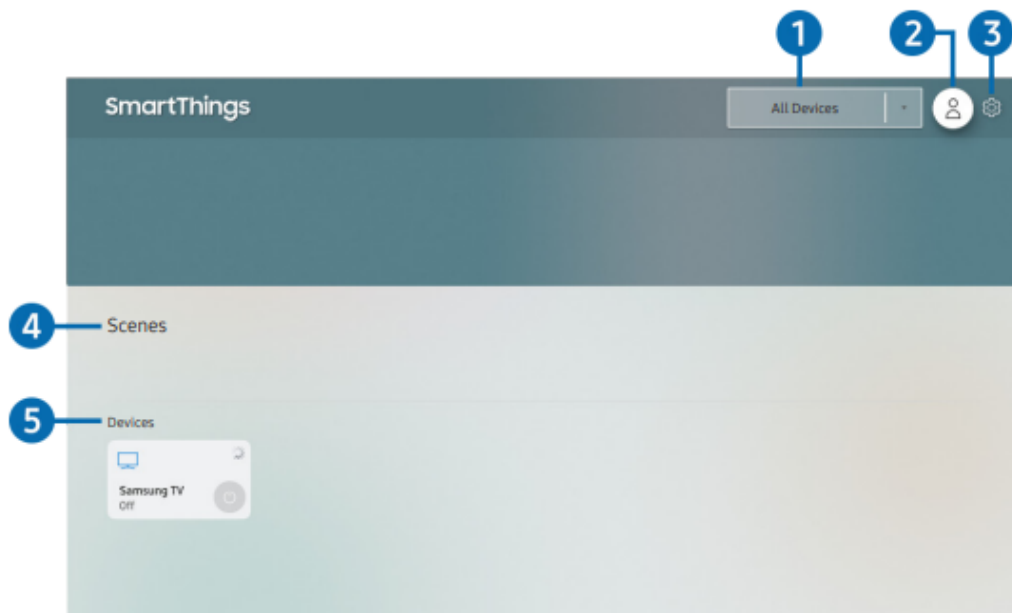


Universal Guide is an app that allows you to search for and enjoy various content such as TV shows, dramas, and movies in one place. Universal Guide can recommend content tailored to your preferences and notify you of new drama series. You can use this feature on your mobile with Samsung SmartThings app.

- To enjoy the content from these apps on your TV, they must be installed on the TV.
- When you watch some paid content, you may need to make a payment using their associated app.
- Some content may be restricted depending on your network conditions and your subscriptions to paid channels.
- Parental control is necessary when children use this service.
- Images may look blurry depending on the service provider's circumstances.
- This function may not be supported depending on the model or geographical area.

### Using the SmartThings App

 >  SmartThings



From your TV, you can monitor and configure smart devices you connected to the SmartThings service via the SmartThings app installed on them. You can receive notifications about the statuses of your smart devices.

### 1. Location selection list

Press the Select button to identify all connected devices or the devices specific to a location

### 2. Sign In

Go to the Samsung Account screen to create a new account or sign in to your account.

### 3. Settings

Turn notifications on or off for the connected smart devices.

### 4. Scenes

Control multiple devices with one command after setting scenes via the SmartThings app on your mobile device.

### 5. Device list





View a list of the connected smart devices and their statuses. You can add a new device through the SmartThings app on your mobile device. Please refer to the user guide of the SmartThings app on your mobile device for more details.

## Using the e-Manual



### Launching the e-Manual


 >  [Menu](#) >  [Settings](#) > [Support](#) > [Open e-Manual](#)



## Using the buttons in the e-Manual

-  (Search): Select an item from the search results to load the corresponding page
- A-Z (Index): Select a keyword to navigate to the relevant page.
-  (Recently Viewed Topics): Select a topic from the list of recently viewed topics
-  (Try Now): Allows you to access the corresponding menu item and try out the feature right away.
-  (Link): Access an underlined topic referred to on an e-Manual page immediately.

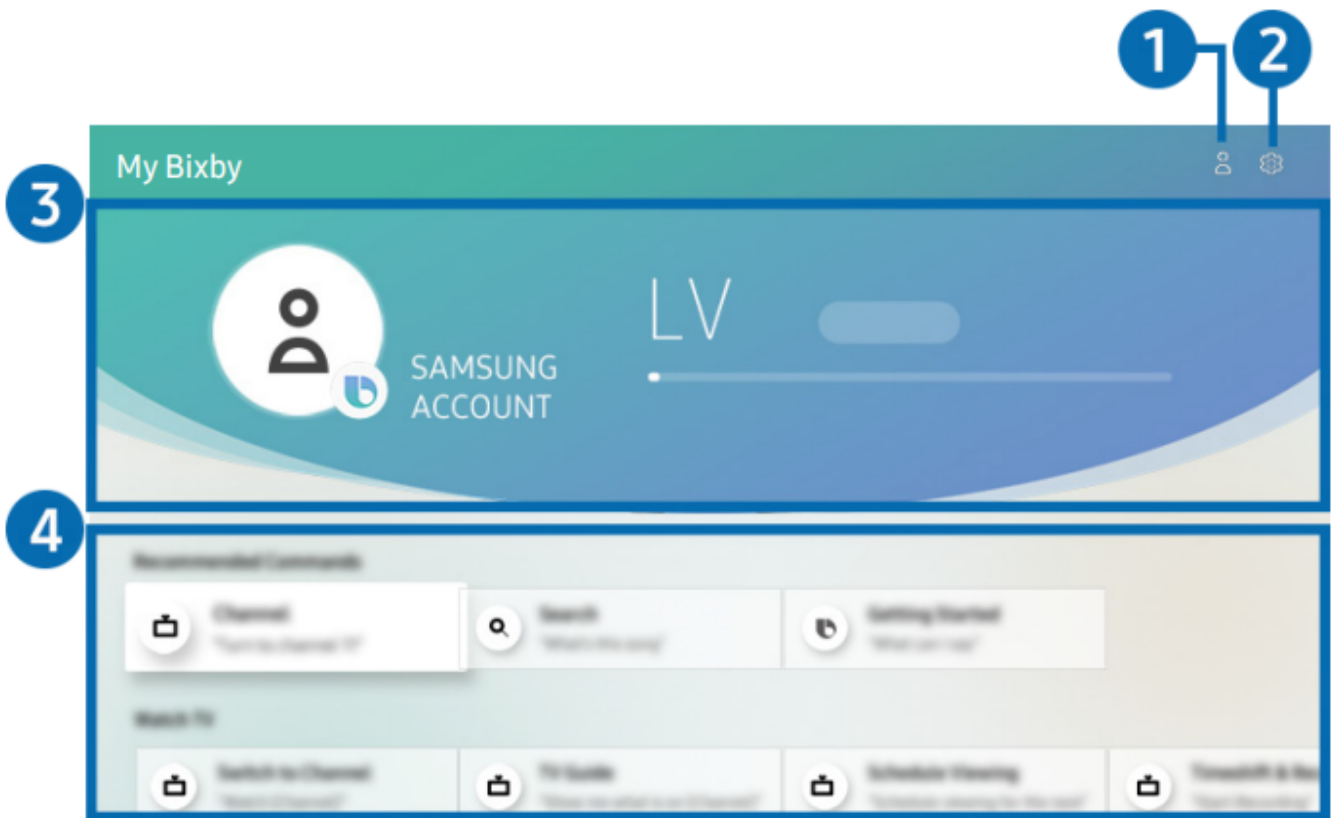
## Running Bixby

Press and hold the  button on your Samsung Smart Remote, say a command, and then release the  button.

To view the Bixby guide, press the  button once:

- When you press the  button for the first time, the Using Bixby button appears at the bottom of the screen. Press the Select button. The Using Bixby popup window appears and a tutorial on using Bixby is shown.
- When you press the  button, the Explore Now button appears at the bottom of the screen. Press the Select button to go to the Explore Bixby screen.

## Learning about the Explore Bixby Screen



1.  **Samsung Account** Go to the Samsung Account screen to create a new account or sign out of your account.

2.  **Settings:** You can change the settings for using Bixby.

You can also select a music service provider in the Default music service provider tab.

### 3. User information and the experience points (XP) guide

You can see user information and the experience points (XP) that you can get from using Bixby.

### 4. Bixby guide

#### Read Before Using Bixby

- The supported voice interaction languages and features may differ depending on the geographical area.
- If the language set differs from the language of your country, some features are not available.
- Bixby is available only when the TV is connected to the Internet.
- Even if the TV is connected to the Internet, there may be no response due to a Bixby server error.
- The existing functional specifications may be changed if Bixby is updated.

- Bixby is available only on TVs that support it and come with remote controls that have a microphone.
- Symbols including "-" and special characters are not supported. Consequently, if a word or sentence contains numeric values or symbols, the function may not operate properly.
- Searched results may not provide complete results.
- You may be required to pay for some apps. Consequently, you may encounter a service application or contract.
- To change the current channel by saying channel names as voice commands, you must finish Find Your Service Provider. If Set Up Your Service Provider is not completed, you can complete it using the following menu

 >  **Settings** > **General** > **Start Setup**

- To use the voice text input function and the search function, you must consent to provisions allowing third parties to collect and use your voice data.
- To use the Bixby function, you must:
  - Agree to Smart Hub's Terms of Use.
  - Agree to a guidance regarding the collection and use of personal information for the Smart Hub service.
  - Consent to the collection and use of personal information for the voice interaction-based service.

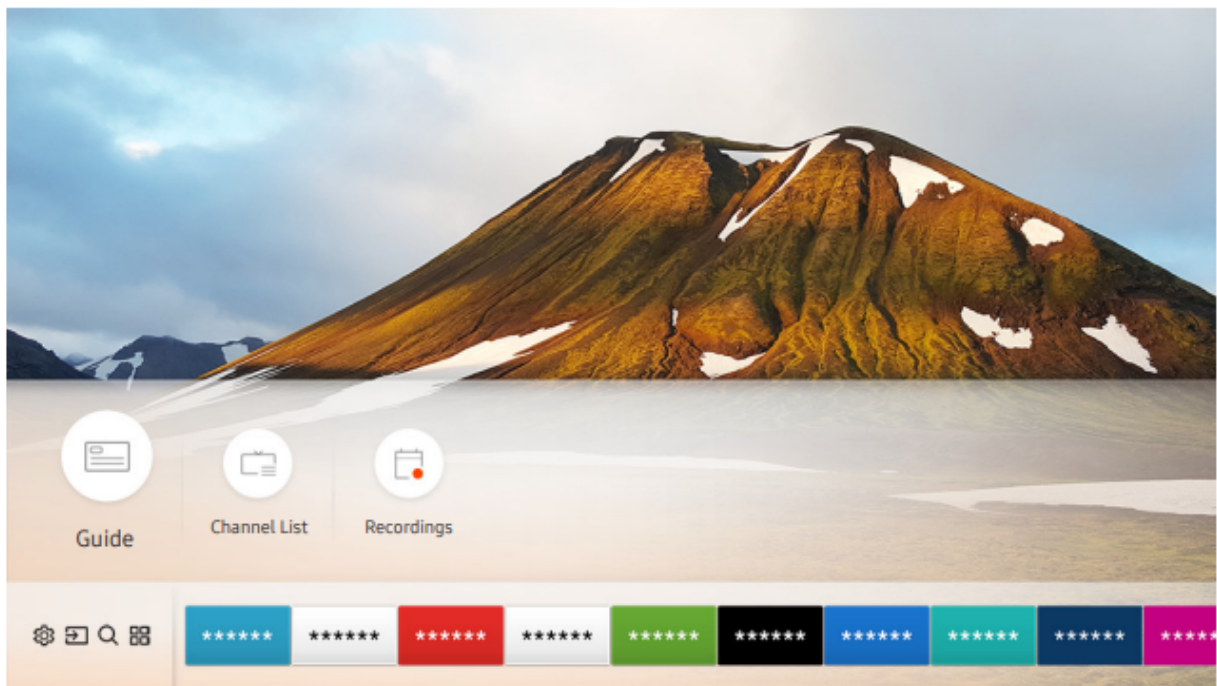
### Requirements for using Bixby

- The voice interaction rate differs with the volume/tone, pronunciation, and ambient sound environment (TV sound and ambient noise).
- The optimal volume for voice commands is between 75 dB and 80 dB.

## TV Viewing

### Using the Guide



 > **Live TV** > **Guide**



In the Guide, you can see the daily program schedules for each broadcaster, see program information, choose a program to watch, and set up a schedule viewing or recording.




In the Guide, you can see only the TV programs scheduled after the current time.

- The Guide also appears when you press the CH button while watching TV.
- To see information about analog channels and use the analog channel functions of the Guide, you must finish the service provider settings in initial setup.
- To view the Guide, you must first set the TV's clock

 >  [Settings](#) > [General](#) > [System Manager](#) > [Time](#) > [Clock](#)



To start schedule viewing, schedule recording and other function for a program listed in the Guide, first move the cursor to it and then press and hold Select button on the remote control to use follows functions:

- **Record:** You can make a recording of a current program.
- **Schedule Viewing** You can schedule the viewing of a broadcast scheduled program.
- **Schedule Recording:** You can schedule recording of a broadcast scheduled program.
- **Edit Recording Time** You can change the start and end times of scheduled program recordings.
- **Stop** You can stop the recording function that is currently running.
- **Cancel Scheduled Recording** You can cancel scheduled viewings or recordings.
- **View Details** You can see detailed information about the selected program. The information may differ or may not be provided depending on the broadcast signal.

To move to the Channel Filter or Antenna Type, Schedule Manager screen: Press the  or  button. (If the remote control button is , press it twice.)

- **Channel Filter:** You can view channels and programs categorized by the types defined in Channel List.
- **Antenna Type:** You can change the type of broadcast signals to receive.
- **Schedule Manager:** You can see the Schedule Manager or Recording & Schedule Manager screen.

## Recording Programs

- This function is not available in the U.S.A. and Canada.
- This function may not be supported depending on the model or geographical area.
- Read all precautions before using the recording feature. Refer to "Before Using the Recording and Timeshift Functions" for more information.
- You can record only the programs that are received through an antenna.
- The  appears next to the programs and channels scheduled for recording.
- If you go to  > Live TV while no USB device is connected, the Schedule Manager screen appears in place of the Recordings screen.

## Recording Programs

### Using the instant and schedule recording options from the guide screen

#### **Instant Recording**



Select a live program from the Guide, press and hold the Select button, and then select Record from the popup menu to start recording immediately.

#### **Schedule Recording**

Select a program scheduled to be broadcast, press the Select button, and then select Schedule Recording to set up a schedule recording of the scheduled program.

### Using the instant and schedule recording options while watching a program

#### **Instant Recording**

If you select Record after pressing the button  or  while watching a broadcast, recording starts.

#### **Schedule Recording**

Press the Select button while watching a program to display the program info window. Use the left or right directional button to select a scheduled program. Press the Select button, and then select Schedule Recording to set up a schedule recording of the scheduled program.

### Scheduling a video recording after entering the date and time

 > [Live TV](#) > [Recordings](#) > [Schedules](#) > [Add Recording](#)

To schedule a recording, set the values for Antenna, Channel, Repeat, Date, Start Time, and End Time of the broadcast program to record, and then select Save.

### Managing the schedule recording list

 > [Live TV](#) > [Recordings](#) > [Schedules](#)

### Setting the Schedule Recording Time

 > [Live TV](#) > [Recordings](#) > [Schedules](#) > [Edit](#)

You can set the start and end times for a schedule recording. You can set the start time up to 10 minutes before the program starts and the end time up to 10 minutes after the program ends.

### Canceling a schedule recording

 > [Live TV](#) > [Recordings](#) > [Schedules](#) > [Delete](#)

### Checking scheduled recordings

 > [Live TV](#) > [Recordings](#) > [Schedules](#) > [View Details](#)

### Viewing recorded programs

 > [Live TV](#) > [Recordings](#) > [Recordings](#)

Select a file containing a recording from the list. The file is played back.




### Setting up a schedule recording start

 > [Live TV](#) > [Recordings](#) > [Settings](#)

- **Start Recording Early:** You can set the time to start the recording earlier than the broadcast start time in the program guide.
- **Continue Recording After:** You can set the time to end the recording later than the broadcast end time in the program guide.

## Using Timeshift



You can pause and rewind live TV by using Timeshift. Activating this function disables the Broadcasting function.

To activate the Timeshift function while watching TV, press the  button twice or press the  button, press the Select button and then select Timeshift, or press the  button.

## Using the Channel List

 > [Live TV](#) > [Channel List](#)

Using the Channel List, you can change the channel or check programs on other digital channels while watching TV. The Channel List screen contains the following icons:



- : A favorite channel
- : A locked channel.

If you press the left directional button when viewing the Channel List screen, you can use the following functions:

- **All Channels** Displays all saved channels.
- **Favorites** Displays favorite channels from Favorites 1 through Favorites 5.
- **Air or Cable** Allows you to select Air or Cable as the DTV mode. Air is suitable for homes equipped with separate, over-the-air antennas. Cable is suitable for homes that subscribe to a local cable-service. You do not need to use this function if your TV is connected to a cable or satellite box.
- **TV PLUS** While the TV is connected to the Internet, you can watch popular programs or highlights for each theme through a virtual channel at any time. As with regular channels, the TV provides the daily program schedules for TV PLUS.

## Editing channels

 > [Live TV](#) > [Channel List](#) > [All Channels](#) > [Edit Channels](#)

- : A favorite channel
- : A locked channel.

## Re-registering and deleting a channel

**Removing registered channels** To remove a channel, select it, and then select Delete.

**Adding back removed channels** You can add back removed channels from the Edit Channel list only. Removed channels are displayed in gray in the All Channels list. To display the Edit Channel


list, select Live TV >Channel List >All Channels >Edit Channels. Then, to add back a removed channel, select it, and then select Restore.

### Editing registered channels

**Changing a channel name** After selecting a channel to change in Edit Channels, select Rename Channel to change the channel name.


- This function is only available for selected channels.
- This function is available for analog channels only.

### Creating a Personal Favorites List

Favorite channels are highlighted in the Edit Channels and All Channels screens with the  symbol.



### Registering channels as favorites

 > [Live TV](#) > [Channel List](#)

1. Press the right directional button on your remote control.
2. Select Favorites.
3. Select one of the five favorites lists.
4. Move to Edit Favorites.
5. Select a channel to add to the favorites list.
6. Select . The selected channel is registered in the favorites list.

### Editing a Favorites List

 > [Live TV](#) > [Channel List](#)

- Adding channels to favorites list
  - Select channels to add, and then select the  icon. The selected channels are added to the favorites list.
- Removing channels from a favorites list
  - Select channels in a favorites list, and then select the  icon.
- Rearranging a favorites list
  - Select one or more channels, and then select Change order. The Change order highlight appears. Press the up/down directional buttons to indicate the new location for the channels. Press the Select button to set the channels into their new location.

- Renaming a favorites list
  - Select the favorites list you want to rename, and then select Rename Favorites. Enter a new name using the onscreen keyboard that appears, and then select Done.

## PICTURE

### Picture Quality

- Dynamic
  - Makes the picture brighter and clearer in bright viewing environments.
- Standard
  - Is the default mode suitable for general viewing environments.
- Natural
  - Reduces eye strain for a comfortable viewing experience.
- Movie
  - Is suitable for watching TV or movies in a dark room.

### Advanced picture settings



Configure the screen settings to your taste by using the following functions: • Backlight • Brightness • Contrast • Sharpness • Color • Tint (G/R) • Apply Picture Settings • Digital Clean View • Auto Motion Plus Settings " When LED Clear Motion is set to On, the screen appears darker than when it is Off. • Local Dimming " This function may not be supported depending on the model or geographical area. • Contrast Enhancer • HDR+ Mode • Color Tone • White Balance • Gamma • RGB Only Mode • Color Space Settings • Reset Picture

### Setting the Viewing Environment for External Devices

#### Playing games on an optimized screen

 >  Settings > General > External Device Manager > (Game Mode Settings) > Game Mode

#### Configuring Game Motion Plus

 >  Settings > General > External Device Manager > Game Mode Settings > Game Motion Plus Settings



#### Setting the FreeSync function

 >  Settings > General > External Device Manager > Game Mode Settings > FreeSync

#### Viewing UHD videos

 >  [Settings](#) > [General](#) > [External Device Manager](#) > [HDMI UHD Color](#)

Using HDMI black level

 >  [Settings](#) > [General](#) > [External Device Manager](#) > [HDMI Black Level](#)

## SOUND

### Choosing a sound mode

You can select the available sound mode that you prefer for a content type or your listening environment.

- Standard
- Optimized
- Amplify

### Configure advanced sound settings

 >  [Settings](#) > [Sound](#) > [Expert Settings](#)

- Balance
- Equalizer
- HDMI Input Audio Format
- Digital Output Audio Format
- Audio Delay
- Auto Volume
- Sound Feedback
- Reset Sound

### Sound Support Functions

#### Selecting speakers

 >  [Settings](#) > [Sound](#) > [Sound Output](#)

You can select which speakers the TV uses for audio output.

- External speakers may not be controlled with the remote control. When an external speaker is enabled, some sound menus are not supported..

#### Listening to the TV through Bluetooth devices

 >  [Settings](#) > [Sound](#) > [Sound Output](#) > [Speaker List](#)

You can connect Bluetooth audio devices to the TV. They must be paired using the TV's Bluetooth function. Refer to the user manual for your audio device such as Bluetooth speaker, sound bar, and headphones for detailed connection and usage

- If the TV fails to find a Bluetooth audio device, place the device closer to the TV, and then select Refresh.
- When you turn on a paired Bluetooth audio device, the TV detects it automatically, and then displays a pop-up window. Use this pop-up window to activate or deactivate the Bluetooth audio device.
- The sound quality may be affected by the condition of the Bluetooth connection.
- Before using a Bluetooth audio device, refer to “Read Before Using Bluetooth Devices.”

**Using Samsung audio devices that support the Wi-Fi function to create a surround sound configuration**

 >  [Settings](#) > [Sound](#) > [Wi-Fi Speaker Surround Setup](#)

If you've connected one or more Samsung wireless audio devices that support the Wi-Fi function to the TV, you can create an optimal sound set up by configuring the surround effect settings. You can select any of the surround sound configurations, with or without a sound bar.



A surround sound configuration can be used if all of the following conditions are met:

- Two or more Samsung wireless speakers of the same type must be connected to the same wireless network.
- The Samsung audio devices that support the Wi-Fi function must be connected to the same wireless network as the TV.
- Surround sound configurations with a sound bar may not be supported depending on the product.
- If you activate the Screen Mirroring function while using Samsung audio devices that support the Wi-Fi function, the Wi-Fi connection is disconnected.
- Mismatched video and audio lip-syncing may occur depending on the device type.

# SYSTEM AND SUPPORT

## Energy Saving Functions



### Setting the Auto Protection Time

-  >  **Settings** > **General** > **System Manager** > **Auto Protection Time**
  - Activate a screensaver when your TV displays a still image for 2 hours or more.

### Reducing the energy consumption of the TV

-  >  **Settings** > **General** > **Eco Solution**

You can adjust the brightness level of the TV, reduce overall power consumption, and prevent overheating.

- Ambient Light Detection
  - Automatically adjusts the brightness level of the TV, according to the ambient light level, to reduce power consumption. If Ambient Light Detection has adjusted the screen brightness to a too bright or dark level, you can select Minimum Brightness to manually adjust the minimum screen brightness.
- Minimum Brightness
  - When Ambient Light Detection is turned on, you can manually adjust the minimum brightness of the TV screen.
  - This function acts only when the value is less than the setting in  >  **Settings** > **Picture** > **Expert Settings** > **Brightness**.
- Power Saving Mode
  - Adjust the brightness settings to reduce the TV's power consumption.
- Motion Lighting
  - Adjusts the brightness in response to on-screen movements to reduce power consumption.
- Auto Power Off
  - Automatically turns off the TV to reduce unnecessary power consumption if the TV Controller and the remote control are not used for the set period of time.

## Updating the TV's Software

### \*NOTE

DO NOT turn off the TV's power until the update is complete. The TV will turn off and on automatically after completing the software update. Video and audio settings may be reset to their defaults after a software update.

- through the Internet: OR through a USB device
- through a USB device

 >  **Settings** > **Support** > **Software Update** > **Update Now**

- automatically

If the TV is connected to the Internet, you can have the TV's software update itself automatically while you are watching the TV. When the background update is completed, it is applied the next time the TV is turned on.

If you agree to the Smart Hub terms and conditions, Auto Update is set to On automatically. If you want this function disabled, use the Select button to turn it off.

- This function may take a longer time if another network function is running concurrently.
- This function requires an Internet connection.

## Protecting the TV from Hacking and Malicious Code

Protect your TV from hacking attempts and malicious code.

 >  **Settings** > **General** > **System Manager** > **Smart Security**

Scanning the TV and connected storage for malicious code

 >  **Settings** > **General** > **System Manager** > **Smart Security** > **Scan**

If malicious code is found, the results of the scan will appear on the screen. This result window displays all malicious code found. You can quarantine (isolate) the code. Quarantining prevents it from executing.

1. Select all the malicious code to quarantine.
2. Select Isolate.

The selected malicious code is relocated to the Isolated List.

- The Isolated List displays all quarantined malicious codes.

## Other Functions

Running the accessibility functions

## Running Accessibility Shortcuts

- The Accessibility Shortcuts provide easy access to the accessibility functions. To display the Accessibility Shortcuts, press and hold the Volume button for 1 second or more. You can easily turn on or turn off the functions such as Voice Guide, Video Description, High Contrast, Enlarge, Grayscale, Color Inversion, Learn TV Remote, Learn Menu Screen, Caption, Multi-output Audio, etc.
  - On the standard remote control, press the CC/VD button.
  - Even if the Voice Guide is set to Off or muted, the voice guide for Accessibility Shortcuts is enabled.
  - The menus may not appear depending on the model or geographical area.

## Enabling voice guides for the visually impaired

You can activate voice guides that describe the menu options aloud to aid the visually impaired. To activate this function, set Voice Guide to On. With Voice Guide on, the TV provides voice guides for channel change, volume adjust, information on current and upcoming programs, schedule viewing, other TV functions, and various content in the Internet, and in Search.

You can go to Voice Guide, and then press the Select button to turn the function on or off.

## Showing captions


 >  **Settings** > **General** > **Accessibility** > **Caption Settings**

- Set Caption to On to watch programs with the captions displayed.
  - Captions are not displayed by programs that do not support captions.
  - The TV cannot control or modify DVD or Blu-ray subtitles. To control DVD or Blu-ray subtitles, use the sub-title feature of the DVD or Blu-ray player and the player's remote control.
- Selecting the caption language

 >  **Settings** > **General** > **Accessibility** > **Caption Settings** > **Caption Mode**

- Default / CC1 ~ CC4 / Text1 ~ Text4
  - (Analog channels only) Operates in either analog TV channel mode or when a signal is supplied from an external device to the TV. (Depending on the broadcast signal, the analog caption function may or may not work with digital channels.)
- Default / Service1 ~ Service6 / CC1 ~ CC4 / Text1 ~ Text4
  - (Digital channels only) Works with digital channels. Service1 – Service6 may not be available in digital caption mode depending on the broadcast.

- Setting the digital caption related options

 >  [Settings](#) > [General](#) > [Accessibility](#) > [Caption Settings](#) > [Digital Caption Options](#)

You can change the font color, background color, size settings, and position, etc.


- The foreground and background colors and opacity settings cannot be the same.
- The Position function is activated only for programs that support broadcast captions.

### **Listening to the TV through Bluetooth devices (for the hearing impaired)**

 >  [Settings](#) > [General](#) > [Accessibility](#) > [Multi-output Audio](#)

You can turn on both the TV speaker and Bluetooth devices at the same time. When this function is active, you can set the volume of the Bluetooth devices higher than the volume of the TV speaker.

### **Configuring advanced system settings**

 >  [Settings](#) > [General](#) > [System Manager](#)

## **TROUBLESHOOTING**

### **Getting Support**

#### **Getting support through Remote Management**

 >  [Settings](#) > [Support](#) > [Remote Management](#)

After consenting to our service agreement, you can use Remote Management to access Remote Support and have a Samsung service technician diagnose your TV, correct problems, and update your TV's software remotely, via the web. You can also turn Remote Management on and off.

#### **What is Remote Support?**

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 on your TV
- Install recommended firmware updates

#### **How does Remote Support Work?**

You can easily have a Samsung Tech service your TV remotely:



1. Call the Samsung Contact Center and ask for remote support.

2. Open the menu on your TV and go to the Support section.
3. Select Remote Management, then read and agree to the service agreements. When the PIN screen appears, provide the PIN number to the agent.
4. The agent will then access your TV.

### Finding the contact information for service

 >  [Settings](#) > [Support](#) > [About This TV](#)

You can view the address of the Samsung website, the call center phone number, your TV's model number, your TV's software version, information about Smart Hub, and other information you may need to get service support from a Samsung call agent or the Samsung website.

- You can also view information by scanning the QR code of your TV.
- You can also start this function by pressing and holding the  button for 5 or more seconds. For standard remote control, press and hold the  (Play) button for 5 or more seconds. Continue holding the button until the customer information pop-up window appears.

### Requesting service

 >  [Settings](#) > [Support](#) > [Request Support](#)

You can request service when you encounter a problem with the TV. Select the item matching the problem that you encountered, and then select Request Now or Schedule Appointment > Send. Your service request will be registered. The Samsung Contact Center will contact you to set up or confirm your service appointment.

### Diagnosing TV operational issues

 >  [Settings](#) > [Support](#) > [Self Diagnosis](#)

You can use the Picture Test to help diagnose video issues and the Sound Test to diagnose sound issues. You can also view signal strength information for over-the-air digital signals, test the Smart Hub Internet connection, and run the Smart Hub and TV factory reset functions.

- Start Picture Test
- Start Sound Test
- Signal Information
- Start Smart Hub Connection Test
- Reset Smart Hub
- Reset























## There Is a Problem with the Picture









When the TV has trouble with the picture, these steps may help resolve the problem.

















### Testing the picture



 >  [Settings](#) > [Support](#) > [Self Diagnosis](#) > [Start Picture Test](#)

Before you review the list of problems and solutions below, use [Start Picture Test](#) to determine if the problem is caused by the TV. [Start Picture Test](#) displays a high definition picture you can examine for flaws or faults.

The problem	The problem
<ul style="list-style-type: none"> <li>Flickering and Dimming</li> </ul>	<p>Disable Ambient Light Detection, Power Saving Mode, Motion Lighting.</p> <p>  &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Eco Solution</a> &gt; <a href="#">Ambient Light Detection</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Eco Solution</a> &gt; <a href="#">Power Saving Mode</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Eco Solution</a> &gt; <a href="#">Motion Lighting</a> </p>
<p>Component Connections and Screen Color</p>	<p>If the color on your TV screen is not correct or the black and white colors are off, run Picture Test.</p> <p>  &gt;  <a href="#">Settings</a> &gt; <a href="#">Support</a> &gt; <a href="#">Self Diagnosis</a> &gt; <a href="#">Start Picture Test</a> </p> <p>If the test results indicate that the problem is not caused by the TV, do the following:</p> <ul style="list-style-type: none"> <li>Confirm that the video input connectors are connected to the correct external device video output connectors.</li> <li>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.</li> </ul>
<p>Screen Brightness</p>	<p>If the colors on your TV are correct but just a little too dark or bright, try adjusting the following settings first.</p> <p>  &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Backlight</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Contrast</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Brightness</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Sharpness</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Color</a>   &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Tint (G/R)</a> </p>
<p>Blurring, or Juddering</p>	<p>If you notice blurring or juddering on the screen, use the e Auto Motion Plus Settings function to resolve the issue.</p> <p>  &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Auto Motion Plus Settings</a> </p>

The problem	The problem
<p>Unwanted Powering Off</p>	<p>If your TV appears to turn off by itself, try disabling some of the TV's energy efficiency functions.</p> <p>See if Sleep Timer has been enabled. The Sleep Timer automatically turns the TV off after a specific period of time.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">System Manager</a> &gt; <a href="#">Time</a> &gt; <a href="#">Sleep Timer</a></p> <p>If the Sleep Timer has not been enabled, see if Auto Power Off or Off Timer has been enabled and disable it.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Eco Solution</a> &gt; <a href="#">Auto Power Off</a></p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">System Manager</a> &gt; <a href="#">Time</a> &gt; <a href="#">Off Timer</a></p>
<p>Problems Powering On</p>	<p>If you are having problems powering on your TV, there are a number of things to check before calling the service department.</p> <p>Confirm that the TV's power cord is connected correctly at both ends and that the remote control is operating normally.</p> <p>Make sure that the antenna cable or cable TV cable is firmly connected.</p> <p>If you have a cable box or satellite box, confirm that it is plugged in and turned on.</p>
<p>Unable to find a Channel</p>	<p>If your TV is not connected to a cable box or satellite box, run Auto Program.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">Broadcasting</a> &gt; <a href="#">Auto Program</a></p>
<p>The TV image does not look as good as it did in the store</p>	<p>Store displays are tuned to a digital UHD channel or HD channel.</p> <p>If you have an analog cable box or satellite box, upgrade to a digital cable box or satellite box. Use HDMI or Component cables to deliver HD (high definition) picture quality.</p> <p>Many HD channels are upscaled from SD (Standard Definition) content. Look for a channel that is broadcasting HD content.</p> <ul style="list-style-type: none"> <li>• Cable/Satellite Subscribers: Try HD channels from the channel lineup.</li> <li>• Air/Cable Antenna Connection: Try HD channels after running the Auto Program function.</li> </ul>

The problem	The problem
	<ul style="list-style-type: none"> <li>•  &gt;  <a href="#">Settings</a> &gt; <a href="#">Broadcasting</a> &gt; <a href="#">Auto Program</a></li> </ul> <p>Adjust the cable box or satellite box's video output resolution to 1080i or 720p</p>
<p>The picture is distorted</p>	<p>The compression of video content may cause picture distortions, especially in fast moving pictures from sports programs and action movies</p> <p>If the signal reception is weak or poor, screen distortion may be visible but it is not a malfunction.</p> <p>Mobile phones used close to the TV (within 3.2 ft) may cause noise on analog and digital channels.</p>
<p>The color is wrong or missing</p>	<p>If you're using a Component connection, make sure that the Component cables are connected to the correct jacks.</p> <p>Incorrect or loose connections may cause color problems or a blank screen.</p>
<p>The color is poor or the picture is not bright enough</p>	<p>Go to Picture and then adjust the Picture Mode, Brightness, Sharpness, and Color settings.</p> <ul style="list-style-type: none"> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Picture Mode</a></li> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Brightness</a></li> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Sharpness</a></li> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Color</a></li> </ul> <p>See if Power Saving Mode has been enabled.</p> <ul style="list-style-type: none"> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Eco Solution</a> &gt; <a href="#">Power Saving Mode</a></li> </ul> <p>Try resetting the picture.</p> <ul style="list-style-type: none"> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Reset Picture</a></li> </ul>
<p>There is a dotted line on the edge of the screen</p>	<p>Change Picture Size Settings to 16:9 Standard.</p> <ul style="list-style-type: none"> <li> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Picture Size Settings</a> &gt; <a href="#">16:9 Standard</a></li> </ul>

The problem	The problem
The picture is black and white	<p>If you are using AV or analog equipment, disconnect the adapter from the Component (Blue) input port on the TV and connect it to the AV (Yellow) input port.</p> <p>Check whether Grayscale is set to On.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Accessibility</a> &gt; <a href="#">Grayscale</a></p>

- If the test picture does not appear or there is noise or distortion, the TV may have a problem. Contact Samsung's Call Center 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.







## I Can't Hear the Sound Clearly

When the TV has difficulties with sound, these steps may help resolve the problem.

### Testing the sound











 >  [Settings](#) > [Support](#) > [Self Diagnosis](#) > [Start Sound Test](#)

If the TV plays the [Start Sound Test](#) melody without distortion, there may be a problem with an external device or the broadcast signal's strength.

The problem	Try this!
<p>There is no sound or the sound is too low at maximum volume.</p>	<p>Check the volume control of the device (cable or satellite box, DVD, Blu-ray, etc.) connected to your TV.</p>
<p>The picture is good but there is no sound.</p>	<p>Set  &gt;  <a href="#">Settings</a> &gt; <a href="#">Sound</a> &gt; <a href="#">Sound Output to TV Speaker</a>.</p> <p>If you are using an external device, check the device's audio output option.</p> <p>For example, you may need to change your cable box's audio option to HD if the box connected to your TV is using an HDMI cable.</p> <p>To listen to computer sound, connect an external speaker to the computer's audio output connector.</p> <p>If your TV has a headphone jack, make sure there is nothing plugged into it.</p> <p>Reboot the connected device by disconnecting and then reconnecting the device's power cable.</p>
<p>No sound is heard.</p>	<p>Check whether the <a href="#">Digital Output Audio Format</a> is set to <a href="#">Dolby Digital+</a>.</p> <p>If you are using a receiver that does not support Dolby Digital Plus, you will hear no sound when you select <a href="#">Dolby Digital+</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">Sound</a> &gt; <a href="#">Expert Settings</a> &gt; <a href="#">Digital Output Audio Format</a> &gt; <a href="#">Dolby Digital+</a>.</p>
<p>The speakers are making an odd sound.</p>	<p>Run <a href="#">Start Sound Test</a></p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">Support</a> &gt; <a href="#">Self Diagnosis</a> &gt; <a href="#">Start Sound Test</a></p> <p>Make sure that the audio cable is connected to the correct audio output connector on the external device.</p> <p>For antenna or cable connections, check the signal information. A low signal level may cause sound distortions.</p>

## There Is a Problem with the Broadcast

When the TV has difficulties receiving broadcasts, these steps may help resolve the problem.

The problem	Try this!
<p>"Weak or No Signal" displayed in TV mode/ cannot find channel.</p>	<p>Make sure the antenna cable is connected securely to the TV.</p> <p>Select  &gt;  <a href="#">Source</a> to confirm that the correct input source has been selected.</p> <p>If the TV is not connected to a cable or satellite box, run <a href="#">Auto Program</a> to search for channels  &gt;  <a href="#">Settings</a> &gt; <a href="#">Broadcasting</a> &gt; <a href="#">Auto Program</a></p>
<p>The TV is not receiving all channels.</p>	<p>Confirm that the coaxial cable is securely connected to the TV.</p> <p>Run <a href="#">Start Setup</a></p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Start Setup</a></p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">Broadcasting</a> &gt; <a href="#">Auto Program</a></p>
<p>There are no captions with digital channels.</p>	<p>Go to <a href="#">Caption Settings</a> and change the <a href="#">Caption Mode</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Accessibility</a> &gt; <a href="#">Caption Settings</a> &gt; <a href="#">Caption Mode</a></p> <p>Some channels may not have caption data.</p>
<p>The picture is distorted.</p>	<p>The compression of the video content may cause picture distortions.</p> <p>This is especially true with fast moving pictures from sports programs and action movies.</p> <p>A weak signal can cause picture distortions. This is not a problem with the TV.</p>
<p>The picture quality is low.</p>	<p>Select high definition (HD) channels or programs.</p>



## My Computer Won't Connect

When the TV has difficulties connecting to a PC, these steps may help resolve the problem

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.	<p>If you are using an HDMI connection, check the audio output setting on your PC.</p> <p>If you are using an HDMI-to-DVI cable, a separate audio cable is required.</p> <p>Note that the HDMI-to-DVI connection is only supported by the HDMI (DVI) port and does not transmit audio.</p> <p>To listen to the computer sound, connect external speakers to the audio output connection of the computer.</p>

## The TV Won't Connect to the Internet

When the TV has difficulties connecting to the Internet, these steps may help resolve the problem.

The problem	Try this!
The TV cannot connect to your network or apps (for Internet compatible models only).	<p>Make sure the TV has a network connection</p> <p> &gt;  <b>Settings</b> &gt; <b>General</b> &gt; <b>Network</b> &gt; <b>Network Status</b></p> <p>Contact your Internet service provider.</p>
The wireless network connection failed.	Confirm your wireless modem/router is on and connected to the Internet.
The wireless network signal is too weak.	<p>Position your wireless router, modem router, or access point in a central location.</p> <p>Avoid putting it in a corner.</p> <p>Use a wireless repeater to get an instant boost in your wireless signal strength.</p> <p>Place the repeater halfway between your wireless router and your TV.</p>

## The Schedule Recording/Timeshift Function Isn't Working

When Timeshift or Schedule recording aren't working, these steps may help resolve the problem.









" This function is not available in the U.S.A. and Canada.



The problem	Try this!
Schedule Recording cannot be used.	Check if there is a USB device connected to the TV. Recording will automatically stop if the signal becomes too weak. Check the free space on the USB device. The function will not work if there isn't enough storage space on the USB d

## Anynet+ (HDMI-CEC) Isn't Working

When Anynet+ (HDMI-CEC) isn't working, these steps may help resolve the problem



The problem	Try this!
Anynet+ does not work.	<p>Confirm that the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.</p> <p>Check if the power cord of the Anynet+ device is properly connected.</p> <p>Check the cable connections of the Anynet+ device.</p> <p>Go to <a href="#">Anynet+ (HDMI-CEC)</a> and see if <a href="#">Anynet+ (HDMI-CEC)</a> has been set to <a href="#">On</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">External Device Manager</a> &gt; <a href="#">Anynet+ (HDMI-CEC)</a></p> <p>Anynet+ may not function when some other functions are active, including Channel Search, Smart Hub, Initial Setup, etc.</p> <p>If you have disconnected and then reconnected the HDMI cable, scan for devices again or turn your TV off and on.</p>
I want to start Anynet+.	<p>Move the focus to the Anynet+ device at  &gt;  <a href="#">Source</a>, and then press the directional button.</p> <p>Check if the Anynet+ device is properly connected to the TV, and then select <a href="#">Anynet+ (HDMI-CEC)</a> menu to see if <a href="#">Anynet+ (HDMI-CEC)</a> is set to <a href="#">On</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">External Device Manager</a> &gt; <a href="#">Anynet+ (HDMI-CEC)</a></p>
I want to exit Anynet+.	<p>Set <a href="#">Anynet+ (HDMI-CEC)</a> to <a href="#">Off</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">External Device Manager</a> &gt; <a href="#">Anynet+ (HDMI-CEC)</a></p>
The message "Connecting to Anynet+ device..." or "Disconnecting from Anynet+ device" appears on the screen.	<p>You cannot use the remote control when the TV is configuring Anynet+ or switching to a viewing mode.</p> <p>Use the remote control after the TV has completed the Anynet+ configuration and switched to a viewing mode.</p>
The Anynet+ device won't play.	<p>You cannot use the play function when <a href="#">Start Setup</a> is in progress.</p>

The problem	Try this!
<p>The connected device is not displayed.</p>	<p>Check whether the device supports Anynet+.</p> <p>Check whether the HDMI cable is properly connected.</p> <p>Go to <a href="#">Anynet+ (HDMI-CEC)</a> and see if <a href="#">Anynet+ (HDMI-CEC)</a> has been set to  &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">External Device Manager</a> &gt; <a href="#">Anynet+ (HDMI-CEC)</a></p> <p>Scan for Anynet+ devices again.</p> <p>If the connection is terminated because there has been a power failure or the cable has been disconnected, please scan for the device again.</p>
<p>The TV audio is not being played through the receiver.</p>	<p>Make sure that the AV receiver is connected to the TV's HDMI (ARC) port with HDMI cable.</p> <p>Confirm that the AV receiver is HDMI (ARC) compatible.</p> <p>If the AV receiver is not HDMI (ARC) compatible, connect the TV and the AV receiver with an optical cable.</p>

## I Have Trouble Launching/Using Apps

When apps aren't working, these steps may help resolve the problem.

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









## My File Won't Play

When files aren't playing, this may help resolve the problem.

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





## I Want to Reset the TV





Initialize the settings to factory defaults.



Reset	Path	Description
Reset Settings	 >  <a href="#">Settings</a> > <a href="#">Support</a> > <a href="#">Self Diagnosis</a> > <a href="#">Reset</a>	Resets <a href="#">Picture</a> , <a href="#">Sound</a> , <a href="#">Broadcasting</a> , and all other settings except for the network settings, to the default settings.
Reset Smart Hub	 >  <a href="#">Settings</a> > <a href="#">Support</a> > <a href="#">Self Diagnosis</a> > <a href="#">Reset Smart Hub</a>	Resets all Smart Hub settings to their factory defaults and deletes all information related to Samsung accounts, service accounts, Smart Hub service agreements, Smart Hub applications.
Reset Picture	 >  <a href="#">Settings</a> > <a href="#">Picture</a> > <a href="#">Expert Settings</a> > <a href="#">Reset Picture</a>	Resets current picture settings to the default settings.
Reset Sound	 >  <a href="#">Settings</a> > <a href="#">Sound</a> > <a href="#">Expert Settings</a> > <a href="#">Reset Sound</a>	Resets current sound settings to the default settings.

## Other Issues

Use these procedures to resolve other issues that may occur.

The problem	Try this!
The TV is hot.	<p>Watching TV for an extended period of time causes the panel to generate heat.</p> <p>The heat from the panel is dissipated through internal vents running along the top and bottom of the TV.</p> <p>The bottom, however, may feel hot to the touch after extended use.</p> <p>Children watching TV need constant adult supervision to prevent them from touching the TV.</p> <p>This heat, however, is not a defect and does not affect the TV's functionality.</p>
The picture won't display in full screen.	<p>HD channels will have black bars on either side of the screen when displaying upscaled SD (4:3) content.</p> <p>Black bars will appear at the top and bottom of the screen when you watch movies that have aspect ratios different from your TV.</p> <p>Adjust the picture size options on your external device or set the TV to full screen.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">Picture</a> &gt; <a href="#">Picture Size Settings</a> &gt; <a href="#">Picture Size</a></p>
The "Mode Not Supported" message appears.	<p>The output resolution of the attached device is not supported by the TV.</p> <p>Check the TV's supported resolutions and adjust the external device's output resolution accordingly.</p>
The Captions item in the TV is grayed out.	<p>When an external device is connected with an HDMI or Component cable, the <a href="#">Caption</a> function is unavailable.</p> <p>Adjust the caption setting on the external device.</p>
The TV smells of plastic.	<p>This smell is normal and will dissipate over time.</p>
<a href="#">Signal Information</a> under <a href="#">Self Diagnosis</a> isn't activated.	<p>Verify that the current channel is a digital channel.</p> <p><a href="#">Signal Information</a> is only available for digital channels.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">Support</a> &gt; <a href="#">Self Diagnosis</a> &gt; <a href="#">Signal Information</a></p>

The problem	Try this!
The TV is tilted to the side.	Remove the base stand from the TV and reassemble it.
The stand is wobbly or crooked.	Make sure the indicator arrows on the stand and stand holder are properly aligned.
The remote control and/or voice control does not work.	The TV ships with protective stickers covering some of the sensors. Make sure all of the stickers have been removed.
The <a href="#">Broadcasting</a> function has been deactivated.	<p><a href="#">Broadcasting</a> is only available when the <a href="#">Source</a> is set to <a href="#">TV</a>.</p> <p><a href="#">Broadcasting</a> cannot be accessed while you watch TV using a cable or satellite box.</p> <p><a href="#">Broadcasting</a> cannot be accessed while a recording is in progress or the <a href="#">Time Shift</a> function is running.</p>
PIP is not available.	<p>PIP is available only when an external device is connected with an HDMI or Component cable.</p> <p>Note that the function is unavailable when the Smart Hub is active.</p> <p>" This function is not available in the U.S.A. and Canada.</p>
The settings are lost after 5 minutes or every time the TV is turned off.	<p>If <a href="#">Usage Mode</a> is set to <a href="#">Retail Mode</a>, the TV's audio and video settings are automatically reset every 5 minutes.</p> <p>Change <a href="#">Usage Mode</a> to <a href="#">Home Mode</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">System Manager</a> &gt; <a href="#">Usage Mode</a></p>
A POP (TV's internal banner ad) appears on the screen.	<p>Change <a href="#">Usage Mode</a> to <a href="#">Home Mode</a>.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">System Manager</a> &gt; <a href="#">Usage Mode</a></p>
	The expansion and contraction of the TV's outer casing may cause a popping noise. This does not indicate a product malfunction.

The problem	Try this!
The TV is making a popping noise.	The TV is safe to use.
The TV is making a humming noise.	<p>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.</p> <p>Your TV has undergone strict quality control procedures that meet our demanding performance and reliability requirements.</p> <p>Some noise coming from the TV is considered normal and is not an acceptable cause for an exchange or refund.</p>
The software update over the Internet has failed.	<p>Check the network connection status.</p> <p> &gt;  <a href="#">Settings</a> &gt; <a href="#">General</a> &gt; <a href="#">Network</a> &gt; <a href="#">Network Status</a></p> <p>If the TV is not connected to a network, connect it to a network.</p> <p>The upgrade stops if you already have the latest software version.</p>

### Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.