LED TV
user manual

Thank you for purchasing this Samsung product.
To receive more complete service, please register
your product at
www.samsung.com/register
Model _____ Serial No. _____

SAMSUNG

Digital TV notice

1. Functionalities related to Digital TV (DVB) are only available in countries/areas where DVB-T (MPEG2 and MPEG4 AVC) digital terrestrial signals are broadcasted or where you are able to access to a compatible DVB-C (MPEG2 and MPEG4 AAC) cable-TV service. Please check with your local dealer the possibility to receive DVB-T or DVB-C signal.

2. DVB-T is the DVB European consortium standard for the broadcast transmission of digital terrestrial television and DVB-C is that for the broadcast transmission of digital TV over cable. However, some differentiated features like EPG (Electric Programme Guide), VOD (Video On Demand) and so on, are not included in this specification. So, they cannot be workable at this moment.

3. Although this TV set meets the latest DVB-T and DVB-C standards, as of [August, 2008], the compatibility with future DVB-T digital terrestrial and DVB-C digital cable broadcasts cannot be guaranteed.

4. Depending on the countries/areas where this TV set is used some cable-TV providers may charge an additional fee for such a service and you may be required to agree to terms and conditions of their business.

5. Some Digital TV functions might be unavailable in some countries or regions and DVB-C might not work correctly with some cable service providers.

6. For more information, please contact your local Samsung customer care centre.

   ✎ The reception quality of TV may be affected due to differences in broadcasting method between the countries. Please check the TV performance in the local SAMSUNG Authorised Dealer, or the Samsung Call Centre whether it can be improved by reconfiguring TV setting or not.

Still image warning

Avoid displaying still images (like jpeg picture files) or still image element (like TV programme logo, panorama or 4:3 image format, stock or news bar at screen bottom etc.) on the screen. Constant displaying of still picture can cause ghosting of LED screen, which will affect image quality. To reduce risk of this effect, please follow below recommendations:

- Avoid displaying the same TV channel for long periods.

- Always try do display any image on full screen, use TV set picture format menu for best possible match.

- Reduce brightness and contrast values to minimum required to achieve desired picture quality, exceeded values may speed up the burnout process.

Contents

Other Information

Check the Symbol!

Note

Indicates additional information.

Step by Step Guide

Check here for instructions on how to open the relevant submenu within the OSD (on screen display).

Getting Started

Safety Precautions

Before using this product, read the Safety Precautions for your model.

Icons used for safety precautions

⚠	WARNING	Failing to follow the precautions marked with this sign may result in a serious injury or even a fatality.

⚠	CAUTION	Failing to follow the precautions marked with this sign may result in a personal injury or property damage.

🚫 Do not perform.

❗ Must be followed.

CAUTION		This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.
RISK OF ELECTRIC SHOCK DO NOT OPEN		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.		This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

Power Related

✎ The following images are for your reference and may differ depending on models and countries.

⚠ Warning
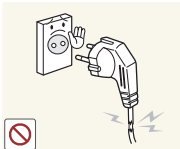
Avoid using a damaged power cord or plug or a loose power outlet.

- Otherwise, it may result in electric shock or fire.

Avoid connecting multiple electric appliances to a single wall outlet.

- Otherwise, it may result in fire due to overheating of the wall outlet.
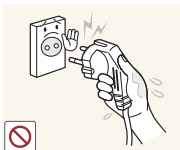
Avoid plugging in or unplugging the power supply with wet hands.

- Otherwise, it may result in electric shock.
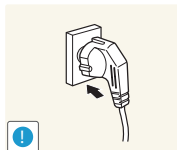
Plug the power plug in firmly.

- Otherwise, it may result in fire.
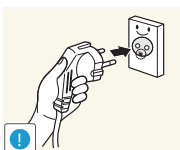
Make sure to connect the power cord to a grounded wall outlet (for insulation class 1 equipment only).

- Otherwise, it may result in electric shock or injury.
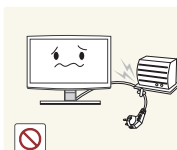
Avoid bending or twisting the power cord excessively and avoid placing heavy objects on the cord.

- Otherwise, it may result in electric shock or fire due to a damaged power cord.

Getting Started
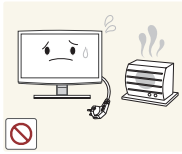
Keep the power cord and the product away from a heater.

- Otherwise, it may result in electric shock or fire.
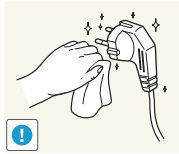
If the pins of the power plug or the wall outlet are covered in dust, clean it using a dry cloth.

- Otherwise, it may result in fire.

⚠ Caution

Avoid unplugging the power plug while the product is operating.

- Otherwise, it may damage the product due to electric shock.

Make sure to use only the power cord supplied by our company. In addition, do not use the power cord of another electric appliance.

- Otherwise, it may result in electric shock or fire.
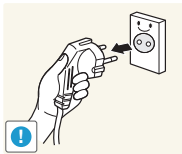
When unplugging the power plug from the wall outlet, make sure to hold it by the plug and not by the cord.

- Otherwise, it may result in electric shock or fire.
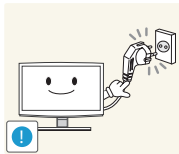
Connect the power plug to a wall outlet that can be easily reached.

- When a problem occurs with the product, you must unplug the power plug to cut the power off completely. You cannot cut the power off completely using only the power button on the product.
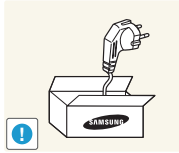
Installation Related

⚠ Warning

Avoid placing burning candles, mosquito coil, cigarettes on the product.

- Otherwise, it may result in fire.
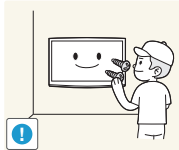
Ask an installation engineer or relevant company to install the product onto the wall.

- Otherwise, it may result in injury.
- Make sure to use the specified wall mount.

Keep the plastic bags used to pack the product away from children.

- If children place the plastic bags over their heads, they may suffocate.

Avoid installing the product in a badly-ventilated location such as inside a bookshelf or closet.

- Otherwise, it may result in fire due to internal over-heating.

Avoid installing the product in a location that is unstable or exposed to excessive vibration such as on an unstable or slanted shelf.

- The product may fall and this may result in damage to the product or injury.
- If you use the product in a location exposed to excessive vibrations, it may result in a problem with the product or fire.

Avoid installing the product in a location exposed to dust, moisture (sauna), oil, smoke or water (rain drops) and installing it within a vehicle.

- This may result in electric shock or fire.

Getting Started
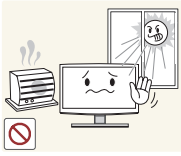
Avoid installing the product in a location exposed to direct sunlight and installing the product near a heat source such as a fireplace or heater.

- This may shorten the product life cycle or cause fire.

Bend the outdoor aerial cable downwards at the location where it comes in the house so that rainwater does not flow in.

- If rainwater enters the product, it may result in electric shock or fire.
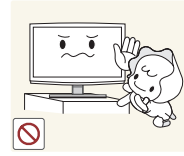
Avoid installing the product where children may reach it.

- If a child touches the product, the product may fall and this may result in injury.
- Since the front part is heavier, install the product on a flat and stable surface.

Install the aerial far away from any high voltage cables.

- If the aerial touches or falls onto a high voltage cable, it may result in electric shock or fire.

⚠ Caution

Do not let the product drop while moving it.

- This may result in a problem with the product or injury.

When installing the product on a console or shelf, make sure that the front of the product does not protrude out of the console or shelf.

- Otherwise, this may cause the product to fall off and result in a malfunction or injury.
- Make sure to use a cabinet or shelf suitable to the size of the product.

If the product is installed in a location where the operating conditions vary considerably, a serious quality problem may occur due to the surrounding environment. In this case, install the product only after consulting one of our service engineers about the matter.

- Places exposed to microscopic dust, chemicals, too high or low temperature, high humidity, airports or stations where the product is continuously used.

Do not place the product face down on the floor.

- This may damage the panel of the product.

When putting the product down, handle it gently.

- Otherwise, it may result in a problem with the product or injury.

Getting Started

Cleaning Related

⚠ Warning
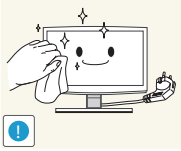
Before cleaning the product, unplug the power cord.

- Otherwise, it may result in electric shock or fire.

When cleaning the product, do not spray water directly over the product parts.

- Make sure that water does not enter the product.
- Otherwise, it may result in fire, electric shock or a problem with the product.

⚠ Caution
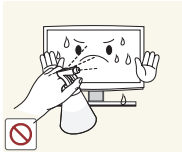
Avoid spraying cleansing agent directly onto the product.

- This may result in discolouration or cracking of the exterior of the product or the panel coming off.
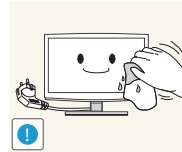
When cleaning the product, disconnect the power cord and clean the product with a soft cloth.

- Avoid using chemicals such as wax, benzene, alcohol, thinner, mosquito coil, fragrance, lubrication or cleansing agent when cleaning the product.

  This may result in the exterior being deformed or the print being removed.
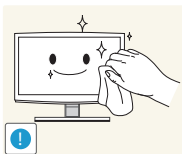
If you can't get the product clean with just the supplied cloth, use a soft, damp cloth with a "monitor-exclusive cleansing agent" and wipe the product with it.

- If no monitor-exclusive cleansing agent is available, dilute a cleansing agent with water at a ratio of 1:10 before cleaning the product.
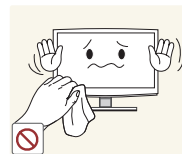
Since the exterior of the product is easily scratched, be sure to use a soft cloth.

Usage Related

⚠ Warning
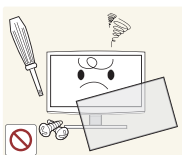
Since a high voltage runs through the product, never disassemble, repair or modify the product yourself.

- Otherwise, it may result in fire or electric shock.
- If the product needs to be fixed, contact a service centre.

To move the product, turn the power off and unplug the power cord, the aerial cable and any other wires connected to the product.

- Otherwise, it may result in electric shock or fire due to the damaged power cord.

Getting Started

If the product generates a strange noise, a burning smell, or smoke, unplug the power plug immediately and contact a service centre.

- Otherwise, it may result in electric shock or fire.

If you drop the product or the case is damaged, turn the power off and unplug the power cord. Contact a service centre.

- Otherwise, it may result in fire or electric shock.

When thunder or lighting occurs, unplug the power cord and under no circumstance touch the aerial cable as this is dangerous.

- Otherwise, it may result in electric shock or fire.

Avoid moving the product by pulling the power cord or aerial cable.

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.

Avoid lifting up or moving the product by holding only the power cord or signal cable.

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.

Take care not to block the vent by a table cloth or curtain.

- Otherwise, it may result in fire due to internal overheating.

Avoid letting children hang or climb onto the product.

- Otherwise, it may result in the product falling and this may result in injury or death.

Avoid placing objects such as toys and cookies on top of the product.

- If a child hangs over the product to grab an object, the object or the product may fall and this may result in injury or even death.

Avoid dropping an object over the product or cause impact to the product.

- Otherwise, it may result in electric shock or fire.

When a gas leak occurs, do not touch the product or the power plug and ventilate immediately.

- A spark may result in an explosion or fire.

- During a thunder or lighting storm, do not touch the power cord or aerial cable.

Avoid using or placing inflammable spray or objects near the product.

- This may result in an explosion or fire.

Avoid inserting metal objects such as a chopsticks, coins or hairpins, or inflammable objects into the product (the vents, ports, etc).

- If water or substances enters the product, turn the power off, unplug the power cord and contact a service centre.

- Otherwise, it may result in a problem with the product, electric shock or fire.

Getting Started

Avoid placing a liquid container such as a vase, flowerpot, beverage, cosmetics or drugs, or a metal object over the product.

- If water or substances enter the product, turn the power off, unplug the power cord and contact a service centre.

- Otherwise, it may result in a problem with the product, electric shock or fire.

Do not press down hard on the product. The product may become deformed or damaged.

⚠ Caution

Displaying a still image for a long time may create a persistent image or stain on the screen.

- If you do not use the product for a long time, use the power-saving mode or set the screensaver to the moving picture mode.
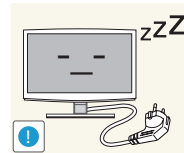
When not using the product for a long time such as leaving your home, unplug the power cord from the wall outlet.

- Otherwise, it may cause dust accumulation and result in fire caused by overheating or short circuit or result in an electric shock.
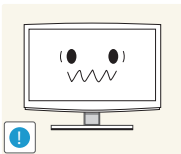
Set the appropriate resolution and frequency for the product.

- Otherwise, it may result in eye strain.

Avoid turning the product upside down or move the product holding only the stand.

- This may cause the product to fall, resulting in damage to the product or injury.
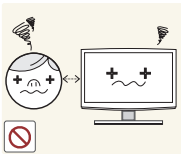
Watching the product from too close a distance continuously may damage your eyesight.

Avoid using a humidifier or cooker near the product.

- Otherwise, it may result in electric shock or fire.
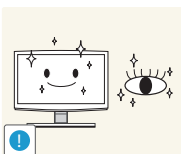
It is important to give your eyes some rest (5 minutes every hour) when viewing the product screen for long periods of time.

- This will alleviate any eye strain.
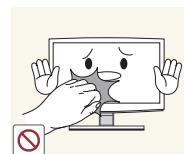
Since the display panel is hot after using it for a long time, do not touch the product.
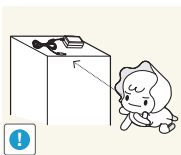
Keep the small accessories in a location out of the reach of children.
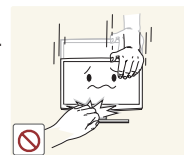
Take care when adjusting the angle of the product or the height of the stand.

- If your hand or finger is caught, you may be injured.

- If the product is tilted excessively, the product may fall and this may result in injury.

Getting Started

Avoid placing a heavy object over the product.

- Otherwise, it may result in a problem with the product or injury.

When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.
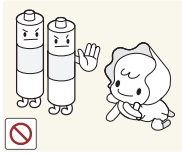
Be careful that children do not place the batteries in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

- If children have had the battery in their mouths, consult your doctor immediately.
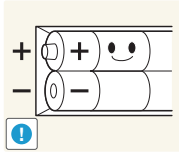
When replacing the batteries, insert them with right polarity (+, -).

- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.
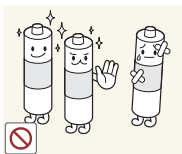
Use only specified standard batteries. Do not use new and used batteries together.

- This may cause a battery to break or leak and may cause fire, injury, or contamination (damage).
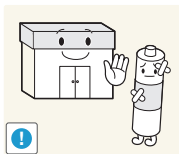
The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.

- The customer can return used or rechargeable batteries to a nearby public recycling centre or to a store selling the same type of the battery or rechargeable battery.

Do not place the adapter on top of another adapter.

- Otherwise, it may result in fire.
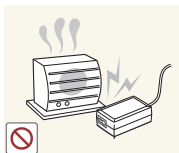
Keep power adaptor away from any other heat source.

- Otherwise, it may result in fire.
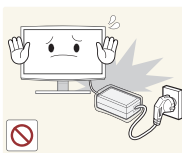
Remove the vinyl cover of the adapter before using the adaptor.

- Otherwise, it may result in fire.

Do not let water enter the DC power device or get the device wet.

- An electric shock or fire may result.

- Avoid using the product outdoors where it can be exposed to rain or snow.

- Be careful not to get the DC power adapter wet when you wash the floor.

Be careful that adaptor should not be in contact with water and therefore not be wet.

- This may cause a malfunction, electric shock or fire. Do not use adaptor by the waterside or outside particularly when it rains or snows. Be careful that adaptor should not be wet while cleaning floor with water.
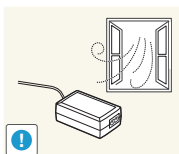
Always keep power adaptor in well-ventilated area.

Getting Started

Providing Proper Ventilation for Your TV

When you install your TV, maintain a distance of at least 10 cm between the TV and other objects (walls, cabinet sides, etc.) to ensure proper ventilation. Failing to maintain proper ventilation may result in a fire or a problem with the product caused by an increase in its internal temperature.

If you use parts provided by another manufacturer, it may cause difficulties with the product or result in injury caused by the product falling.

– Whether you install your TV using a stand or a wall-mount, we strongly recommend you use parts provided by Samsung Electronics only.

Installation with a stand.	Installation with a wall-mount.
10 cm 10 cm 10 cm	10 cm 10 cm 10 cm 10 cm
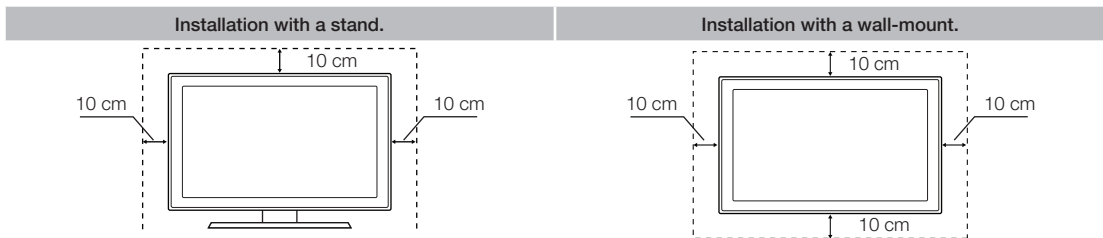
Other Cautions

– The actual appearance of the TV may differ from the images in this manual, depending on the model.

– Be careful when you touch the TV. Some parts can be somewhat hot.

Getting Started

Turn on the TV using the ⏻ button on the remote control or TV panel.

- The product colour and shape may vary depending on the model.

- The TV's Controller, a small joystick-like button at the right back of the TV, lets you control the TV without the remote control.
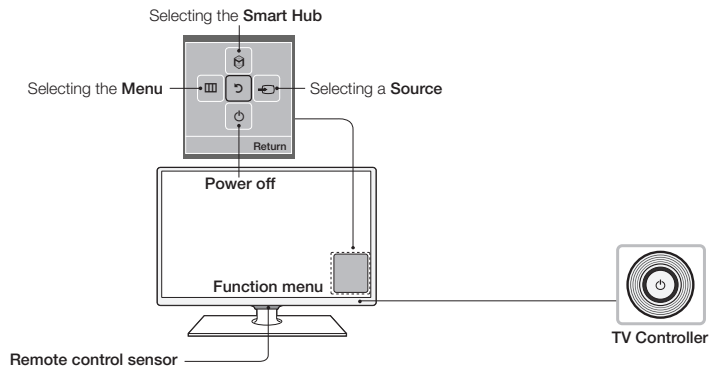
Standby mode

Your product enters Standby mode when you turn it off and continues to consume a small amount of electric power. To be safe and to decrease power consumption, do not leave your product in standby mode for long periods of time (when you are away on vacation, for example). It is best to unplug the power cord.

Getting Started

The Standard Remote Control Buttons

✎ This remote control has Braille points on the Power, Channel, and Volume buttons and can be used by visually impaired persons.

Turns the TV on and off.

This is not available in all locations.

Displays and selects available video sources.

Gives direct access to channels.

Returns to the previous channel.

Alternately selects Teletext ON Double, Mix or OFF.

Cuts off the sound temporarily.

Adjusts the volume.

Changes channels.

Displays channel lists.

Displays the EPG (Electronic Programme Guide).

Opens the OSD (Menu).

Brings up Smart Hub applications.

Quickly selects frequently used functions.

Moves the cursor, selects the on-screen menu items, and changes the values seen on the TV's menu.

Displays information on the TV screen.

Returns to the previous menu.

Exits the menu.

⚽: Enable Football Mode for an optimal sports viewing experience.

Use these buttons according to the directions on the TV screen.

SEARCH: Press this button to use the search window.

KEYPAD: With the virtual remote control on the screen, you can easily enter digits, control content, and use functions.

E-MANUAL: This is not available in all locations.

Use these buttons with specific features. Use these buttons according to the directions on the TV screen.

P.SIZE: Change the picture size.

AD/SUBT.: Displays the Accessibility Shortcuts.

SAMSUNG

Getting Started

Installing batteries (Battery size: AAA)

Match the polarities of the batteries to the symbols in the battery compartment.
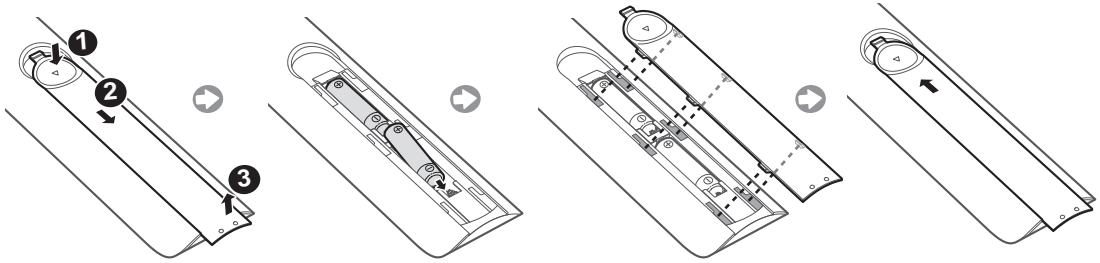
✎ Use the remote control within 7m of the TV.

✎ Bright lights may affect the performance of the remote control. Avoid using the remote control near special fluorescent lights or neon signs.

✎ The colour and shape may vary depending on the model.

Getting Started

VHF/UHF Aerial   Cable

Aerial Cable
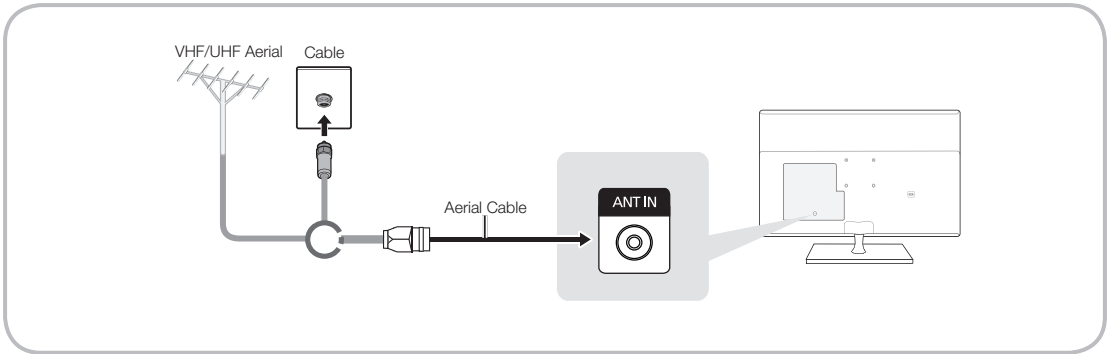
ANT IN

✎ Plug the power cord into a wall outlet only after you have made all other connections.

✎ If you are connecting your product to a cable or satellite box using HDMI, Component, or Composite connections, you do not need to connect the ANT IN jack to an aerial or a cable connection.

✎ Use caution when you move or swivel the product if the aerial cable is tightly connected. You could break the aerial jack off the product.

Connecting the Power

✎ The picture may vary depending on the model.

Power Input
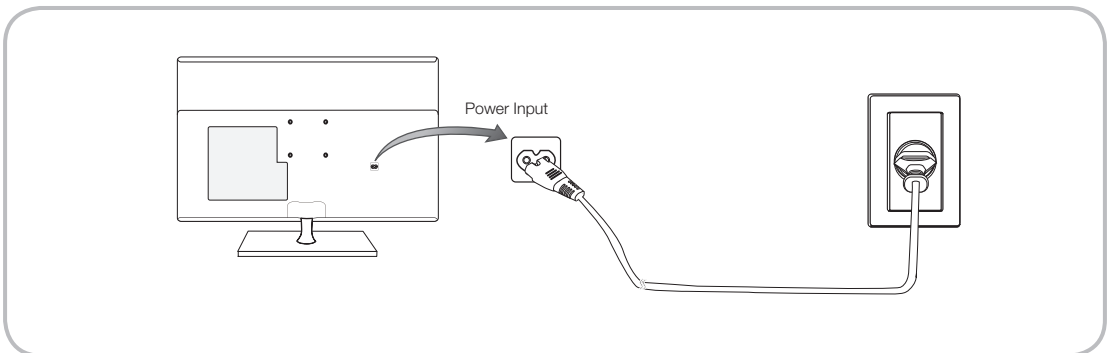
Initial setup

The initial setup dialogue box appears when the TV is first activated. Follow the on-screen instructions to finish the initial setup process, including the selecting the menu language, scanning channels, connecting to the network, and more. During each step, either make a choice or skip the step. You can manually perform this process at a later time in the System → Setup menu.

– If you connect any device to HDMI1 before starting the installation, the Channel Source will be changed to Set-top box automatically.

– If you do not want to select Set-top box, please select Aerial.

Password Change

System → Change PIN

Changing the TV's password

1. Run Change PIN and then enter the current password in the password field. The default password is "0-0-0-0".

2. Enter a new password and then enter it again to confirm it. The password change is complete.

– If you forgot your PIN code, press the buttons in the following sequence to reset the PIN to "0-0-0-0":

In Standby mode: MUTE → 8 → 2 → 4 → POWER (On)

Connections

Connecting to AV Devices (Blu-ray Players, DVD Players, etc.)

Using an HDMI Cable for an HD connection (up to 1080p, HD digital signals)

For the best quality HD picture, we recommend using an HDMI connection.

Use with DVD players, Blu-ray players, HD cable boxes, and HD Set-Top-Box satellite receivers.
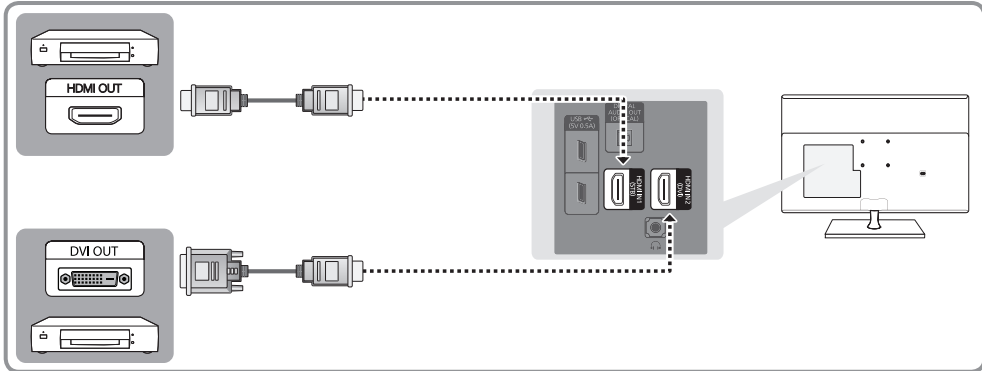
✎ **HDMI IN 1 (STB) / HDMI IN 2 (DVI)**

- For the best picture and audio quality, connect digital devices to the product using HDMI cables.

- An HDMI cable supports digital video and audio signals, and does not require an audio cable.

    – To connect the product to a digital device that does not support HDMI output, use an HDMI to DVI cable and audio cables.

- If you connect an external device to the product that uses an older version of HDMI, the video and audio may not work. If this occurs, ask the manufacturer of the device about the HDMI version and, if it is out of date, request an upgrade.

- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.

- We recommend using a basic high-speed HDMI cable or an HDMI cable that is Ethernet compatible. Note that this product does not support the Ethernet function via HDMI.

Connections

Using a Component Cable (up to 1080p HD signals) or an Audio/Video Cable (480i analogue signals only)

Use with DVD players, Blu-ray players, cable boxes, STB satellite receivers, VCRs.
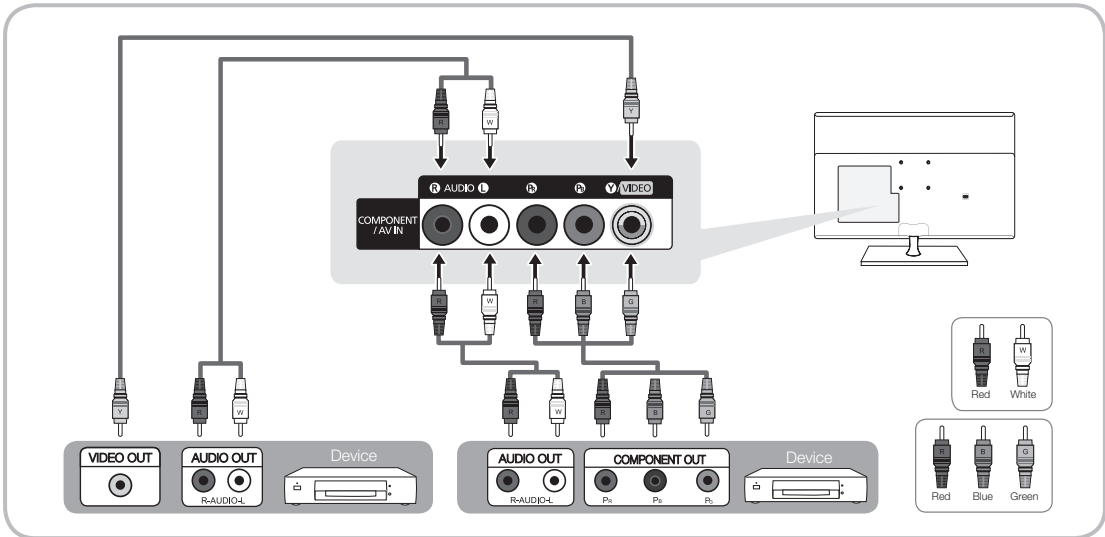
✎ For better picture quality, we recommend the Component connection over the A/V connection.

Using a Scart Cable

Available devices: DVD, VCR
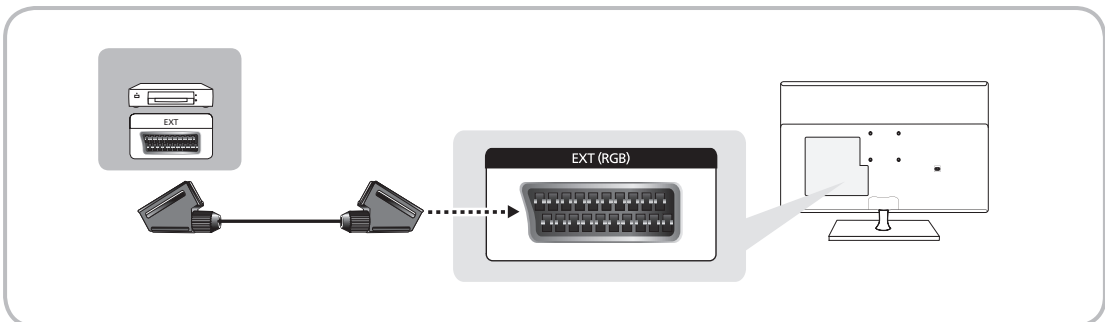
✎ In Ext. mode, DTV Out supports MPEG SD Video and Audio only.

Connections

Using a Headphone Cable Connection
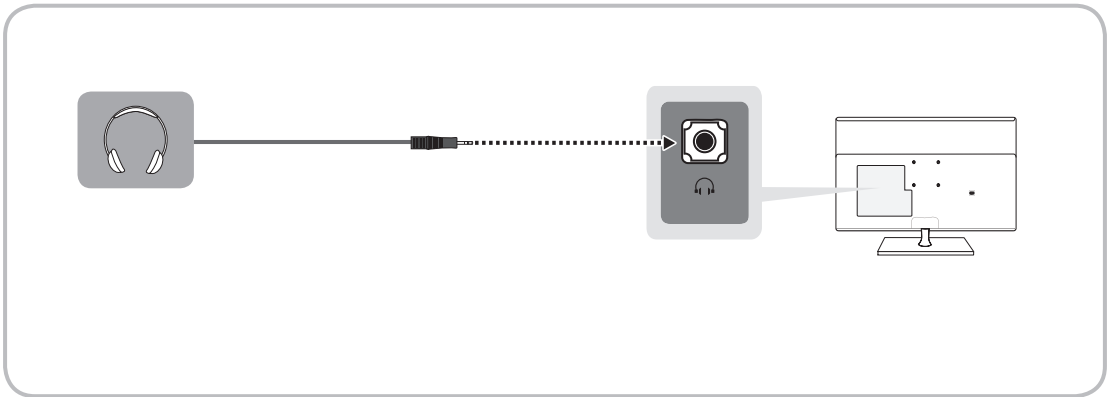
✎ **Headphones** 🎧: You can connect your headphones to the headphone output jack on your product. While the headphones are connected, the sound from the built-in speakers will be disabled.

- The sound function may be restricted when you connect headphones to the product.

- Headphone volume and product volume are adjusted separately.

- The earphone jack supports only the 3 conductor tip-ring-sleeve (TRS) type.

Connections

Using an HDMI Cable or an HDMI to DVI Cable

✎ Your PC may not support an HDMI connection.
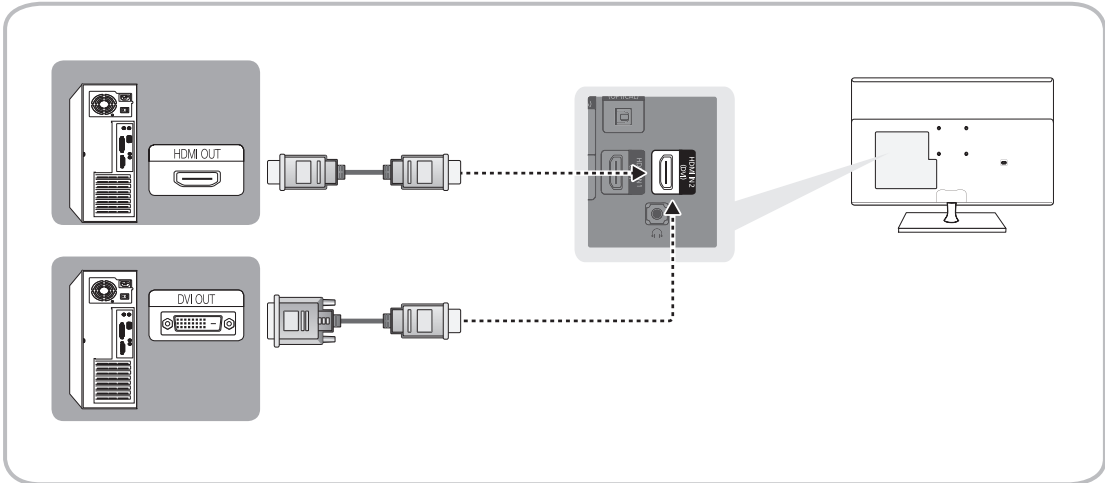
✎ **NOTE**

- For an HDMI to DVI cable connection, you must use the **HDMI IN 2 (DVI)** jack.

- For PC's with DVI video out jacks, use an HDMI to DVI cable to connect the DVI out on the PC to the **HDMI IN 2 (DVI)** jack on the product. Use the PC's speakers for audio.

To connect the CI CARD, follow these steps:

Using the "CI or CI+ CARD"
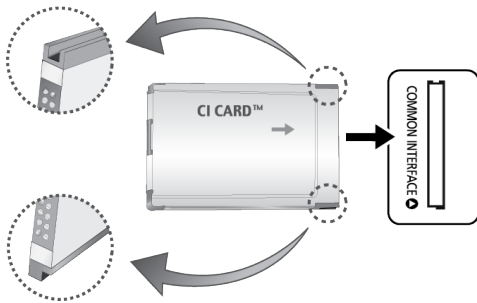
To watch paid channels, the "CI or CI+ CARD" must be inserted.

✎ Turn the TV off to connect or disconnect a CI card.

- If you don't insert the "CI or CI+ CARD", some channels will display the message "Scrambled Signal".

- The pairing information containing a telephone number, the "CI or CI+ CARD" ID the Host ID and other information will be displayed in about 2~3 minutes. If an error message appears please contact your service provider.

- When the configuration of channel information has finished, the message "Updating Completed" appears indicating the channel list is updated.

Requirements:

- You must obtain a "CI or CI+ CARD" from a local cable service provider.

- When removing the "CI or CI+ CARD", carefully pull it out with your hands since dropping the "CI or CI+ CARD" may cause damage to it.

- Insert the "CI or CI+ CARD" in the direction marked on the card.

- The location of the COMMON INTERFACE slot may be different depending on the model.

- "CI or CI+ CARD" is not supported in some countries and regions; check with your authorised dealer.

- If you have any problems, please contact a service provider.

- Insert the "CI or CI+ CARD" that supports the current aerial settings. The screen will be distorted or will not be seen.

Selecting the video source

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. From the Source list, select HDMI2/DVI to change the input signal to HDMI mode. Connector names may vary depending on the model.

The following options are available in the Source screen:

TOOLS Button

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

– Available options for each connector may vary.

Edit Name

Rename devices connected to the TV for easier identification of external sources.

For example, you can designate a computer connected to the TV via an HDMI-DVI cable as DVI PC.

Alternatively, simply designate a computer connected to the TV via an HDMI cable as PC.

You can also designate an AV device connected to the TV via an HDMI-DVI cable as DVI Devices.

Information

View detailed information about the connected devices.

Disconnect USB Device

Used to safely remove a USB device connected to the TV. This option is only available when a USB device has been selected.

Connections

- 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)
720 x 400	70Hz	31.469	70.087	28.322	-/+

MAC

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/Vertical)
640 x 480	67Hz	35.000	66.667	30.240	-/-
832 x 624	75Hz	49.726	74.551	57.284	-/-
1152 x 870	75Hz	68.681	75.062	100.000	-/-

Connections

VESA DMT

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/ Vertical)
640 x 480	60Hz	31.469	59.940	25.175	-/-
640 x 480	72Hz	37.861	72.809	31.500	-/-
640 x 480	75Hz	37.500	75.000	31.500	-/-
800 x 600	60Hz	37.879	60.317	40.000	+/+
800 x 600	72Hz	48.077	72.188	50.000	+/+
800 x 600	75Hz	46.875	75.000	49.500	+/+
1024 x 768	60Hz	48.363	60.004	65.000	-/-
1024 x 768	70Hz	56.476	70.069	75.000	-/-
1024 x 768	75Hz	60.023	75.029	78.750	+/+
1152 x 864	75Hz	67.500	75.000	108.000	+/+
1280 x 720	60Hz	45.000	60.000	74.250	+/+
1280 x 800	60Hz	49.702	59.810	83.500	-/+
1280 x 1024	60Hz	63.981	60.020	108.000	+/+
1280 x 1024	75Hz	79.976	75.025	135.000	+/+
1366 x 768	60Hz	47.712	59.790	85.500	+/+
1440 x 900	60Hz	55.935	59.887	106.500	-/+
1600 x 900RB	60Hz	60.000	60.000	108.000	+/+
1680 x 1050	60Hz	65.290	59.954	146.250	-/+
1920 x 1080	60Hz	67.500	60.000	148.500	+/+

Connections

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 content 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.

Connections

Mobile Device Screen on TV (Screen Mirroring)

✎ Availability depends on the specific model and area.

Network → Screen Mirroring

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 activate Device Manager. This displays a list of required mobile devices connection.

2. You can allow access or deny connections with mobile devices.

Connections

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

Network → Wi-Fi Direct

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 - 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 content 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 using the Samsung Link app, refer to the Help section of the manual.

Connections

Connecting - 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 content can be viewed/played on the TV.

   ✎ As long as File Sharing is activated, unauthorised access may be allowed. Disable File Sharing if data access is not required.

Connections

Name of TV on Network

Network → Device Name

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.

Basic Features

Displaying the Remote Control on the Screen

1. 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.
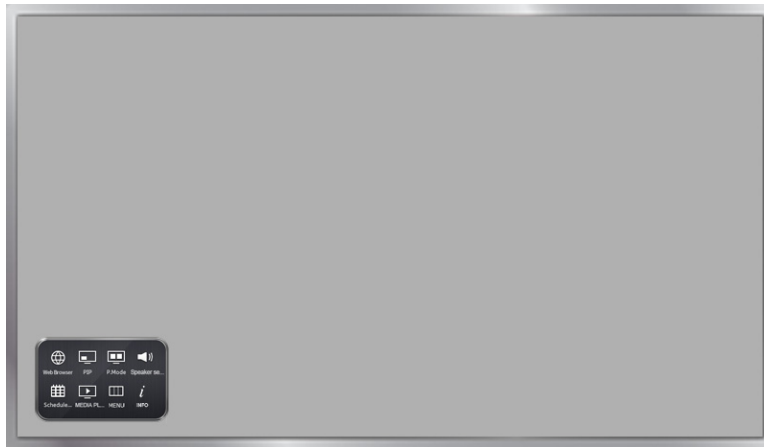
Button	Description
Web Browser	Launch the Web Browser.
PIP	Display the video from an external device or computer on the main screen and the TV as a picture-in-picture.
P.Mode	Lets you select the Picture Mode. ✎ Availability depends on the specific model and area.
Speaker Settings	Select the speakers 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 and area.
Media Play	Run the Media Play. Lets you play media content saved on USB devices.
MENU	Displays the menu on the screen.
INFO	Shows the information about the current digital broadcast programme or content.

Controlling the TV with a Keyboard

System → Device Manager → Keyboard Settings

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.

Basic Features

Changing Keyboards

✎ Availability depends on the specific model and area.

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

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

This TV can be operated with ease using a mouse instead of a remote control.

✎ 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.

Basic Features

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 shortcut icons**

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

  ✎ The shortcut icons 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

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

Select System → Device Manager → Mouse Settings → Mouse Options. The following options are available:

- Primary Button

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

- Pointer Speed

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

Entering Text Using QWERTY

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

Using Additional Functions

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

- Language

  Select a language from the list.

- Recommend text

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

- Reset recommended text data

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

- Predict Next Letter

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

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

Establishing a Wired Internet Connection

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

Connecting a LAN Cable

Use a LAN cable.

✎ The TV will not be able to connect to the Internet if the network speed is below 10Mbps.

✎ Use Cat 7 LAN cables to link your TV to the Internet Access Points.

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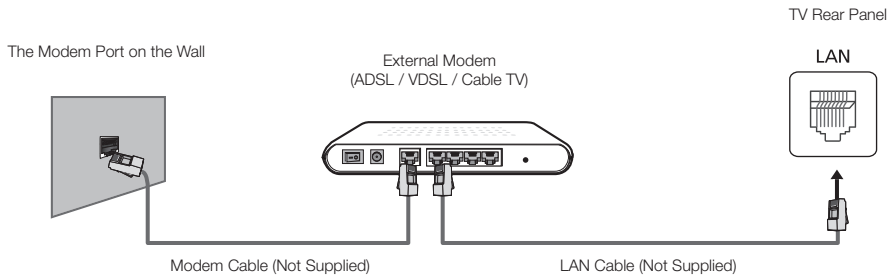
TV Rear Panel

The Modem Port on the Wall

External Modem
(ADSL / VDSL / Cable TV)

LAN

Modem Cable (Not Supplied)   LAN Cable (Not Supplied)

TV Rear Panel

The Modem Port on the Wall   External Modem   IP Router with a DHCP Server   LAN
                                     (ADSL / VDSL / Cable TV)

Modem Cable   LAN Cable   LAN Cable
(Not Supplied)   (Not Supplied)   (Not Supplied)

TV Rear Panel

The LAN Port on the Wall   LAN

LAN Cable (Not Supplied)

Basic Features

Connecting to a Wired Internet Network Automatically

Network → Network Settings

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.
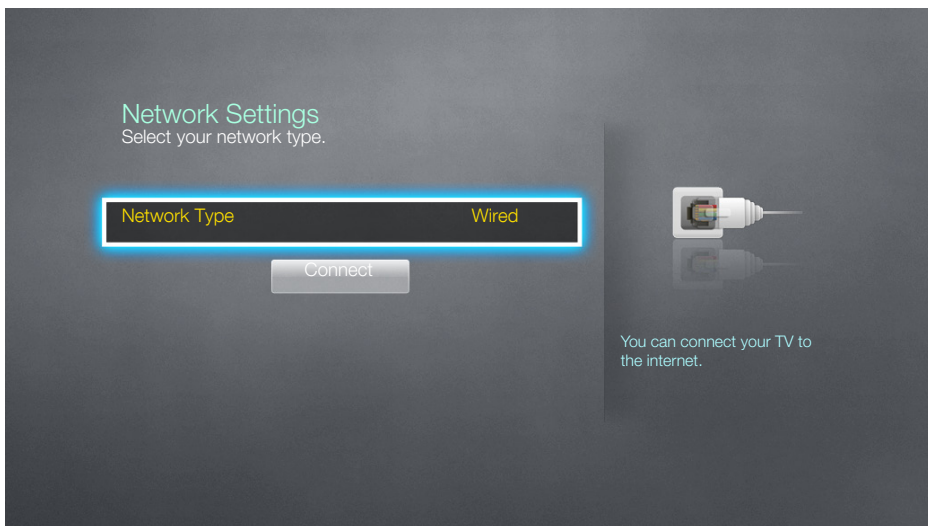
Basic Features

2. Select Stop when the TV attempts to connect to the network. Once the network connection has been interrupted, select IP Settings.
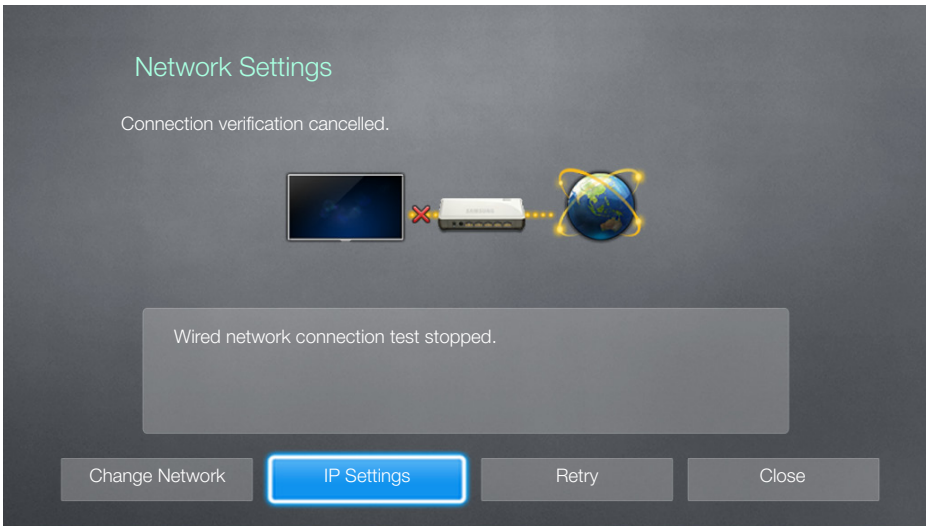
3. In the IP Settings screen, set the IP setting to Enter manually, enter the IP Address, Subnet Mask, Gateway, and DNS Server values, and then select OK.

  • Use one of the following methods to enter the numerical values.

    Set the numbers using the ▲ and ▼ buttons.

    Enter the numbers directly using numerical button.

4. The TV attempts to connect to the network again using the specified settings. A confirmation message appears once a connection is established. Select OK.

  ✎ The network connection speed may differ depending on the DNS server settings.

  ✎ For details on the DNS server settings, contact your Internet service provider (ISP).
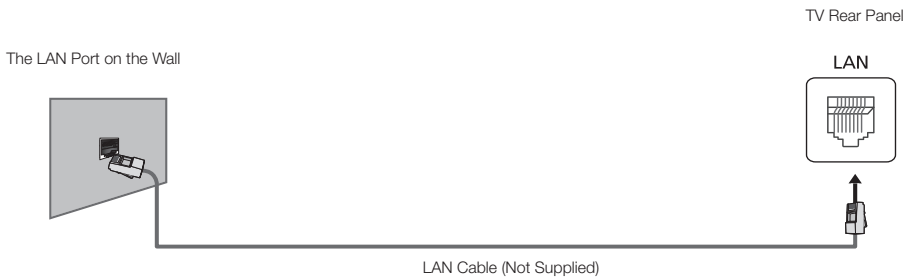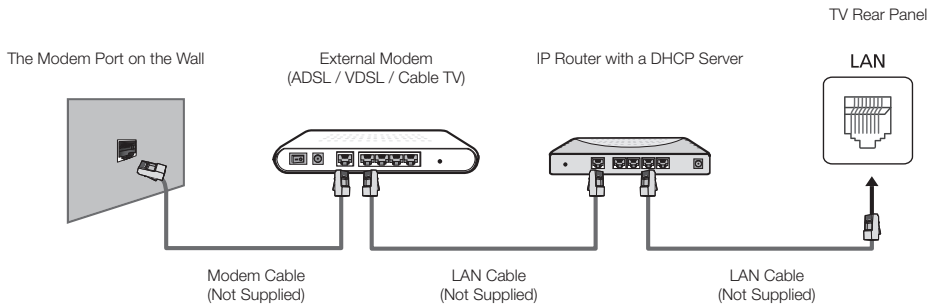
Establishing a Wireless Internet Connection

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

Wireless IP Router or Modem with
a DHCP Server

The LAN Port on the Wall

LAN Cable (Not Supplied)
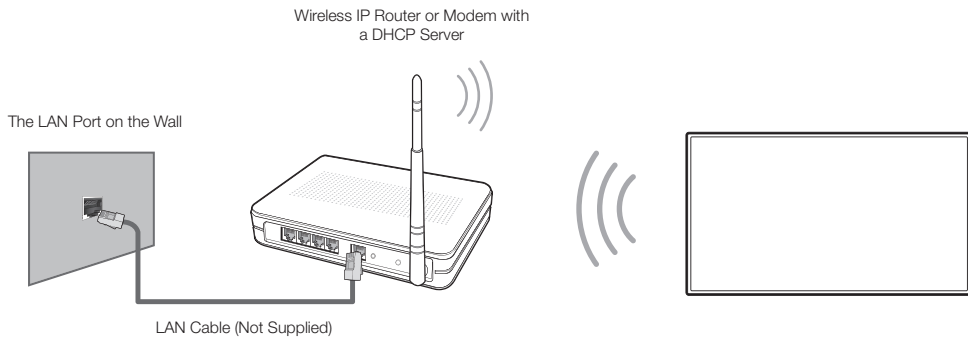
Connecting to a Wireless Internet Network Automatically

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.

Basic Features

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.
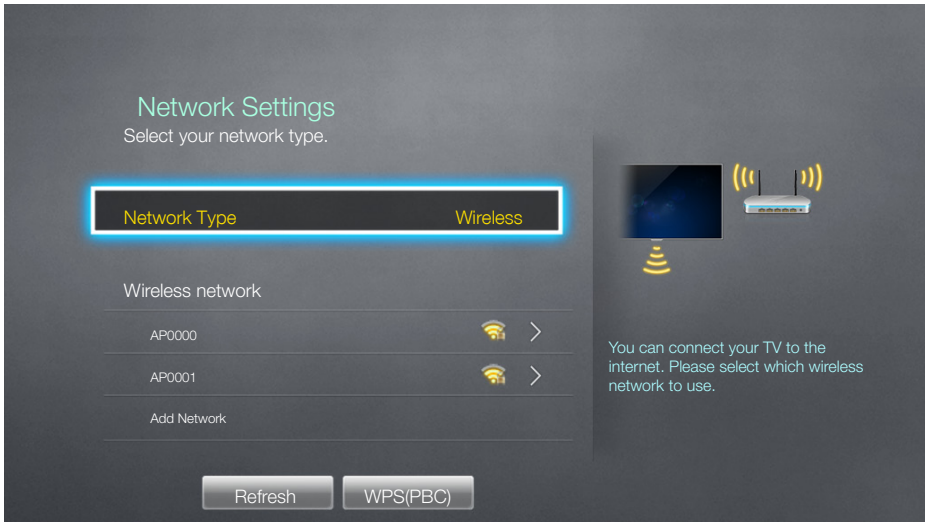
2. Select the network (SSID) you want to connect to. If the wireless router doesn't appear in the list, select Add Network, and enter the network's SSID manually.

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.

Basic Features
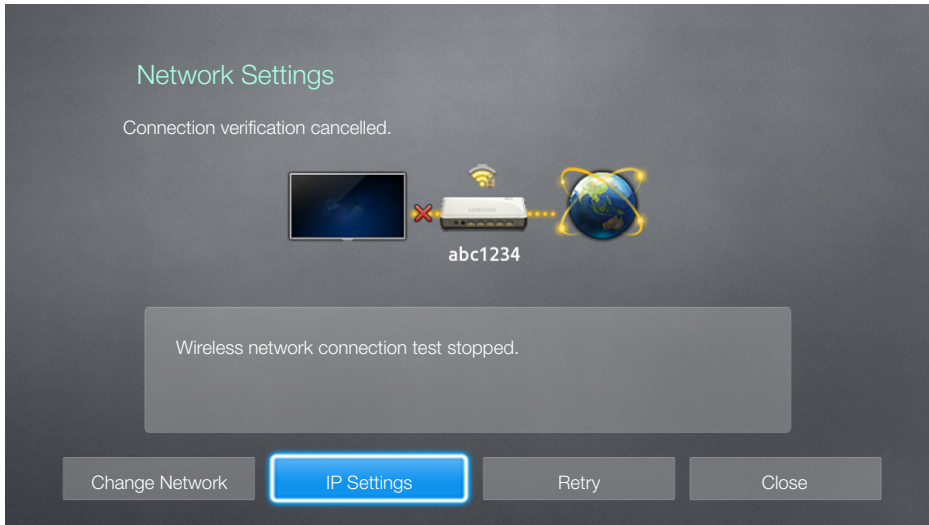
Network Settings

Connection verification cancelled.

abc1234

Wireless network connection test stopped.

| Change Network | IP Settings | Retry | Close |

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.
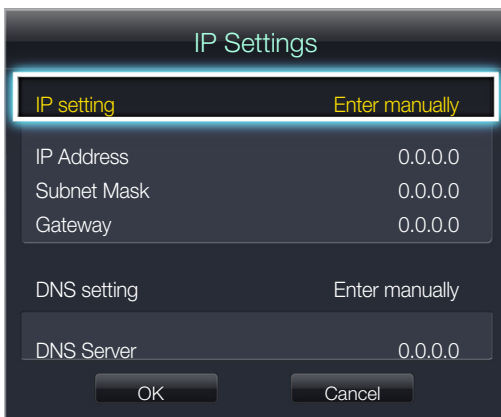
IP Settings

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

| OK | Cancel |
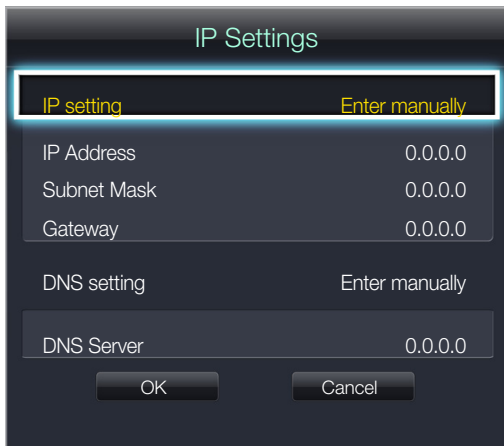
6. The TV attempts to connect to the network again using the specified settings. A confirmation message appears once a connection is established. Select OK.

✎ 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).

Basic Features

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.

<div align="center">

Troubleshooting Internet Connectivity Issues

</div>

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

Troubleshooting Wired Internet Connectivity Issues

No network cable found

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

IP auto setting failed

Do the following or configure the IP Settings manually.

1. Ensure that the DHCP server is enabled on the router and reset the router.

2. If this does not work, contact your Internet Service Provider for more information.

Unable to connect to the network

Do the following:

1. Check all IP Settings.

2. Ensure that the DHCP server is enabled on the router. Then, unplug the router and plug it back in.

3. If this does not work, contact your Internet Service Provider for more information.

Connected to a local network, but not to the Internet

1. Make sure that the Internet LAN cable is connected to the router's external LAN port.

2. Check the DNS values in the IP Settings.

3. If the problem persists, contact your Internet Service Provider.

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

If the problem persists, contact your Internet Service Provider.

Basic Features

Troubleshooting Wireless Internet Connectivity Issues

Wireless network connection failed

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

Unable to connect to a wireless router

Check the following:

1. Check if the router is turned on. If it is, turn it off and on again.

2. Enter the correct security key if required.

IP auto setting failed

Do the following or configure the IP Settings manually.

1. Make sure that the DHCP server is enabled on the router. Then, unplug the router and plug it back in.

2. Enter the correct security key if required.

3. If this does not work, contact your Internet Service Provider for more information.

Unable to connect to the network

Do the following:

1. Check all IP Settings.

2. Enter the correct security key if required.

3. If this does not work, contact your Internet Service Provider for more information.

Connected to a local network, but not to the Internet

1. Make sure that the Internet LAN cable is connected to the router's external LAN port.

2. Check the DNS values in the IP Settings.

3. If the problem persists, contact your Internet Service Provider.

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

If the problem persists, contact your Internet Service Provider.

Checking the Internet Connection Status

Network → Network Status

Network	
Network Status	
Network Settings	
Wi-Fi Direct	
Multimedia Device Settings	
Screen Mirroring	
Device Name	[TV]Samsung LE...

✎ Actual menu screen may differ depending on the TV model.

View the current network and Internet status.

Preference Features

<div align="center">**Smart Hub**</div>

Smart Hub → Open Smart Hub

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.

✎ Smart Hub service outages can be caused by disruptions in your Internet service.

Testing Smart Hub connections

Support → Self Diagnosis → Smart Hub Connection Test

✎ Availability depends on the specific model and area.

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.

Preference Features

Opening the Home Screen

Press 🎲 while watching TV to open the Home Screen.

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

Setting your favourite item

1. Press 🎲 while watching TV to open the Home Screen, and move to a desired item.

2. Press and hold the Enter button. The Options menu appears.

3. In the Options menu, select Add to Favourites to add the selected item to the favourite list, which will move top of the list.

   ✎ To delete a favourite item, select it and press and hold the Enter button to display the context menu. Then, select Remove from Favourites.

Deleting browsing history

1. Press 🎲 while watching TV 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.

Preference Features

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.

- 🔷 On TV

  You can view the current programmes on TV at a glance and view the Programme Recommendations by Channel and Programme Recommendations by Time from the programmes that will be broadcasted.

Using the Smart Hub Tutorial

Support → Smart Hub Tutorial

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

Resetting Smart Hub

Smart Hub → Reset Smart Hub

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

Preference Features

Samsung Account

Log In

Edit profile

Link Service Accounts

Remove Accounts from TV

Create Account

Terms and Conditions, Privacy Policy
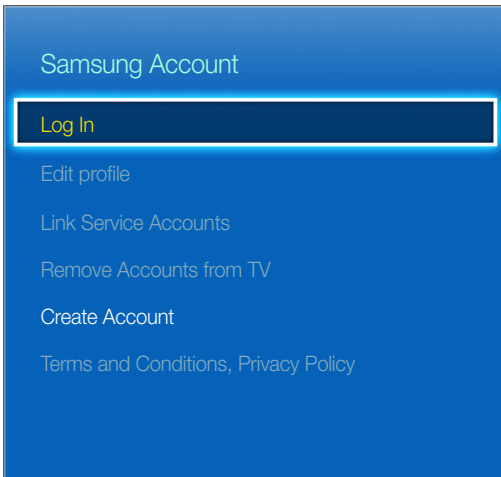
✎ Actual menu screen may differ depending on the TV model.

Creating a Samsung Account

Smart Hub → Samsung Account

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.

Preference Features

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.

Preference Features

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.

Preference Features

Changing and Adding Information to Samsung Account

Smart Hub → Samsung Account

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

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

1. Navigate to Smart Hub → Samsung Account and select Edit profile.

2. Enter the password and then select Done. The edit profile screen appears.

The profile editing screen provides the following features.

*   **Changing Profile Image**

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

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

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

*   **Setting Auto Login**

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

*   **Entering Basic User Information**

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

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

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

Deleting All Samsung Accounts from the TV

Smart Hub → Samsung Account → Remove Accounts from TV

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

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

Preference Features

Using SAMSUNG APPS Panel
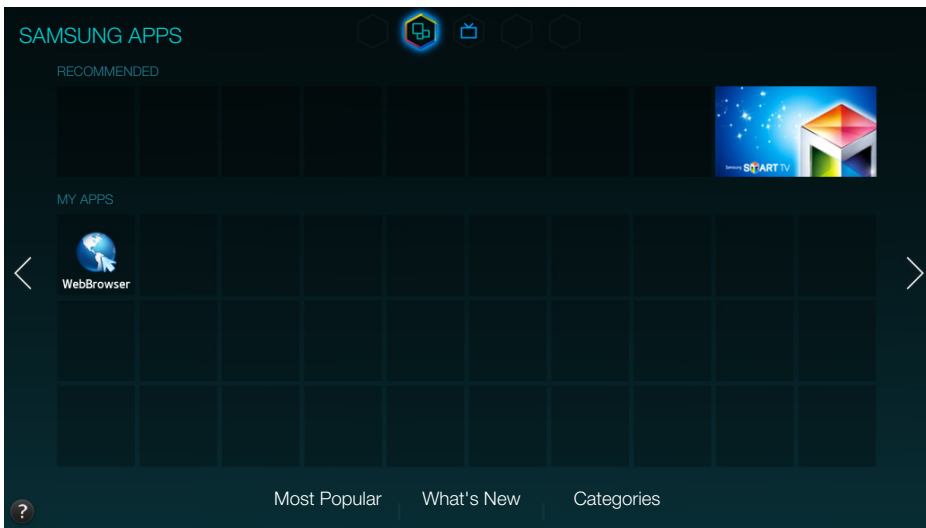
✎ Actual menu screen may differ depending on the TV model.

✎ 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 content 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.

Preference Features

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.

Preference Features

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.

Preference Features

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

Using Web Browser

Web Browser is an Internet browsing app.

✎ 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.

Preference Features

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.

Preference Features

- 🌟 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.

- ✛ 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.

- Enable Grabbing / Disable Grabbing

  Press Enter and then the arrow keys on your remote to enable Grabbing. Press Enter again to disable Grabbing after you have moved the items on screen to the position you want.

- 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.

Preference Features

- Private browsing on / Private browsing off

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

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

- Set Search Engine

  Set the default search engine from the list.

- Web Browser Settings

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

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

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

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

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

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

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

  Browser Information: Check the current version of Web Browser.

- Help

  This will familiarise yourself with the basics of Web Browser.

Rearranging Apps on the SAMSUNG APPS Screen

1. On the SAMSUNG APPS screen, move to the app you wish to change the order.

2. Press and hold the Enter button. A pop-up menu appears.

3. On the pop-up menu, select Move.

4. Move an app to a desired location and select the app again.

Preference Features

Removing an App from the TV

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

Removing an App

1. On the SAMSUNG APPS screen, move to the app you wish to remove.

2. Press and hold the Enter button. A pop-up menu appears.

3. On the pop-up menu on the screen, select Delete. A removal confirmation window appears. Select Yes. The selected app is removed.

Removing Multiple Apps

1. On the SAMSUNG APPS screen, move to the app you wish to remove.

2. Press and hold the Enter button. A pop-up menu appears.

3. On the pop-up menu on the screen, select Delete Multiple. A check box appears on the app icons.

4. Select all the apps you wish to remove and then select Delete. A removal confirmation window appears. Select Yes. Selected apps are removed.

Rating/Reviewing an App

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

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

Updating an App

1. On the SAMSUNG APPS screen, move to the app you wish to update.

2. Press and hold the Enter button. A pop-up menu appears.

3. On the pop-up menu on the screen, select Update apps. A pop-up window appears.

4. Select all the apps you wish to update and then select Update. All the selected apps are updated to the latest versions.

Setting Auto App Update

Smart Hub → Apps Settings

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

SAMSUNG APPS Features

Smart Hub → Apps Settings

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

Preference Features

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.

Preference Features
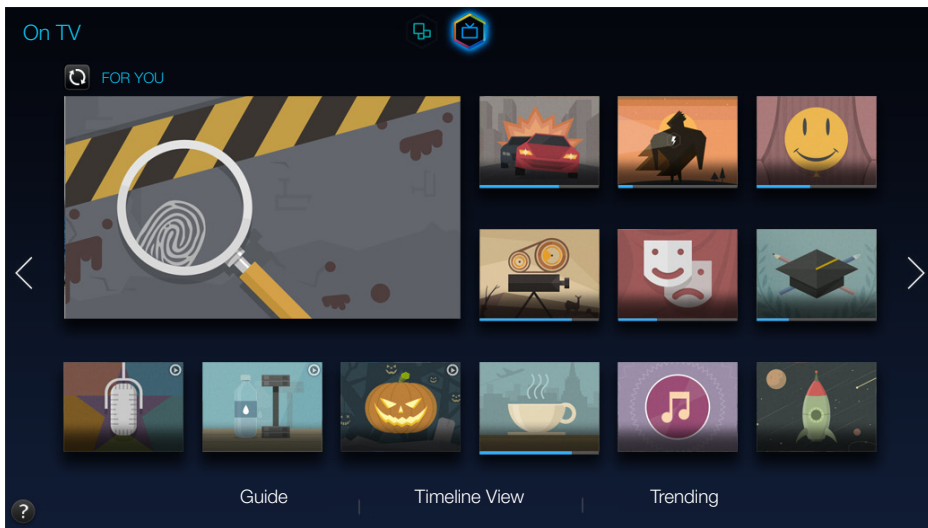
- ✎ Actual menu screen may differ depending on the TV model.

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

- ✎ Availability of recommended content depends on the specific model and area.

Smart Hub's On TV panel lets you view programme lists for recommended channels while watching TV. You can then switch to a programme in the recommendation list or set up Schedule Viewing for an upcoming programme.

- ✎ Before you use On TV, check if the TV is connected to the Internet. The TV must be connected to the Internet in order to use On TV.

- ✎ The channels or programmes recommended by On TV may differ from the actual ones depending on the broadcast information provider.

Select a desired programme from the recommendation list. You can watch the selected programme immediately if it is currently on air or move to the detailed programme information screen if it hasn't aired yet.

- ✎ Select ↻ from the screen to change the recommended content list.

- ✎ For a programme being broadcasted, a progress bar appears. For an upcoming programme, the remaining time to broadcast appears.

Preference Features

Move to the navigation bar at the bottom of the screen to access the following options:

- **Viewing the Programme Schedule of Digital Channels**

  Select Guide at the bottom of the screen to view the programme schedule of each digital channel at a glance. You can check the programme schedule and even set up a Schedule Viewing.

  ✎ The Guide provides information only about digital channels. Analogue channels are not supported.

- **Programme Recommendations by Time**

  Select Timeline View at the bottom of the screen to view programme recommendations for different times of the day.

- **Popular Videos**

  Select Trending at the bottom of the screen to view the most trendy or popular content.

Preference Features

Using Pop-Up Menu Functions

Move the focus to a desired programme and press and hold the Enter button. The following options are available:

✎ Available functions may differ depending on the selected programme.

- **Viewing Detailed Information**

  You can move to the detail information screen about the selected programme.

- **Reserving**

  You can set up a Schedule Viewing for the programme.

Viewing Detailed Programme Information

1. Move the focus to a desired programme and press and hold the Enter button. The Options menu appears.

2. From the Options menu on the screen, select View details. The detailed information about the selected programme screen appears.

You can find more information about the selected programme in the detailed information screen and you can easily use the following functions:

- **Moving to a Channel**

  Jump to the selected programme's channel.

- **Reserving**

  Set up a Schedule Viewing for the programme.

✎ This function is only available for programmes that is being broadcasted.

Preference Features

- **Viewing Related Content**

  View a list of content related to the programme. If you select an item from the list, the detailed screen of the selected item appears.

- **Rate**

  You can rate the programme.

Configuring On TV Settings

✎ Availability depends on the specific model and area.

Smart Hub → On TV Settings

You can set up the signal reception method, cable company, and other broadcast viewing environment settings for On TV.

Navigate to Smart Hub → On TV Settings, select Set Up Service Provider settings and set up the broadcast viewing environment settings according to the onscreen instructions.

Receiving Automatic Notifications

You can configure the TV to display a notification when a frequently watched programme is broadcast.

Navigate to Smart Hub → On TV Settings and set Automatic Notifications to On.

Changing Recommendation Type

You can choose between personally preferred programmes and programmes preferred by the general public as the type of recommendations you wish to receive.

Navigate to Smart Hub → On TV Settings, select Recommendation Type and set it to a desired type.

Removing Adult Content from the Recommended List

You can configure this setting so that recommended programmes that are rated for adults are blocked automatically.

Navigate to Smart Hub → On TV Settings and set Block Adult Content to On.

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 Content 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.

Preference Features

Playing Multimedia Content Saved in a Computer/Mobile Device

Allowing Connection with a Computer/Mobile Device

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

✎ You can connect to a computer or mobile device on any 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.

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.

Preference Features

When Connected through Home Network (DLNA)

✎ To connect a computer through home network (DLNA).

✎ To connect a mobile device through home network (DLNA).

✎ 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.

✎ To connect a mobile device through Samsung Link.

✎ 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.

Preference Features

Playing Photos

You can play photos.

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.

Preference Features

Playing Videos

You can play Videos.

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.

Preference Features

- 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 10 seconds 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 synchronised, you can adjust the synchronisation. Reset Sync: Reset the subtitle synchronisation 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.

Preference Features

Playing Music

You can play Music.

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. To restore normal playback speed, select ►.

- 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.

Preference Features

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 content.
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.

Preference Features

Digital Broadcast Information at a Glance

Broadcasting → Guide

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

Press GUIDE to launch the guide.

✎ The information in the Guide is for digital channels only. Analogue channels are not supported.

Using the Guide

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

- **Changing the** Channel List

  If you select Channel Filter, you can change the channels displayed in the channel lists.

- **Navigating the Programme Schedule**

  Press to the ◄◄, ►► button to navigate the programme schedule by 24 hours. You can only view the future programme schedule.

  It is available for moving the page using the ∧, ∨ button.

- **Moving to the Schedule Manager**

  You can move to the Schedule Manager screen.

- **Adding Favourites**

  Click Edit Favourite Channels to add the selected programme to the Favourites.

- **Viewing Detailed Information**

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

  – Select a current programme on another channel and select View Details to Watch the programme.

  – Select an upcoming programme and select View Details for Schedule Viewing.

Preference Features

Checking the Current Programme Info

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

✎ In order to view the programme info, you must first set the TV's clock. Set the Clock (System → Time → Clock).

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

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

Change the Broadcast Signal

Broadcasting → Aerial

Choose your preferred method of receiving digital broadcasts.

Digital Signal Info and Strength

Support → Self Diagnosis → Signal Information

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

✎ If your TV is attached to a separate, over-the-air antenna, you can use the signal strength information to adjust the antenna for increased signal strength and improved HD channel reception.

✎ This is only available for digital channels.

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

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

Setting Up Schedule Viewing

Digital Channel Schedule Viewing

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

- **The Guide Screen**

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

- **The Programme Info Screen**

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

Analogue Channel Schedule Viewing

Broadcasting → Schedule Manager

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

1. Select Broadcasting → Schedule Manager.

2. Select Schedule from the Schedule Manager to bring up a pop-up menu. Select Schedule Viewing.

3. Specify the Aerial, Channel, Repeat, and Start Time options for the programme you want to watch and then select OK to finish.

Preference Features

Managing the Schedule Viewing List

Broadcasting → Schedule Manager

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

Deleting Schedule Viewing Sessions

You can delete Schedule Viewing sessions.

1. Select Broadcasting → Schedule Manager.

2. Select a session from the Schedule Manager. A pop-up window appears.

3. Select Delete. This cancels the selected viewing session.

Editing Schedule Viewing Sessions

1. You can change the settings of Schedule Viewing sessions. Select Broadcasting → Schedule Manager.

2. Select a session from the Schedule Manager. A pop-up window appears.

3. Select Edit and change the settings of the selected session.

4. Once finished, select OK. This applies the changes you made to the selected viewing session.

Preference Features

Broadcasting → Channel List

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
Aerial	Choose between Terrestrial and Cable. ✎ Availability depends on the specific model and area.
Category	If you select a Category, its channels appear in the list among the TV's channels.
Sorting	Sort the list by Channel Number or by Name (Digital channels only).
Genre	Sort the list to include channels of the selected genre only. However, Genre can only be used channels contain the genre information. Check the network and make sure the TV is connected to the Internet. Your TV needs to be connected to the Internet in order to receive the channel's genre information.
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.

Preference Features

Broadcasting → Edit Channel

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.

- Sorting

  (Digital channels only)

  Change the list ordered by Channel Name or Number.

- Aerial

  Choose between Terrestrial and Cable.

  ✎ Availability depends on the specific model and area.

- Category

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

- Edit Favourites

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

Preference Features

- Rename channel

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

- Channel Info

  Check the information of the channel.

- Information

  View detailed information about the current programme.

Enabling/ Disabling Password Protection on Channels

Broadcasting → Edit Channel

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

✎ To enable password protection, set Channel Lock to On. First, navigate to Broadcasting → Channel Lock and set it to On.

Changing Numbers

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

Locking/ Unlocking Channels

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

Edit Channel Number

✎ Availability depends on the specific model and area.

Broadcasting → Edit Channel Number

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

Preference Features

Creating a Personal Favourites List

Broadcasting → Edit Favourites

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

Registering a Channel as Favourites

Broadcasting → Edit Favourites

Registering the Current Channel as a Favourites

Add the current channel to a Favourites list.

1. Select TOOLS while watching TV to display a list of options. Select Edit Favourites from the list.

2. From the pop-up window, select all the Favourites lists you want to add the current channel to and then select OK.

3. This adds the current channel to the selected Favourites list(s). Select OK.

Registering Multiple Channels as Favourites

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

1. Select Broadcasting → Edit Favourites.

2. Select Category from the bottom of the screen to change the channel list to the one containing that channels you want to register.

3. Select the channels from the list in the middle of the screen.

4. Select Change Fav. and then change the Favourites 1 to the Favourites 5 you want to use.

5. Select Add.

Preference Features

Viewing Favourites List Channels Only

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

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

1. Run Channel List. (Broadcasting → Channel List).

2. Press ❯ button to select Favourites 1 through Favourites 5.

3. Choose a channel from the selected Favourites list. This changes the channels and Channel List changes to the selected Favourites channel.

Editing a Favourites List

Broadcasting → Edit Favourites

You can rename and edit Favourites lists.

Edit Favourites Features

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

- Copy to Favourites

  Copy channels from one favourites channels list to another.

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

- Rename Favourites

  Rename an existing favourites channels list.

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

- Sorting

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

- Aerial

  Choose between Terrestrial and Cable.

  ✎ Availability depends on the specific model and area.

- Edit Channel

  You can manage the channels saved on the TV.

- Information

  View detailed information about the current programme.

Preference Features

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.

Preference Features

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.

Preference Features

✎ Availability depends on the specific model and area.

System → Football Mode

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

✎ Whether Football Mode or Soccer Mode is displayed depends on the area.

Enabling Football Mode

System → Football Mode → Football Mode

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

✎ Enabling Football 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 Football Mode. If ⚽ is not available, then use TOOLS to activate/deactivate Football Mode.

Preference Features

Functions Available in Football Mode

Press enter. The following buttons will appear.

- Zoom

  You can pause the current video and zoom in on one of 9 different sections of the screen. Pan the zoomed-in image using ⋀, ⋁, ⋖, ⋗ buttons.

  ✎ You cannot use this function when PIP is active.

- Information

  Displays detailed information about the current programme.

TV-Viewing Support Features

Showing Subtitles

System → Accessibility → Subtitle

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

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

- Subtitle Mode

  Set the subtitle mode.

- Subtitle Language

  Set the subtitle language.

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

Subtitle Options

System → Accessibility → Subtitle

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

- Primary Subtitle

  Set the primary subtitle language.

- Secondary Subtitle

  Set the secondary subtitle language.

Preference Features

Changing Teletext Language

Broadcasting → Channel Settings → Teletext Language

✎ Availability depends on the specific model and area.

Use this to set the teletext language.

- Primary Teletext

  Set the primary teletext language.

- Secondary Teletext

  Set the secondary teletext language.

Digital Text

This function is only available in UK.

Broadcasting → Channel Settings → Digital Text

✎ Availability depends on the specific model and area.

If the programme broadcasts with digital text, this feature is enabled.

✎ MHEG (Multimedia and Hypermedia Information Coding Experts Group) An International standard for data encoding systems used in multimedia and hypermedia. This is at a higher level than the MPEG system which includes data-linking hypermedia such as still images, character service, animation, graphic and video files as well as multimedia data. MHEG is user runtime interaction technology and is being applied to various fields including VOD (Video-On-Demand), ITV (Interactive TV), EC (Electronic Commerce), tele education, teleconferencing, digital libraries and network games.

Preference Features

PIP Broadcast Viewing

Picture → PIP

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.

- Aerial

  Select the PIP sub-picture broadcast signal.

- 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.

Preference Features

Scanning for Available Channels

✎ Availability depends on the specific model and area.

Broadcasting → Auto Tuning

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

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

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

1. Select Broadcasting → Auto Tuning.

2. Select Start when prompted. This initiates the Auto Programme function. The process can take up to 30 minutes to complete.

- Auto Tuning

    Scans for channels automatically and stores them in the TV's memory.

- Cable Search Option (when the aerial was set to Cable)

    ✎ Availability depends on the specific model and area.

    Sets additional search options such as the frequency and symbol rate for a cable network search.

- Standby Auto Tuning

    ✎ Availability depends on the specific model and area.

    Auto-tune channels while your TV is in standby mode.

- Wake-up Timer

    ✎ Availability depends on the specific model and area.

    Schedule timer to turn the TV on and scan channels automatically.

Preference Features

Selecting the Broadcast Audio Options

Broadcasting → Audio Options

- Audio Language

  (Digital channels only)

  Change the default value for audio languages.

  Primary Audio: Set the primary audio language.

  Secondary Audio: Set the secondary audio language.

  ✎ The available language may differ depending on the broadcast.

- Audio Format

  (Digital channels only)

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

Audio Description

System → Accessibility → Audio Description

(Digital channels only)

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

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

✎ Volume: Adjust the audio description volume.

Using the Channel Settings

Broadcasting → Channel Settings

Country (Area)

Broadcasting → Channel Settings → Country (Area)

Select your country so that the TV can correctly auto-tune the broadcasting channels. This depends on the country or region.

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

- Digital Channel

  Change the country for digital channels.

- Analogue Channel

  Change the country for analogue channels.

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.

This function depends on the country and region.

Preference Features

When Aerial Source is set to Terrestrial or Cable

- Digital Channel Tuning

    Scans for a digital channel.

    1. Select the New.

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

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

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

- Analogue Channel Tuning

    Scans for an analogue channel.

    1. Select the New.

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

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

Channel mode

- P (programme mode)

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

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

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

Fine-Tuning the Screen

Broadcasting → Channel Settings → Fine Tune

✎ 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.

Preference Features

Transfer Channel List

Broadcasting → Channel Settings → Transfer Channel List

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

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

- Import from USB: Import channel list from USB.

- Export to USB: Export channel list to USB. This function is available when USB is connected.

Delete CAM Operator Profile

✎ Availability depends on the specific model and area.

Broadcasting → Channel Settings → Delete CAM Operator Profile

Select the CAM operator to delete.

Preference Features

Common Interface

✎ Availability depends on the specific model and area.

Broadcasting → Common Interface

- CI Menu

  Enables the user to select from the CAM-provided menu. Select the CI menu based on the menu PC Card.

- CAM video transcoding

  You can configure the setting to transcode the video codec from the CAM automatically. Turn it Off if you do not want to use it.

  ✎ You must use a CAM that supports video codec transcoding.

- Application Info

  View information about the CAM inserted into the CI slot and about the "CI or CI+ CARD" inserted into the CAM. You can install the CAM any time, with or without the TV turned on.

1. Purchase a CI CAM module at your nearest dealer or by phone.

2. Firmly insert the "CI or CI+ CARD" into the CAM in the direction of the arrow.

3. Insert the CAM with the "CI or CI+ CARD" into the common interface slot, in the direction of the arrow so that it aligns parallel with the slot.

4. Check if you can see a picture on a scrambled signal channel.

Changing the Picture Mode and Adjusting the Picture Quality

Choosing the Right Picture Mode for the Viewing Environment

Picture → Picture Mode

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

✎ When connected to a PC via an HDMI-to-DVI cable, only the Standard and Entertain modes can be chosen.

- Dynamic

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

- Standard

  This is the default mode suitable for most environments.

- Natural

  This mode is useful for reducing eye strain.

  ✎ Availability depends on the specific model and area.

- Movie

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

- Entertain

  Sharpens images for a more dynamic viewing experience.

  ✎ This mode is only available when connected to a computer via an HDMI-to-DVI cable.

- Stadium

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

  ✎ Stadium cannot be selected by the user.

Preference Features

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**

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

- **Contrast**

  Adjusts the screen contrast.

- **Brightness**

  Adjusts the overall brightness.

- **Sharpness**

  Sharpens or dulls the edges of objects.

- **Colour**

  Adjusts the overall colour saturation.

- **Tint (G/R)**

  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

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.

Preference Features

Fine-Tuning Each Picture Mode (Advanced Settings)

Picture → Advanced Settings

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

    Automatically adjusts the screen contrast. Use this option to achieve the optimal contrast setting.

- Black Tone

    Adjusts the black colour depth.

- Flesh Tone

    Darkens or lightens skin tones.

- RGB Only Mode

    Adjusts the red, green, and blue levels individually.

- Colour Space

    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.

Preference Features

- White Balance

  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

  Adjusts the primary colour intensity.

- Motion Lighting

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

  ✎ Availability depends on the specific model and area.

  ✎ 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.

Preference Features

Adjusting the Picture for Easier Viewing (Picture Options)

Picture → Picture Options

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

  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

  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

  Reduces MPEG noise and improves video quality.

- HDMI Black Level

  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.

Preference Features

- Film Mode

  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).

- Motion Plus

  ✎ Availability depends on the specific model and area.

  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 Motion Plus function.

  ✎ If noise occurs on the screen, please set up the Motion Plus to Off. If 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 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 Motion Plus is on.

- LED Clear Motion

  ✎ Availability depends on the specific model and area.

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

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

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.

- Aerial

    Select the PIP sub-picture broadcast signal.

- 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.

Advanced Features

Changing the Picture Size and Position

Choosing the Right Screen Size

Picture → Picture Size → Picture Size

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

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

- Auto Wide

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

- 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%.

Advanced Features

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. A pop-up window appears.

2. Select Zoom or Position again from the pop-up window.

3. Adjust the screen. Once done, select Zoom or Position and then Close. Select Reset to reset the screen position.

Adjusting the 4:3 Screen Size

Picture → Picture Size → 4:3 Screen Size

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

✎ Not available in Component or HDMI mode.

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

Picture → Picture Off

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

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

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

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

- Standard

  This is the normal sound mode.

- Music

  This mode emphasises normal music instead of voice.

- Movie

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

- Clear Voice

  This mode emphasises voice.

- Amplify

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

- Stadium

  Setting Football Mode (System → Football Mode) to On automatically configures Sound Mode to Stadium for a more realistic viewing experience.

  ✎ Stadium cannot be selected by the user.

Advanced Features

Using Sound Effects

Sound → Sound Effect

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

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

- DTS TruDialog

  Increases voice intensity to make dialog clearer.

- Equaliser

  Lets you adjust the speaker balance and make bandwidth adjustments. Select Reset to reset the settings.

Sound Support Functions

Selecting Speakers

Sound → Speaker Settings → TV Sound Output

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 Speaker → 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

Configure additional settings for optimum audio output.

- DTV Audio Level

  (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

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

Advanced Features

Audio Delay

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

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

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

Use to reset all sound settings to the factory defaults.

Setting the Current Time

System → Time → Clock

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

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

Setting the Clock using Digital Broadcast Info

System → Time → Clock → Clock Mode

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

✎ Availability depends on the specific model and area.

If the Clock is Wrong in Auto Mode...

System → Time → Clock → Time Offset

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

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

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

Setting the Clock Manually

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

Clock Set: Set the current Date and Time.

Time Zone: Select your time zone.

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

DST: Switches the DST (Daylight Saving Time) function on or off.

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

GMT: Selects your time zone.

✎ When Country is set to others, you can use this function.

Advanced Features

Using the Timers

Using the Sleep Timer

System → Time → Sleep Timer

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

Set the On Timer so that the TV turns on automatically at a chosen time. Select System → Time → On Timer. The timer configuration window appears. Configure the following settings:

✎ The On Timer is only available if the Clock has been set.

- Setup

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

- Time

    Set the time that the TV turns on automatically.

- Volume

    Specify the volume when the TV turns on.

- Source

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

Advanced Features

- Aerial

  Set the Source to TV to select a broadcast signal.

- Channel

  Set the Source to TV to select a channel.

- Music / Photo

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

Restrictions:

- This feature will not function properly if the selected USB device does not contain media files or a folder has not been specified.

- The slideshow will not start if there is only one image file on the USB device.

- Folders with long names cannot be selected.

- Always use different folder names for multiple USB devices.

- Use a USB memory stick or multi-card reader. The On Timer may not work with certain battery-powered USB devices, MP3 players, or PMPs because the TV may take too long to recognise the device.

Turning Off the TV Using Off Timer

System → Time → Off Timer

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

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

- Setup

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

- Time

  Set the time that the TV turns off automatically.

Using the Screen Burn Protection and Energy Saving Features

Preventing Screen Burn

System → Auto Protection Time

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

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

- Energy Saving

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

- No Signal Power Off

    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

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

Updating the Software

Support → Software Update

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

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.

Advanced Features

Protecting the TV from Hacking and malicious code

System → Smart Security

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.

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.

Advanced Features

Enabling the High Contrast

System → Accessibility → High Contrast

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

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

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

Changing the Menu Language

System → Menu Language

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

Advanced Features

Checking Notifications

System → Notifications

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

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

1. Select System → Change PIN. The PIN input window appears.

2. Enter a PIN. The default PIN is 0000.

3. Enter a new PIN and then enter it again to confirm it. The PIN change is complete.

   ✎ If you forget the PIN code, press the buttons in the following sequence which resets the PIN to "0-0-0-0":

   In Standby mode, press the following buttons on the remote to reset the PIN to 0000: ⊠ → 8 → 2 → 4 → POWER (on).

Advanced Features

Programme Rating Lock

Broadcasting → Programme Rating Lock

✎ Availability depends on the specific model and area.

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

This PIN is required to watch a blocked programme.

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

Enabling Game Mode

System → General → Game Mode

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 and area.

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

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

Advanced Features

Showing/ Hiding the Samsung Logo while Booting

System → General → Boot Logo

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

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

System → DivX® Video On Demand

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

✎ DRM ("Digital rights management") Digital Rights Management is a digital security measure designed to protect copyright.

✎ You can watch personally-created and free DivX content without registering the TV.

✎ Visit the DivX website (http://www.divx.com) and log into your user account before registering the TV as a DivX-certified device. If you do not have an account, please create one.

1. Select System → DivX® Video On Demand. A window with a registration code appears on the screen.

2. Visit the DivX website on a computer and click [Register Your Device] under [Support] from the top menu.

3. Enter the registration code shown on the TV's screen in the [Enter your registration code] field.

4. Enter the TV's name in the [Name your device] field and then select [NEXT].

5. Click [DOWNLOAD] and save the [device_name.divx] file.

6. Transfer the [device_name.divx] file from the computer onto a USB device and then plug the USB device into the TV.

7. Play the [device_name.divx] file on the TV to register the TV as a DivX-certified device.

Advanced Features

Restoring the TV to the Factory Settings

Support → Self Diagnosis → Reset

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

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.

Getting Support

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

Support through Remote Management

Support → Remote Management

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**

Other Information

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.

Other Information

Finding the Information You Need for Service

Support → Contact Samsung

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.

<div style="background:gray;color:white;text-align:center;font-weight:bold;">There is a problem with the screen</div>

Testing the Picture

Support → Self Diagnosis → Picture Test

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.

Other Information

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).
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.
Motion Plus/Blur	If you notice ghosting or blurring on the screen, use the Motion Plus option (Picture → Picture Options → Motion Plus) to resolve the issue.
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 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. • 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.

Other Information

The Problem	Try this!
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. 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.
The colour is wrong or missing.	If you are 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.
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

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).

Other Information

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.

Other Information

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 Information

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.

Other Information

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 utilises high-speed switching circuits and high levels of electrical current. Depending on the TV's brightness level, the TV may seem slightly noisier than a conventional TV. Your TV has undergone strict quality control procedures that meet our demanding performance and reliability requirements. Some noise coming from the TV is considered normal and is not an acceptable cause for an exchange or refund.

Other Information

- 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.

Other Information

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 may be restricted.

- 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.

Other Information

- The web browsing speed will vary depending on the network environment.

- Playing embedded video automatically disables PIP. Video playback may not commence after PIP is disabled. In this case, you will have to reload the page.

- The web browser supports .mp3 audio files only.

- The web browser supports a specific file format for importing and exporting bookmarks. (Compatible Format: Netscape-bookmark file- 1)

- The folder tree information is not included when importing and exporting bookmarks.

- Exporting bookmarks to a USB device connected to the TV saves the bookmarks under a folder named "Samsung SmartTV Bookmark".

- If the Clock (System → Time → Clock) has not been set, the browsing history will not be saved.

- The browsing history is saved from latest to oldest, with the oldest entries being overwritten first.

- Depending on the types of video/audio codecs supported, it might not be possible to play certain video and audio files while playing Flash content.

- 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.)

Other Information

- 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.

- 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

Other Information

Supported External Subtitles

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

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.

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

Other Information

Supported Image Formats and Resolutions

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

File Extension	Format	Resolution
*.jpg *.jpeg	JPEG	15360 x 8640
*.png	PNG	4096 x 4096
*.bmp	BMP	4096 x 4096
*.mpo	MPO	15360 x 8640

Supported Music Formats and Codecs

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

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	

Other Information

Supported Video Codecs

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

File Format	Container	Video Codecs	Resolution	Frame Rate (fps)	Bitrate (Mbps)	Audio Codec
*.avi *.mkv *.asf *.wmv *.mp4 *.mov *.3gp *.vro *.mpg *.mpeg *.ts *.tp *.trp *.mov *.flv *.vob *.svi *.divx	AVI MKV ASF MP4 3GP MOV FLV VRO VOB PS TS	Motion JPEG	640 x 480		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)
		H.264 BP / MP / HP	1920 x 1080	MAX 30	30	
		DivX 3.11 / 4 / 5 / 6				
		MPEG4 SP/ASP				
		Window Media Video v9(VC1)				
		MPEG2				
		MPEG1				
*.webm	WebM	VP8	1920 x 1080	6~30	20	Vorbis

Other Information

Other Restrictions

- Codecs may not function properly if there is a problem with the content data.

- Video content does not play or does not play correctly if there is an error in the content or container.

- Sound or video may not work if they have standard bit rates/frame rates above the TV's compatibility ratings.

- If the Index Table is wrong, the Seek (Jump) function does not work.

- When playing video over a network connection, the video may not play smoothly because of data transmission speeds.

- Some USB/digital camera devices may not be compatible with the player.

- The menu display is delayed when transmitting at or higher than 10Mbps.

Video Decoders

- Supports up to H.264, Level 4.1 (does not support FMO/ASO/RS)

- VC1 AP L4 is not supported.

- GMC 2 or above is not supported.

Audio Decoders

- WMA 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.

Other Information

Analogue Channel Teletext Feature

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 pressing the numeric buttons on the remote control.

❶ 🔳/🔲 (Teletext on/mix/off): Activates the Teletext mode for the current channel. Press the button twice to overlap the Teletext mode with the current broadcasting screen. Press it one more time to exit teletext.

❷ 🔳 (store): Stores the Teletext pages.

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

❹ 🔳 (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.

❺ 🔳 (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.

❻ 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 pressing the coloured buttons. Press the colour corresponding to the topic of your choice. A new colourcoded page is displayed. Items can be selected in the same way. To display the previous or next page, press the corresponding coloured button.
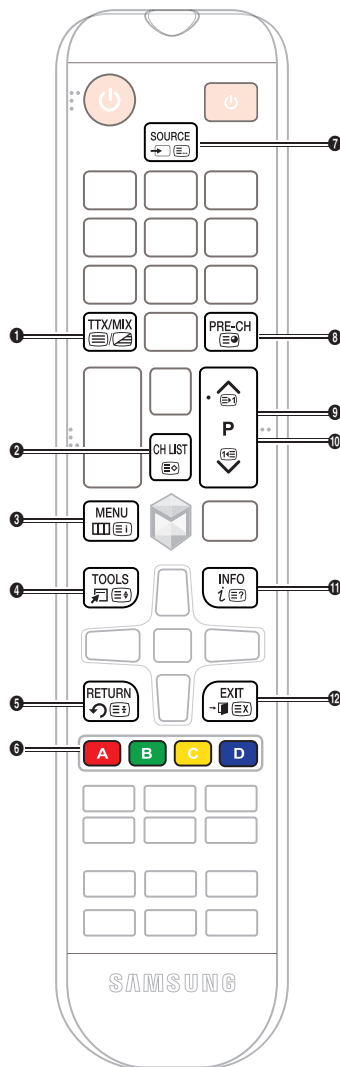
❼ 🔳 (mode): Selects the Teletext mode (LIST/ FLOF). If pressed during LIST mode, switches the mode to List save mode. In List save mode, you can save a Teletext page into a list using the 8(store) button.

❽ 🔳 (sub-page): Displays the available sub-page.

❾ 🔳 (page up): Displays the next Teletext page.

❿ 🔳 (page down): Displays the previous Teletext page.

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

⓬ 🔳 (cancel): Shrinks the Teletext display to overlap with the current broadcast.

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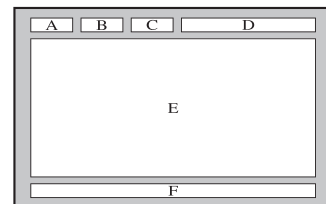
Part	Contents
A	Selected page number.
B	Broadcasting channel identity.
C	Current page number or search indications.
D	Date and time.
E	Text.
F	Status information. FASTEXT information.

Restrictions

Restrictions to PIP (Picture-in-Picture)

- PIP cannot be used while Smart Hub is active.

  ✎ Availability depends on the specific model and area.

- 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.

- To watch TV as a picture-in-picture, the main screen's source must be set to Component or HDMI. The PIP window supports TV signals only.

  ✎ Availability depends on the specific model and area.

Other Information

Preparing before installing Wall-Mount / Desktop Stand

1. Turn the product off and unplug the power cord from the wall outlet.

2. Place a soft cloth or cushion on a flat surface to protect the panel and place the product face down.

3. Hold the main body of the product with your hand. Pull the stand in the direction of the arrow as shown in the figure to separate it.
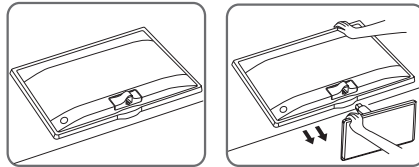
Attaching a Wall Mount / Desktop Stand
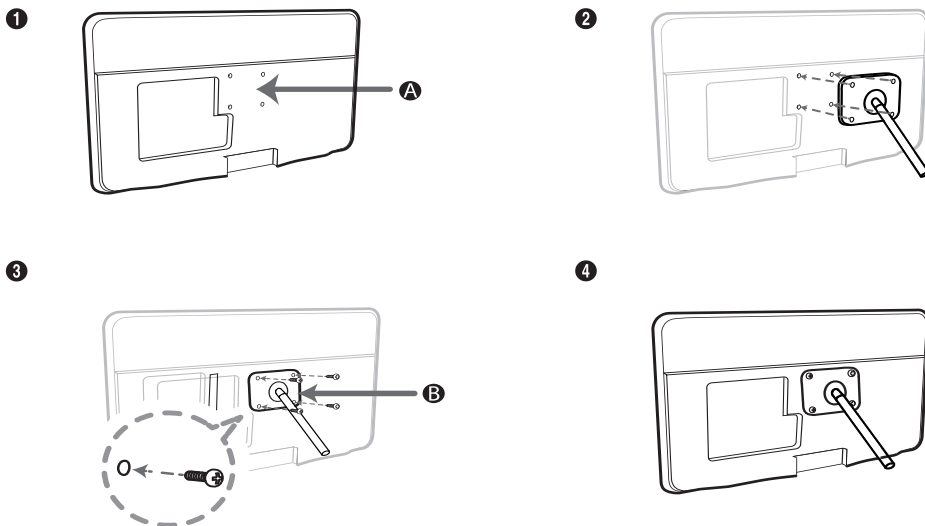
Ⓐ Wall/Desktop Stand Mount

Ⓑ Wall mount kit/desktop stand (not supplied)

Other Information

⚠ Caution
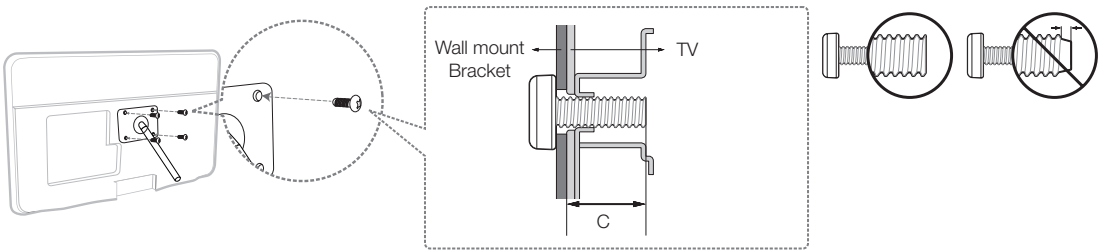
✎ Align wall mount/desktop stand to the product and firmly fix the wall mount/desktop stand by fastening the screw.

✎ Align the groove of the part of the product that is to be connected to the stand with the groove in the stand (desk-top stand, wall mount stand or another stand) and firmly fix the stand by fastening the screw.

Wall Mount Kit Specifications (VESA)

The wall mount kit is not supplied, but is sold separately. Install your wall mount on a solid wall perpendicular to the floor. When attaching the wall mount to other building materials, please contact your nearest dealer. If the product is installed on a ceiling or slanted wall, it may fall and result in severe personal injury.

– Standard dimensions for wall mount kits are shown in the table below.

– When purchasing our wall mount kit, a detailed installation manual and all parts necessary for assembly are provided.

– Do not use screws that do not comply with the VESA standard screw specifications.

– Do not use screws that are longer than the standard dimension or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the TV set.

– For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.

– Do not fasten the screws that are too strongly; this may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.

Product Family	inches	VESA Spec. (A * B)	C (mm)	Standard Screw	Quantity
MFM	23.5	75 x 75	9.0	M4	4
	27				
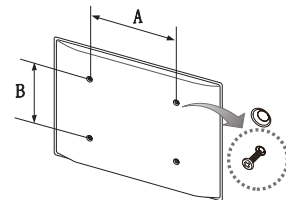
Other Information

- 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.

<Optional>
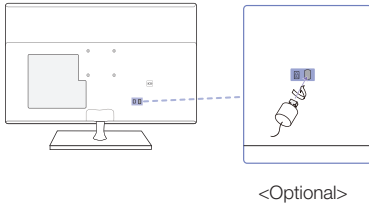
✎ The displayed image may differ depending on the model.

Other Information

– If a sticker was attached to the TV screen, some debris may remain after you remove the sticker. Please clean the debris off before watching TV.

– The exterior and screen of the product can get scratched while cleaning it. Be sure to wipe the exterior and screen carefully using a soft cloth to prevent scratches.
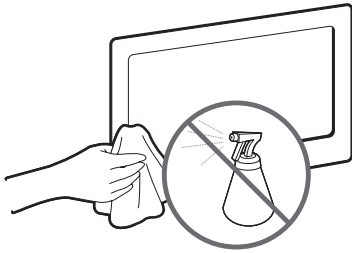
Do not spray water directly onto the product. Any liquid that enters the product may result in product failure, fire, or electric shock.
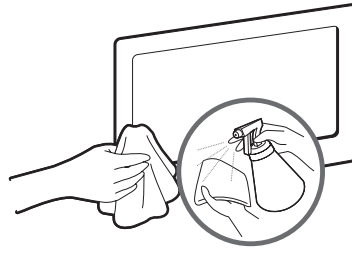
Clean the product with a soft damp cloth using a small amount of water. Do not use a flammable liquid (e.g. benzene, thinners) or a cleaning agent.

Other Information

DiVX.
HD

DivX Certified® to play DivX® video up to HD 1080p, including premium content.

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Other Information

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rovi guide

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Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of the batteries in this product

(Applicable in countries with separate collection systems)

This marking on battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

Other Information

Display Resolution	1920 x 1080	
Environmental Considerations Operating Temperature Operating Humidity Storage Temperature Storage Humidity	50°F to 104°F (10°C to 40°C) 10% to 80%, non-condensing -4°F to 113°F (-20°C to 45°C) 5% to 95%, non-condensing	
Stand Swivel (Left / Right)	0°	
Tilt	-1° (±2.0°) ~ 20° (±2.0°)	
Sound (Output)	5 W x 2	
Model Name	T24D390SW	T27D390SW
Screen Size (Diagonal)	23.5 inches (59 cm)	27 inches (68 cm)
Dimensions (W x H x D) Body	547.8 x 54.8 x 335.0 mm	625.4 x 52.9 x 378.9 mm
With stand	547.8 x 209.8 x 422.9 mm	625.4 x 209.8 x 467.1 mm
Weight Without Stand	4.2 kg	5.1 kg
With Stand	4.6 kg	5.5 kg

✎ Design and specifications are subject to change without prior notice.

✎ For information about power supply, and more about power consumption, refer to the label attached to the product.

✎ Some models may not be available for purchase depending on the region.

✎ If there is no power cut-off switch, the power consumption is "0" only when the power cord is disconnected.

✎ DPM(Display Power Management) Function does not work if you used in conjunction with the **HDMI IN 2 (DVI)** port of this product.

Picture Sizes and Input Signals

Picture Size	Input Signal
Auto Wide	ATV, EXT, AV, DTV (576i/p, 720p), DTV (1080i, 1080p)
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.

Other 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.

Other Information

Supported Video Resolutions

Resolution (DotsxLines)	Display Format	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (Horizontal/ Vertical)
720(1440) x 480i	60Hz	15.734	59.940	27.000	-/-
720(1440) x 576i	50Hz	15.625	50.000	27.000	-/-
720 x 480	60Hz	31.469	59.940	27.000	-/-
720 x 576	50Hz	31.250	50.000	27.000	-/-
1280 x 720	60Hz	45.000	60.000	74.250	+/+
1280 x 720	50Hz	37.500	50.000	74.250	+/+
1920 x 1080i	60Hz	33.750	60.000	74.250	+/+
1920 x 1080i	50Hz	28.125	50.000	74.250	+/+
1920 x 1080	60Hz	67.500	60.000	148.500	+/+
1920 x 1080	50Hz	56.250	50.000	148.500	+/+
1920 x 1080	30Hz	33.750	30.000	74.250	+/+
1920 x 1080	25Hz	28.125	25.000	74.250	+/+
1920 x 1080	24Hz	27.000	24.000	74.250	+/+

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.

Other Information

- **Dynamic versus Static IP Addresses**

If the network requires a dynamic IP address, use an ADSL modem or router that supports the Dynamic Host Configuration Protocol (DHCP). Modems and routers that support DHCP automatically provide the IP address, subnet mask, gateway and DNS values the TV needs to access the Internet, so they do not have to be entered manually. Most home networks use a dynamic IP address.

If the network requires a static IP address, enter the IP address, subnet mask, gateway, and DNS values manually when setting up the network connection. To get the IP address, subnet mask, gateway and DNS values, contact your Internet Service Provider (ISP).

If the network requires a static IP address, use an ADSL modem that supports DHCP. ADSL modems that support DHCP also allow static IP addresses.

- **Ethernet**

Ethernet is a LAN (Local Area Network) that uses coaxial cables standardised by the IEEE.

- **Component Connection**

Component connections are mostly used for game consoles and transmit the video signal by splitting it into a luminance signal (Y) and two colour signals (Pb and Pr). The connector is marked as [Component IN]_(Pr, Pb, Y) on the back of the TV. On some devices, it is sometimes marked as Cr, Cb, Y. Cb and Cr are the digital conversions of the Pb and Pr signals.

The connectors are normally colour-coded red (R), blue (B), and green (G) and offer the best picture quality possible for an analogue connection.

Other Information

Other Information

SAMSUNG

Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care centre.

Country	Customer Care Centre ☎	Web Site
EUROPE		
AUSTRIA	0800 - SAMSUNG (0800 - 7267864)	www.samsung.com/at/support
BELGIUM	02-201-24-18	www.samsung.com/be/support (Dutch) www.samsung.com/be_fr/support (French)
BOSNIA	051 331 999	www.samsung.com/support
BULGARIA	800 111 31 , Безплатна телефонна линия	www.samsung.com/bg/support
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	Samsung Electronics Czech and Slovak, s.r.o. V Parku 2343/24, 148 00 - Praha 4	
DENMARK	70 70 19 70	www.samsung.com/dk/support
FINLAND	030-6227 515	www.samsung.com/fi/support
FRANCE	01 48 63 00 00	www.samsung.com/fr/support
GERMANY	0180 6 SAMSUNG bzw. 0180 6 7267864* (*0,20 €/Anruf aus dem dt. Festnetz, aus dem Mobilfunk max. 0,60 €/Anruf)	www.samsung.com/de/support
CYPRUS	8009 4000 only from landline, toll free	
GREECE	80111-SAMSUNG (80111 726 7864) only from land line (+30) 210 6897691 from mobile and land line	www.samsung.com/gr/support
HUNGARY	0680SAMSUNG (0680-726-786) 0680PREMIUM (0680-773-648)	http://www.samsung.com/hu/support
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LUXEMBURG	261 03 710	www.samsung.com/support
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