



SAMSUNG

SMART Signage TV User Manual

RH48E RH55E

The colour and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

Recommended hours of use per day of this product is under 16 hours.

If the product is used for longer than 16 hours a day, the warranty may be void.

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Chapter 01

Before Using the Product

Copyright

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Microsoft, Windows are registered trademarks of Microsoft Corporation.

VESA, DPM and DDC are registered trademarks of the Video Electronics Standards Association.

Ownership of all other trademarks is attributed to their due owner.

- An administration fee may be charged if either
 - (a) an engineer is called out at your request and there is no defect in the product (i.e. where you have failed to read this user manual).
 - (b) you bring the unit to a repair centre and there is no defect in the product (i.e. where you have failed to read this user manual).
- The amount of such administration charge will be advised to you before any work or home visit is carried out.

Safety Precautions

Caution

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 indicates that high voltage is present inside.

It is dangerous to make any kind of contact with any internal part of this product.



This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

Symbols

Warning

A serious or fatal injury may result if instructions are not followed.

Caution

Personal injury or damage to properties may result if instructions are not followed.



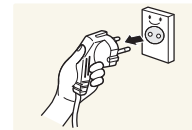
Activities marked by this symbol are prohibited.



Instructions marked by this symbol must be followed.

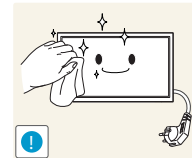
Cleaning

- Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.
- Take the following steps when cleaning.
- The following images are for reference only. Real-life situations may differ from what is shown in the images.



- 1 Power off the product and computer.
- 2 Disconnect the power cord from the product.

- Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.



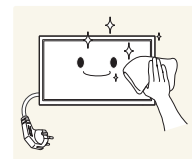
- 3 Wipe the product with a clean, soft and dry cloth.



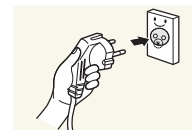
- Do not use detergents that contain alcohol, solvent or surface-active agents.



- Do not spray water or detergent directly on the product.



- 4 Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the product.



- 5 Connect the power cord to the product when cleaning is finished.
- 6 Power on the product and computer.

Storage

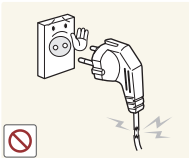
Due to the characteristics of high-glossy products, using a UV humidifier nearby may create white-coloured stains on the product.

— Contact Customer Service Centre if the inside of the product needs cleaning (service fee will be charged).

Electricity and Safety

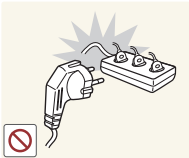
— The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



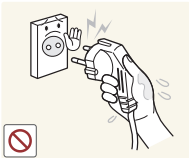
Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.

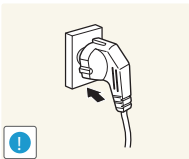


Do not use multiple products with a single power socket.

- Overheated power sockets may cause a fire.

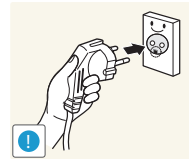


Do not touch the power plug with wet hands. Otherwise, an electric shock may result.



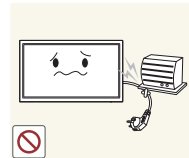
Insert the power plug all the way in so it is not loose.

- An unsecure connection may cause a fire.



Connect the power plug to a grounded power socket (type 1 insulated devices only).

- An electric shock or injury may result.



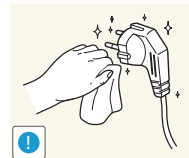
Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.

- Damage to the cord may result in a fire or electric shock.



Do not place the power cord or product near heat sources.

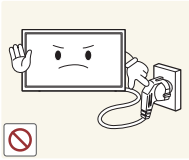
- A fire or electric shock may result.



Clean any dust around the pins of the power plug or the power socket with a dry cloth.

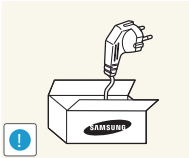
- A fire may result.

Caution



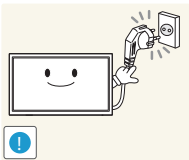
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.



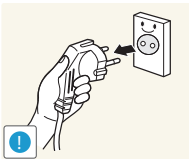
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

- A fire or electric shock may result.



Keep the power socket where the power cord is connected unobstructed.

- The power cord must be disconnected to cut off power to the product when an issue occurs.
- Note that the product is not completely powered down by using only the power button on the remote.



Hold the plug when disconnecting the power cord from the power socket.

- An electric shock or fire may result.

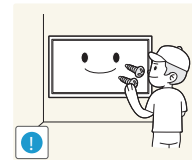
Installation

Warning



DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.

- A fire may result.



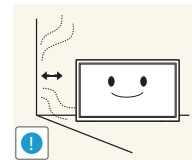
Have a technician install the wall-mount hanger.

- Installation by an unqualified person can result in an injury.
- Only use approved cabinets.



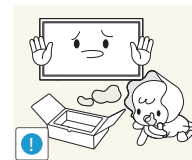
Do not install the product in poorly ventilated spaces such as a bookcase or closet.

- An increased internal temperature may cause a fire.



Install the product at least 10 cm away from the wall to allow ventilation.

- An increased internal temperature may cause a fire.



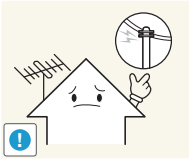
Keep the plastic packaging out of the reach of children.

- Children may suffocate.



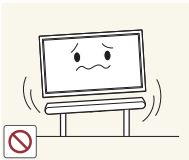
Bend and keep part of the outdoor TV antenna cable hanging downwards (the part inside the room) to prevent rainwater from entering the product.

- If rainwater enters the product, a fire or electric shock can occur.



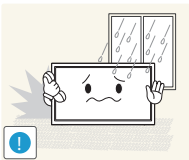
When using an outdoor antenna, be sure to install the antenna away from nearby power lines to prevent the antenna from collapsing onto them in strong winds.

- A collapsed antenna can cause an electric shock or injury.



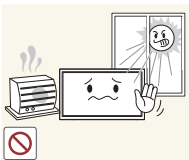
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

- The product may fall and become damaged and/or cause an injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.



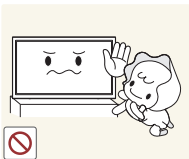
Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- A fire or electric shock may result.



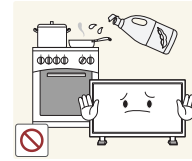
Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- The product lifespan may be reduced or a fire may result.



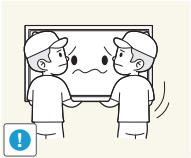
Do not install the product within the reach of young children.

- The product may fall and injure children.
- As the front is heavy, install the product on a flat and stable surface.



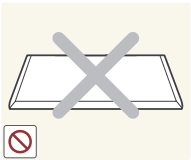
Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

Caution



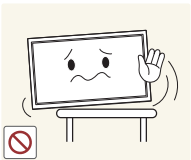
Do not drop the product while moving.

- Product failure or personal injury may result.



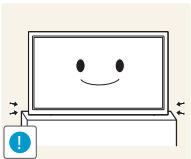
Do not set down the product on its front.

- The screen may become damaged.



When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.

- The product may fall and become damaged and/or cause an injury.
- Install the product only on cabinets or shelves of the right size.



Set down the product gently.

- Product failure or personal injury may result.



Installing the product in an unusual place (a place exposed to a lot of fine dust, chemical substances, extreme temperatures or a significant presence of moisture, or a place where the product will operate continuously for an extended period of time) may seriously affect its performance.

- Be sure to consult Samsung Customer Service Centre if you want to install the product at such a place.

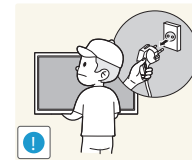
Operation

Warning



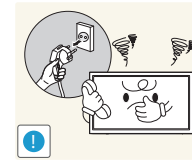
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

- A fire or electric shock may result.
- Contact Samsung Customer Service Centre for repairs.



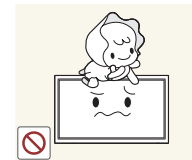
Before moving the product, turn off the power switch and disconnect the power cord, antenna cable and all other connected cables.

- Damage to the cord may result in a fire or electric shock.



If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Centre.

- An electric shock or fire may result.



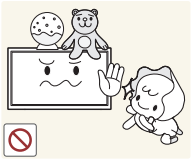
Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.



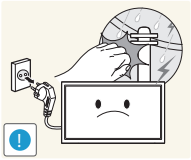
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Centre.

- Continued use can result in a fire or electric shock.



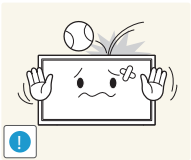
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

- The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.



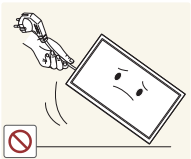
During a lightning or thunderstorm, remove the power cable and do not touch the antenna cable.

- A fire or electric shock may result.



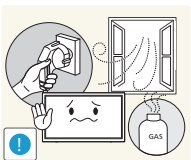
Do not drop objects on the product or apply impact.

- A fire or electric shock may result.



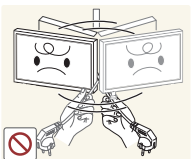
Do not move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



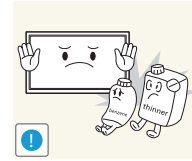
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



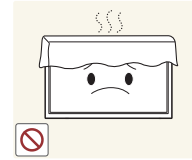
Do not lift or move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



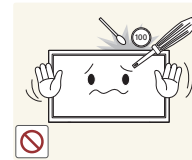
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



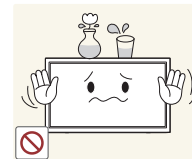
Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.



Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

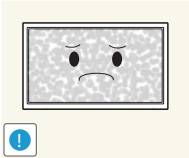
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Centre.
- Product failure, an electric shock or fire may result.



Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

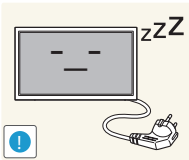
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Centre.
- Product failure, an electric shock or fire may result.

Caution



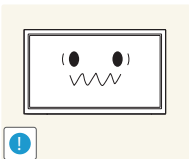
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- Activate power-saving mode or a moving-picture screen saver if you will not be using the product for an extended period of time.



Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

- Dust accumulation combined with heat can cause a fire, electric shock or electric leakage.



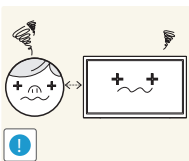
Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.



Do not hold the product upside-down or move it by holding the stand.

- The product may fall and become damaged or cause an injury.

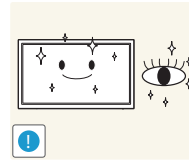


Looking at the screen too close for an extended period of time can deteriorate your eyesight.



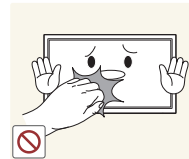
Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.

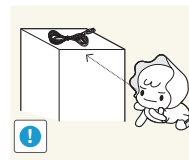


Rest your eyes for more than 5 minutes for every 1 hour of product use.

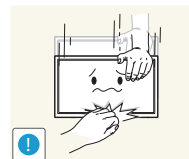
- Eye fatigue will be relieved.



Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.

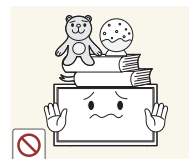


Store small accessories out of the reach of children.



Exercise caution when adjusting the product angle or stand height.

- Your hand or finger may get stuck and injured.
- Tilting the product at an excessive angle may cause the product to fall and an injury may result.



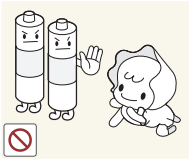
Do not place heavy objects on the product.

- Product failure or personal injury may result.



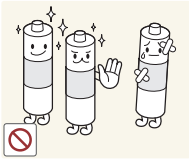
When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.



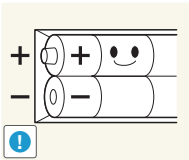
Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

- If children have had the battery in their mouths, consult your doctor immediately.



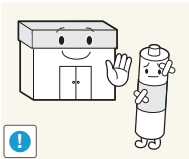
When replacing the battery, insert it with the right polarity (+, -).

- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.



Use only the specified standardized batteries, and do not use a new battery and a used battery at the same time.

- Otherwise, the batteries may be damaged or cause fire, personal injury or damage due to a leakage of the internal liquid.



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.

Chapter 02

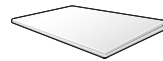
Preparations

Checking the Components

Components

— Components may differ in different locations.

- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components may differ from the images shown.
- A stand is not provided with the product. To install a stand, you can purchase one separately.



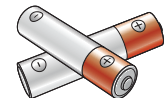
Quick Setup Guide



Warranty card
(Not available in some locations)



Regulatory guide



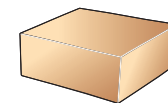
Batteries
(Not available in some locations)



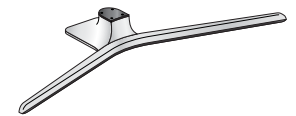
Remote Control



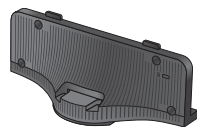
Power cord



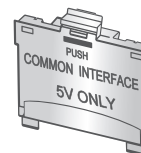
Mini Wall-mount Kit



Stand base



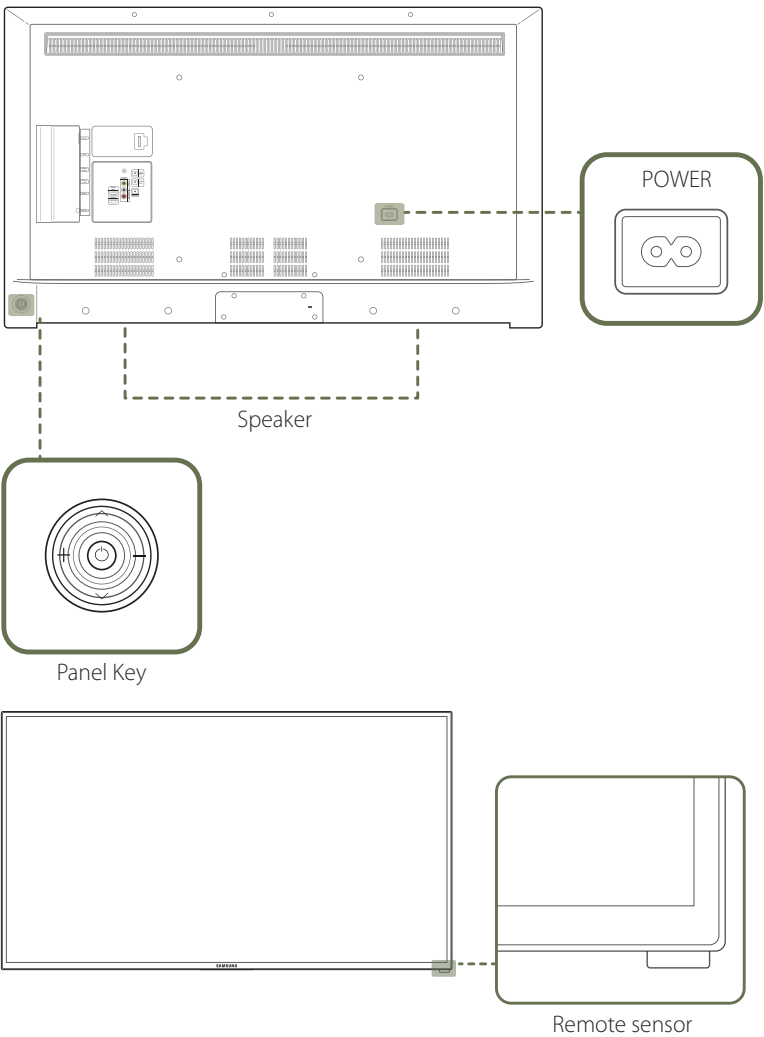
Stand neck



CI Slot Gender





Parts

Control Panel




— The colour and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

Panel Key

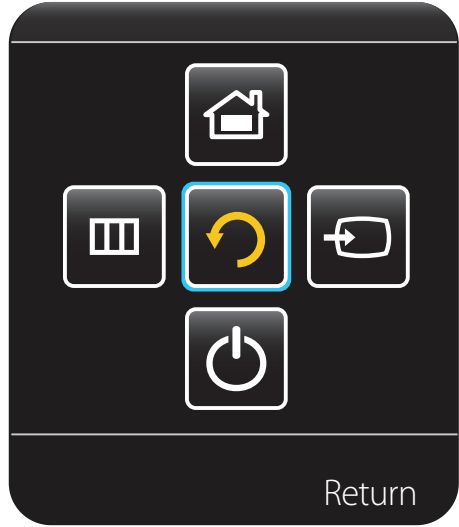
Buttons	Description
	Power on the product. If you press the  button when the product is turned on, the control menu will be displayed. — To exit the OSD menu, press and hold the panel key for at least one second.
	Move to the upper or lower menu. You can also adjust the value of an option. — Change the channel in TV mode.
	Move to the left or right menu. — You can adjust the volume by moving the panel key left or right when the control menu is not displayed.
Remote sensor Press a button on the remote control pointing at the sensor on the front of the product to perform the corresponding function. — Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.	










Use the remote control within 7 m to 10 m from the sensor on the product at an angle of 30° from the left and right.

- Store used batteries out of reach of children and recycle.
- Do not use a new and used battery together. Replace both batteries at the same time.
- Remove batteries when the remote control is not to be used for an extended period of time.

— If you press the  button on the panel key when the product is turned on, the control menu will be displayed.

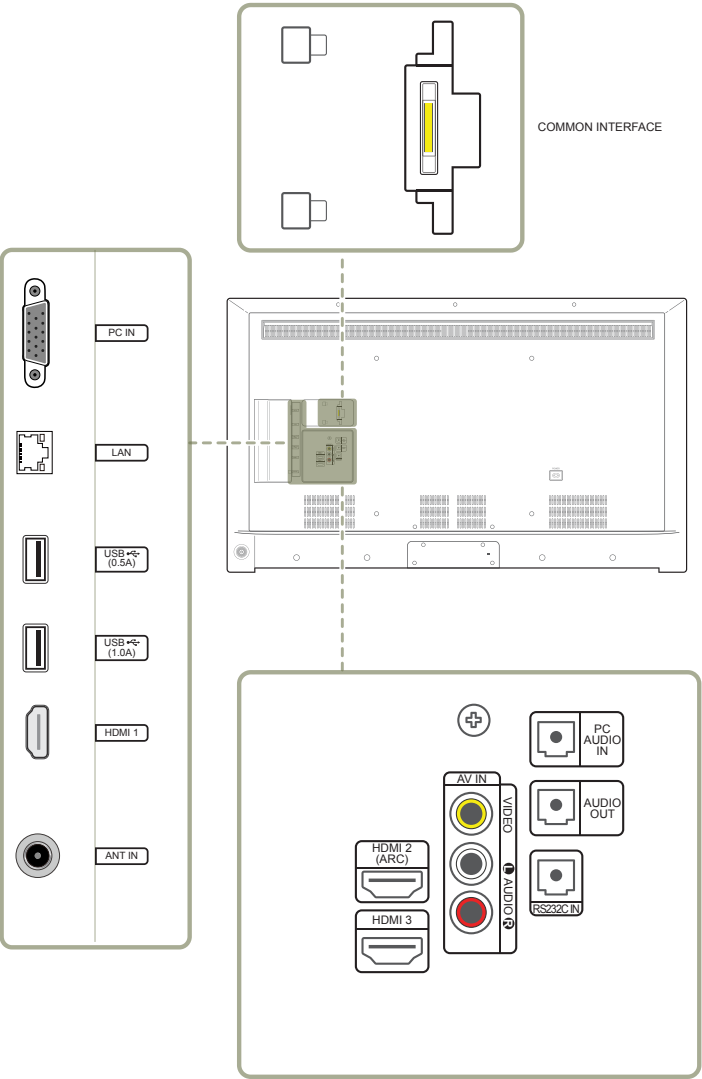
Control menu



Buttons	Description
 Source	Select the connected input source. Move the panel key right to select Source  in the control menu. When the list of input sources is displayed, move the panel key left or right to select the desired input source. Next, press the panel key.
 Menu	Display the OSD menu. Move the panel key left to select Menu  in the control menu. The OSD control screen will appear. Move the panel key right to select the desired menu. You can select a sub-menu item by moving the panel key up, down, left, or right. To change settings, select the desired menu and press the panel key.
 Home	Enter Go to Home mode. Move the panel key up to select Home  in the control menu.
 Power off	Power off the product. Move the panel key down to select Power off  in the control menu. Next, press the panel key.
 Return	Exit the control menu.

Reverse Side

— The colour and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

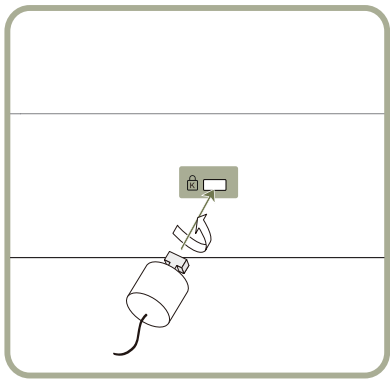


Port	Description
COMMON INTERFACE	Connect to a CI card.
PC IN	Connects to a source device using a D-SUB cable.
LAN	Connects to MDC using a LAN cable.
USB 0.5A, USB 1.0A	Connect to a USB memory device.
HDMI 1, HDMI 2 (ARC), HDMI 3	Connects to a source device using an HDMI cable.
ANT IN	Connect to an antenna cable.
AV IN VIDEO / L-AUDIO-R	Connect to an external device using a video or Audio cable.
PC AUDIO IN	Receives sound from a PC via an audio cable.
AUDIO OUT	Connects to the audio of a source device.
RS232C IN	Connects to MDC using an RS232C adapter.

Anti-theft Lock

- An anti-theft lock allows you to use the product securely even in public places.
- The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details.
- The following images are for reference only. Real-life situations may differ from what is shown in the images.

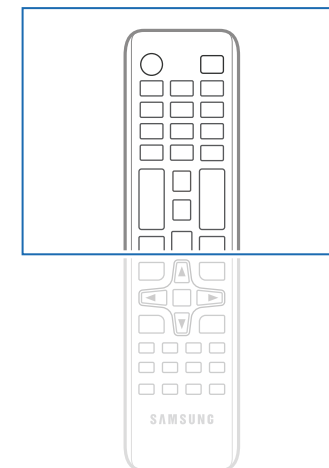
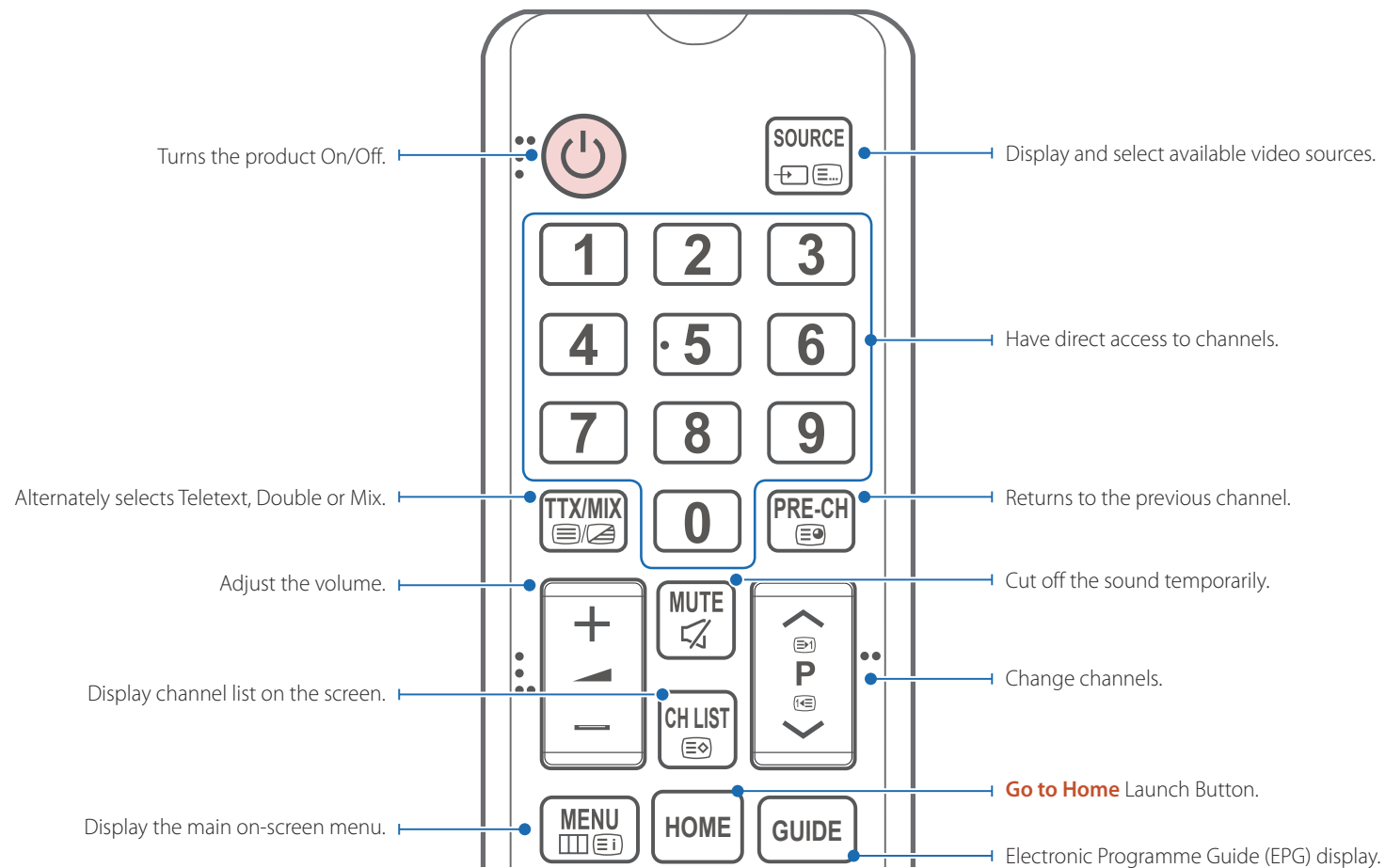
To lock an anti-theft locking device:



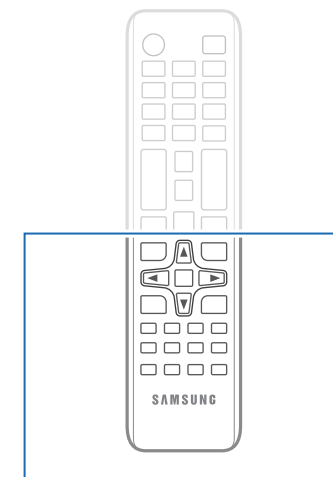
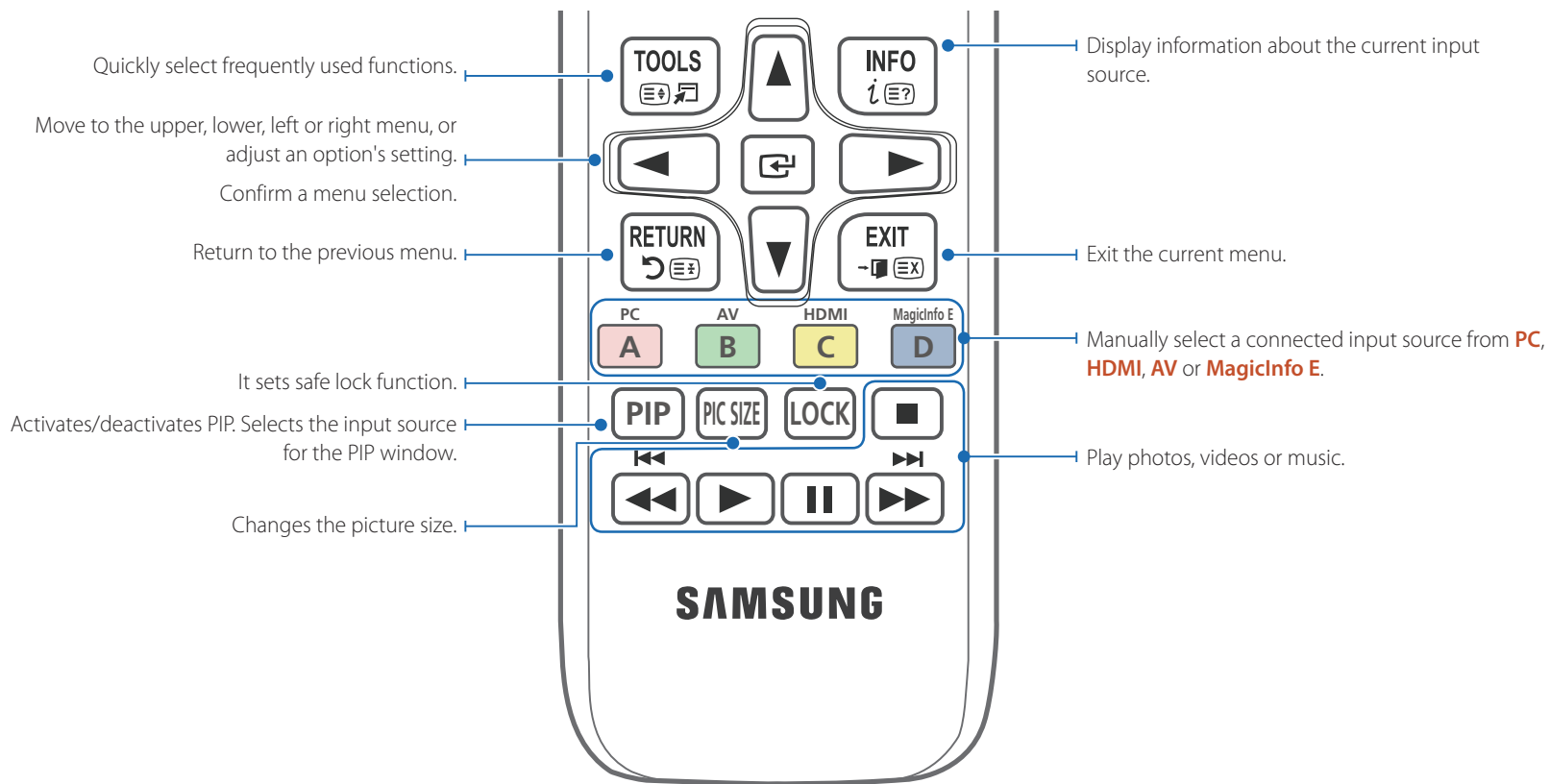
- 1 Fix the cable of your anti-theft locking device to a heavy object such as a desk.
- 2 Put one end of the cable through the loop on the other end.
- 3 Insert the locking device into the anti-theft lock slot at the back of the product.
- 4 Lock the locking device.
 - An anti-theft locking device can be purchased separately.
 - Refer to the user guide provided with your anti-theft locking device for details.
 - Anti-theft locking devices can be purchased at electronics retailers or online.

Remote Control

- Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.
- A button without a description in the image below is not supported on the product.

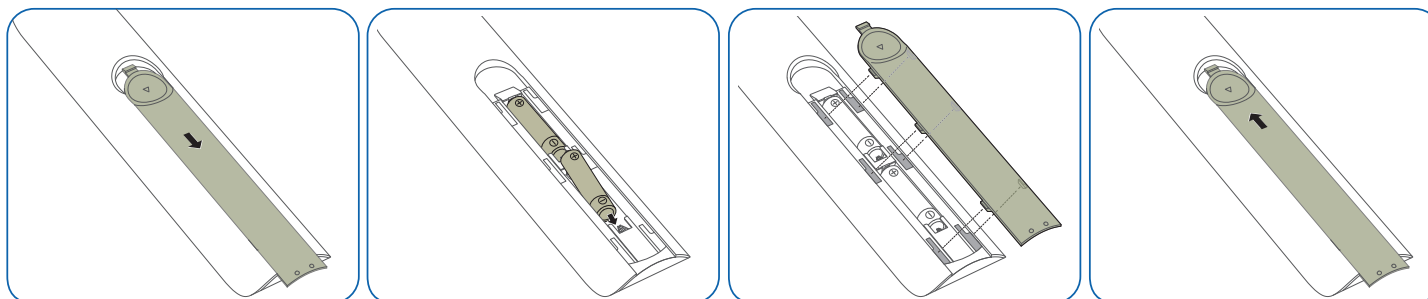


- Remote control button functions may differ for different products.



– Remote control button functions may differ for different products.

To place batteries in the remote control



Before Installing the Product (Installation Guide)

To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

- Ensure that an authorized installation company installs the wall mount.
- Otherwise, it may fall and cause personal injury.
- Make sure to install the specified wall mount.

Tilting Angle and Rotation

— Contact Samsung Customer Service Centre for further details.

- The product can be tilted at a maximum angle of 15° from a perpendicular wall surface.
- To use the product vertically (portrait), turn it clockwise so that the LED is pointing down.

Ventilation

Installation on a Perpendicular Wall

A Minimum 40 mm

B Ambient temperature: Under 35 °C

- When installing the product on a perpendicular wall, allow at least 40 mm of space between the product and wall surface for ventilation and ensure that the ambient A temperature is kept below 35 °C.

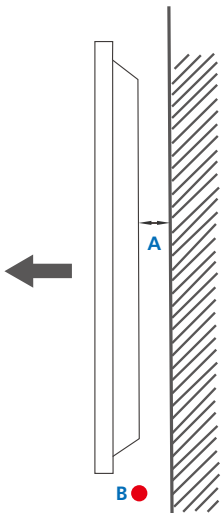
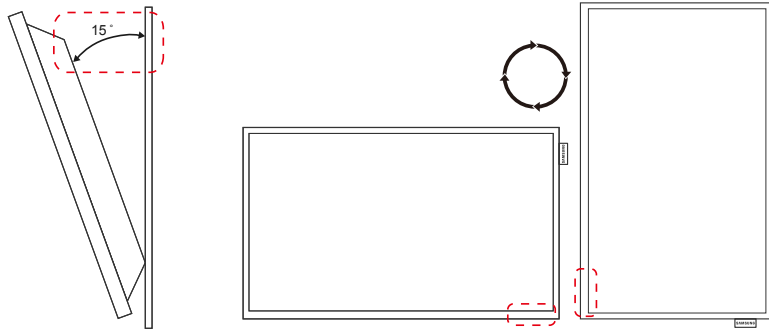


Figure 1.1 Side view

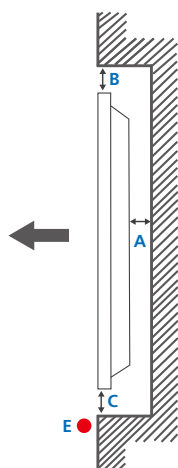
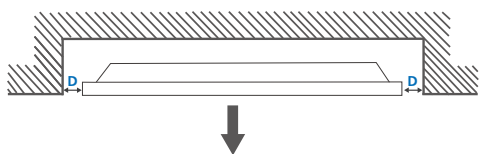


Figure 1.2 Side view

Figure 1.3 Side view



Installation on an Indented Wall

— Contact Samsung Customer Service Centre for further details.

Plane view

A Minimum 40 mm

B Minimum 70 mm

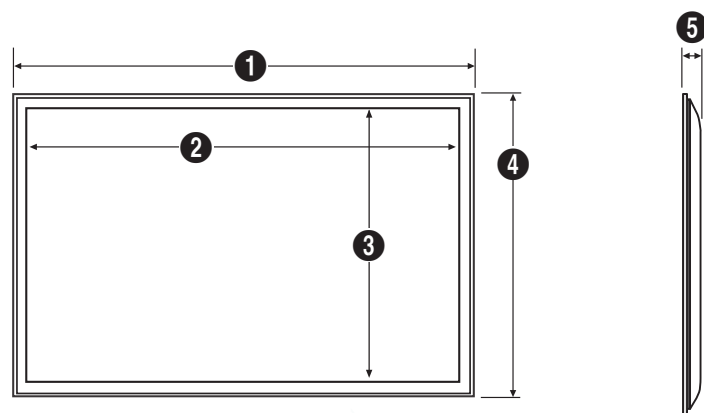
C Minimum 50 mm

D Minimum 50 mm

E Ambient temperature: Under 35 °C

— When installing the product on an indented wall, allow at least the space specified above between the product and wall for ventilation and ensure that the ambient temperature is kept below 35 °C.

Dimensions



Unit: mm (inches)

Model name	1	2	3	4	5
RH48E	1076.1(42.4)	1056.1(41.6)	594.7(23.4)	624.4(24.6)	67.1(2.6)
RH55E	1231.6(48.5)	1211.6(47.7)	682.3(26.9)	711.9(28.0)	67.8(2.7)

— All drawings are not necessarily to scale. Some dimensions are subject to change without prior notice.
Refer to the dimensions prior to performing installation of your product. Not responsible for typographical or printed errors.

Installing the Wall Mount

Installing the Wall Mount Kit

The wall mount kit (sold separately) allows you to mount the product on the wall.

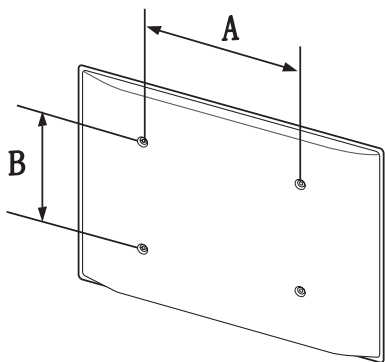
For detailed information on installing the wall mount, see the instructions provided with the wall mount.

We recommend you contact a technician for assistance when installing the wall mount bracket.

Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

Wall Mount Kit Specifications (VESA)

— Install your wall mount on a solid wall perpendicular to the floor. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information.
If you install the product on a slanted wall, it may fall and result in severe personal injury.



- Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that are longer than the standard length or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the product.
- 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 too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.
- Standard dimensions for wall mount kits are shown in the table below.

Unit: mm (inches)

Model name	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
RH48E	400 x 400 (15.7 x 15.7)	M8	4
RH55E			

— Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.

Chapter 03

Connecting and Using a Source Device

Before Connecting

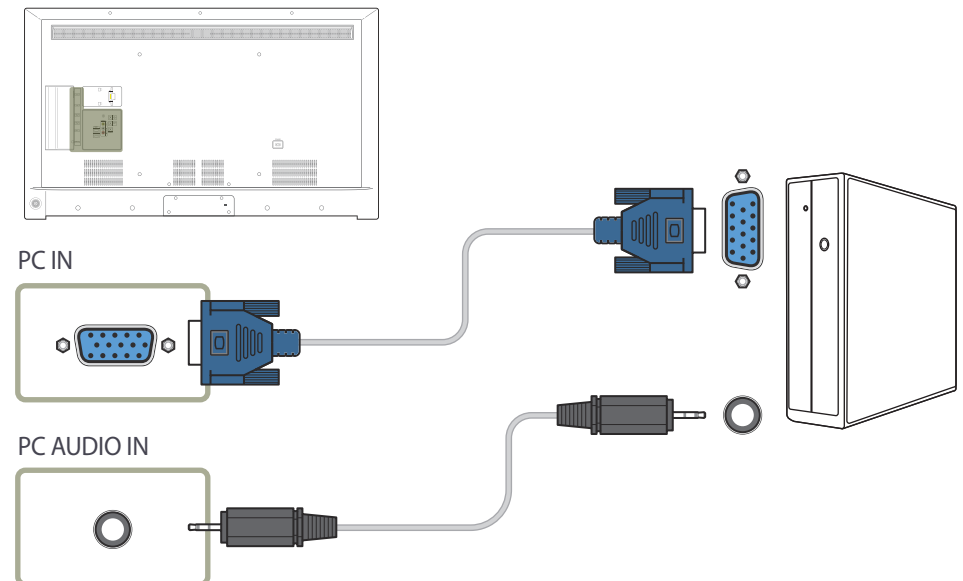
Pre-connection Checkpoints

- Before connecting a source device, read the user manual provided with it.
The number and locations of ports on source devices may differ from device to device.
- Do not connect the power cable until all connections are completed.
Connecting the power cable during connection may damage the product.
- Connect the sound ports correctly: left = white and right = red.
- Check the types of ports at the back of the product you want to connect.

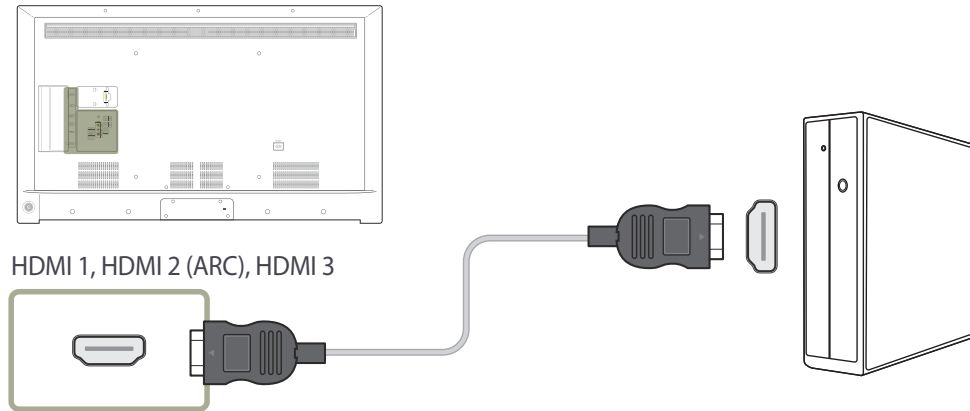
Connecting to a PC

- Do not connect the power cable before connecting all other cables.
Ensure you connect a source device first before connecting the power cable.
 - A PC can be connected to the product in a variety of ways.
Select a connection method suitable for your PC.
- Connecting parts may differ in different products.

Connection using the D-SUB cable (Analogue type)



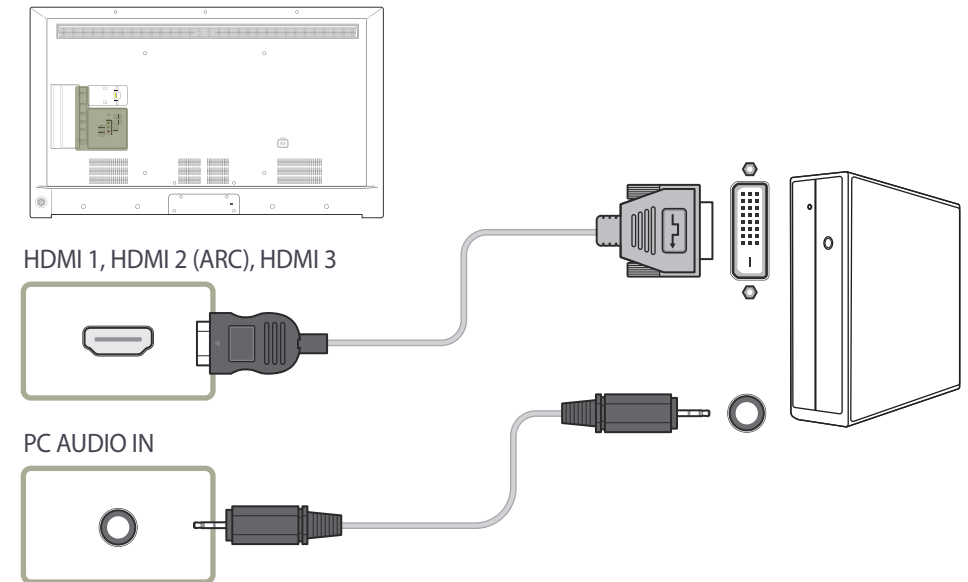
Connection Using an HDMI Cable



Connection Using an HDMI-DVI Cable

After connecting a computer to the product with an HDMI-DVI cable, make sure to configure the settings as shown below to enable the video and audio from the computer.

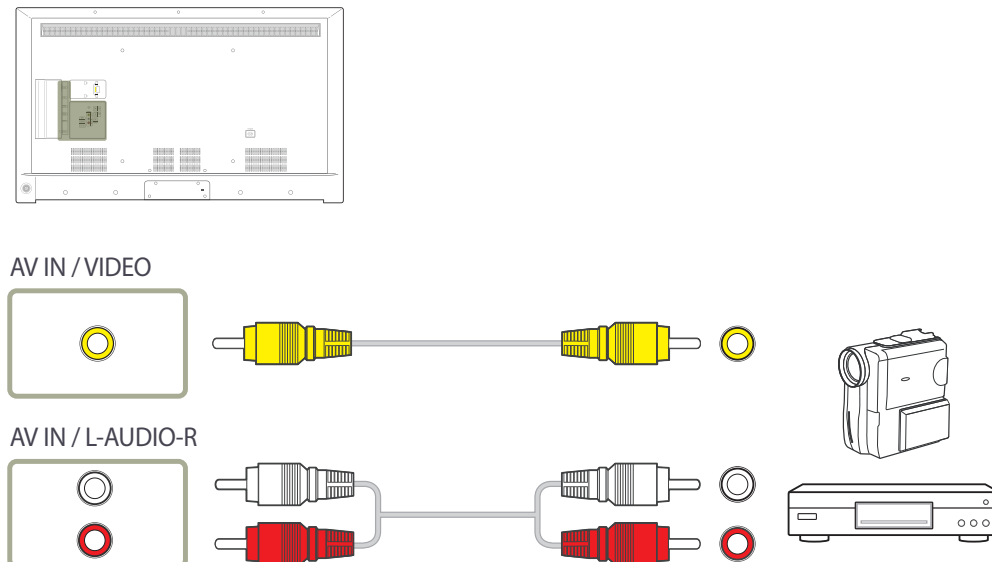
- **Sound** → set **HDMI Sound** to **PC(DVI)**
- **Picture** → set each screen mode to **Text** under **Picture Mode**
- **System** → **General** → set **HDMI Hot Plug** to **Off**



Connecting to a Video Device

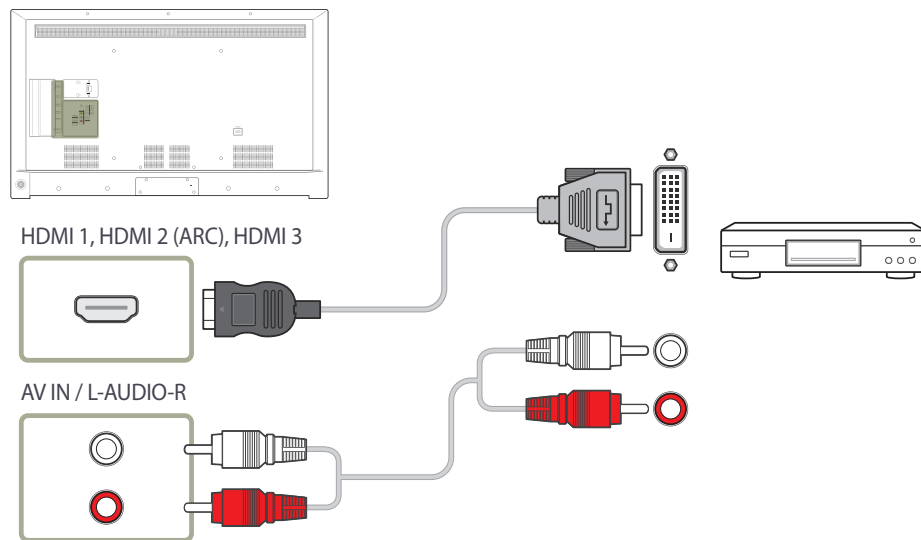
- Do not connect the power cable before connecting all other cables.
Ensure you connect a source device first before connecting the power cable.
- You can connect a video device to the product using a cable.
 - Connecting parts may differ in different products.
 - Press the **SOURCE** button on the remote control to change the source.

Connection Using the AV Cable



Connection Using an HDMI-DVI Cable

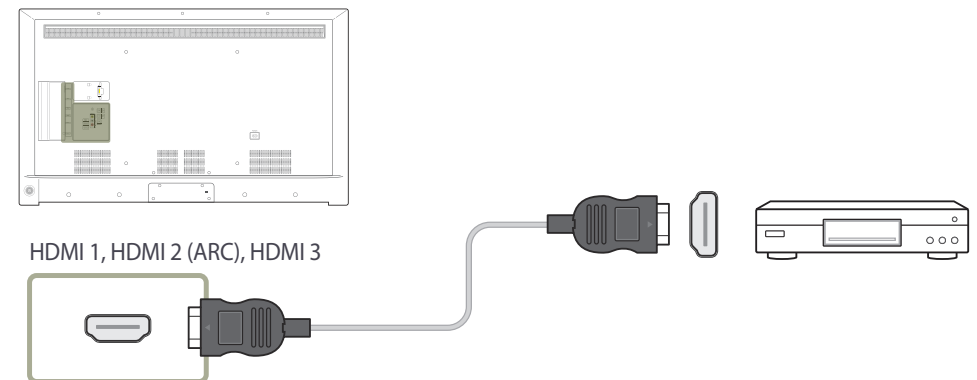
- Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device.
- After connecting a video device to the product with an HDMI-DVI cable, make sure to configure the settings as shown below to enable the video and audio from the video device.
 - **Sound** → set **HDMI Sound** to **PC(DVI)**
 - **Picture** → set each screen mode to **Videos/Images** under **Picture Mode**
 - **System** → **General** → set **HDMI Hot Plug** to **On**
- Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.
 - To view content with a video device connected to the monitor, select **Picture** and change **Picture Mode** to **Videos/Images** for the optimum picture quality.



Connection Using an HDMI Cable

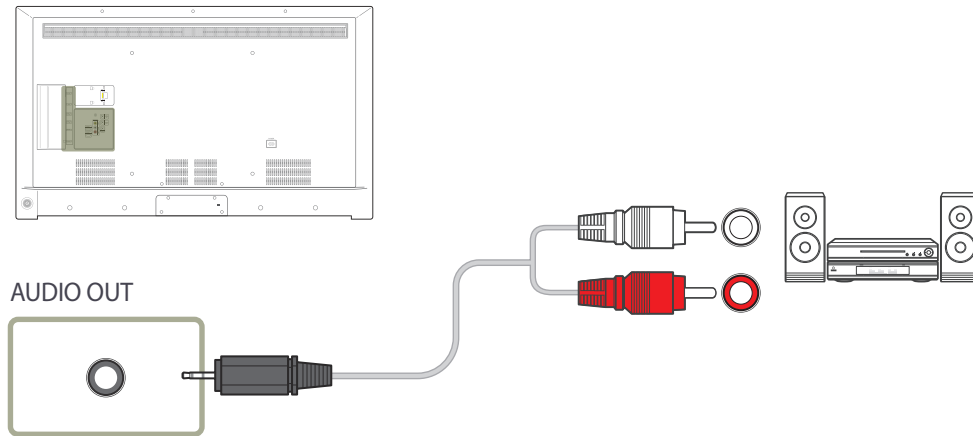
Using an HDMI cable (up to 1080p)

- For better picture and audio quality, connect to a digital device using an HDMI cable.
- 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-DVI and audio cables.
- The picture may not display normally (if at all) or the audio may not work if an external device that uses an older version of HDMI mode is connected to the product. If such a problem occurs, ask the manufacturer of the external device about the HDMI version and, if out of date, request an upgrade.
- Be sure to use an HDMI cable with a thickness of 14 mm or less.
- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.
- A basic high-speed HDMI cable or one with ethernet is recommended.
This product does not support the ethernet function via HDMI.



Connecting to an Audio System

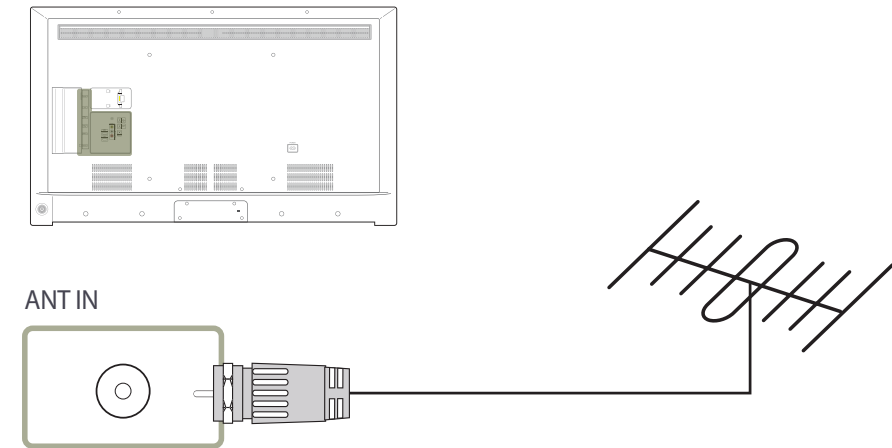
— Connecting parts may differ in different products.



Connecting the antenna

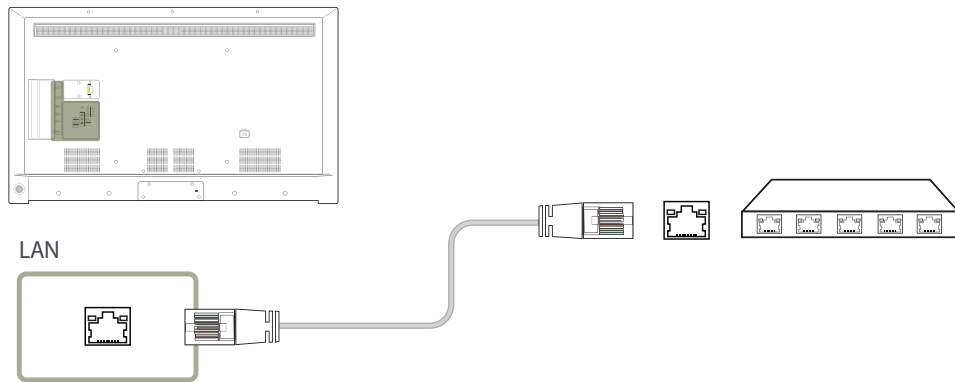
— Connecting parts may differ in different products.

— When the product is powered on for the first time, basic settings are configured automatically. Take extra care to ensure the wires inside the antenna cable are not bent.



Connecting the LAN Cable

Connecting parts may differ in different products.



- Use Cat7(*STP Type) cable for the connection.
*Shielded Twist Pair

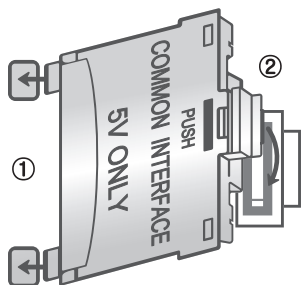
Connecting to a TV Viewing Card slot

To connect the CI CARD, follow these steps:

— CI card slots are available, depending on the model.

Using the “CI or CI+ CARD”

COMMON INTERFACE



Connect ② after ① and press
CI CARD Adapter again.

open

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 is displayed, please contact your service provider.
- When the configuration of channel information has finished, the message “Updating Completed” is displayed, indicating the channel list is updated.

— 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 authorized dealer.

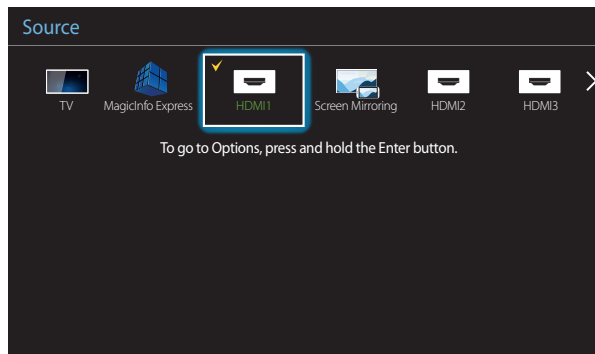
— If you have any problems, please contact a service provider.

— Insert the “CI or CI+ CARD” that supports the current aerial settings. The screen will be distorted or will not be seen.

Changing the Input source

Source

SOURCE → Source



— The displayed image may differ depending on the model.

Source allows you to select a variety of sources and change source device names.

You can display the screen of a source device connected to the product. Select a source from source list to display the screen of the selected source.

- The input source can also be changed by using the **SOURCE** button on the remote control.
- The screen may not display correctly if an incorrect source is selected for the source device you want to convert to.
- To view detailed information about connected source devices, press the **TOOLS** button from the **Source** page.

Edit Name

SOURCE → Source → TOOLS → Edit Name → ENTER ↵

Customize the name of a connected external device.

— The list can include the following source devices. **Source** devices on the list differ depending on the selected source.

PC / Cable STB / Satellite STB / PVR STB / Game / Blu-ray / DVD / VCR / AV Receiver / Camcorder / DVI PC / DVI Devices / TV / IPTV / HD DVD / DMA

Information

SOURCE → Source → TOOLS → Information → ENTER ↵

You can see detailed information about the selected external device.

Chapter 04

Home feature

This feature is provided in **Support** → **Go to Home**.

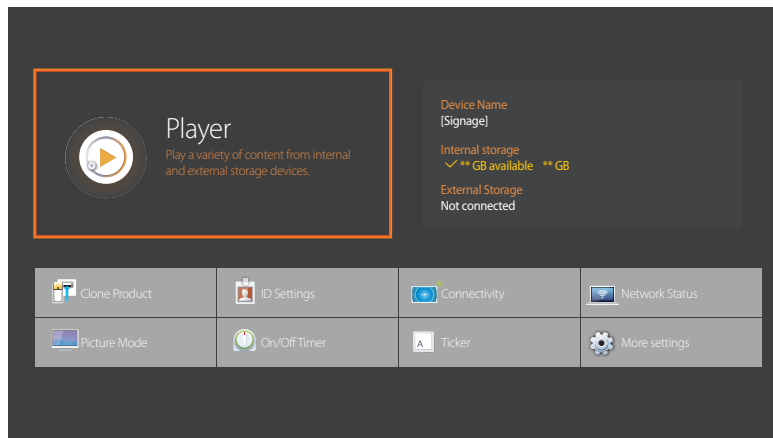
Accessible using the **HOME** button on the remote control.

Player

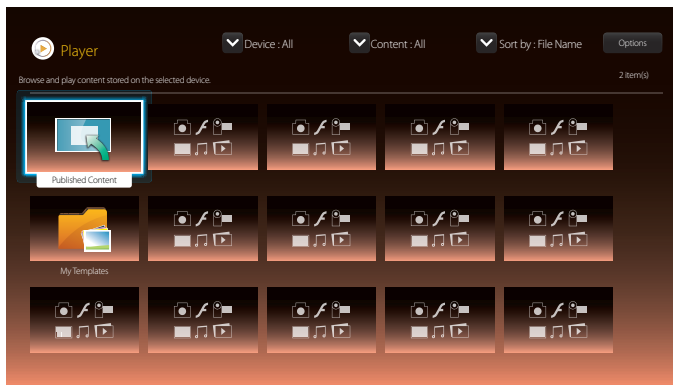
Play a range of content such as channels with schedules assigned, templates or files.

Play channels or content using any of the following methods.

HOME  → **Player** → **ENTER** 



– The displayed image may differ depending on the model.



Published Content

Play a template stored on a connected USB device.

- The **Published Content** feature appears only when a USB device containing templates is connected.
- Play scheduled content.

My Templates

Play a template in **My Templates** stored in the internal memory of the product.

- The displayed image may differ depending on the model.

Available features in the Player page

The **Player** list page provides the following features.

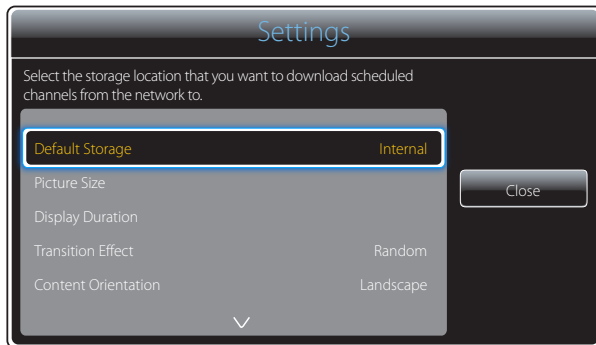
- **Device**
Select either **Internal** or **USB** to search for a desired device list.
 - **All / Internal / USB**
- **Content**
Select a content type as criterion to search for a desired content list.
 - **All / Video / Image / PDF / Flash / Office / My Templates**
- **Sort by**
Specify the content sort criterion.
 - **File name / Recently played**
- **Options**

Menu items in the Player page

Option Name	Operations
Play Selected	Select and play desired content.
Send	Copy content to another storage device.
Delete	Delete desired content.
Settings	Configure detailed properties of content. — See the following page for details on the Settings feature.

Player page Settings menu

Settings



— The displayed image may differ depending on the model.

Default Storage

Select the storage location that you want to download scheduled channels from the network to.

- **Internal / USB**

Picture Size

Set the screen size for content.

If **Picture Size** is set to **Video** or **Image**

- **Full Screen / Original Size / Fit to Screen**

If **Picture Size** is set to **PDF** or **Office**

- **Full Screen / Original Size**

— This feature is only available for **Video**, **Image**, **PDF** and **Office** files.

Display Duration

Set the duration for each page in a slideshow.

— This feature is only available for **Image**, **PDF**, **Flash** and **Office** files.

Transition Effect

Configure transition effects between pages or scenes in a slideshow or video file.

- **None / Fade1 / Fade2 / Blind / Spiral / Checker / Linear / Stairs / Wipe / Random**

— This feature is only available for **Image** files.

Content Orientation

Switch the orientation of playing content to **Landscape** or **Portrait** mode.

- **Landscape / Portrait**

— If **Content Orientation** is **Portrait** view, it does not support VP8 video codec.

— **Source** is not available when **Content Orientation** is set to **Portrait**.

Default content

This default content will be displayed if you run a channel while no programmes are scheduled on the channel.

- **None**

Safely Remove

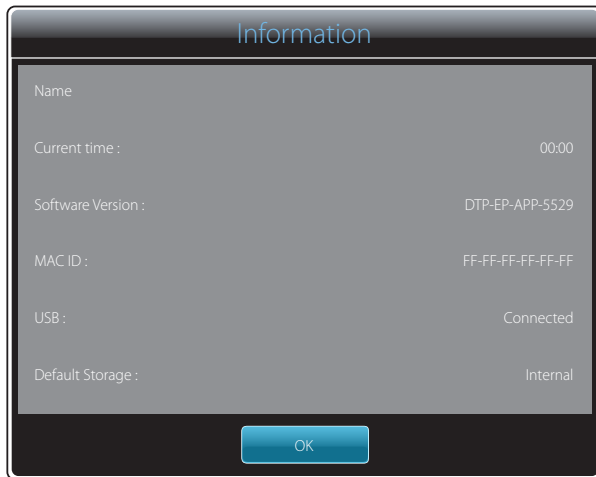
Safely removes USB memory

Reset

Restore all the values under **Settings** to the default when the product was purchased.

When Content is Running

Viewing the details of the content that is running

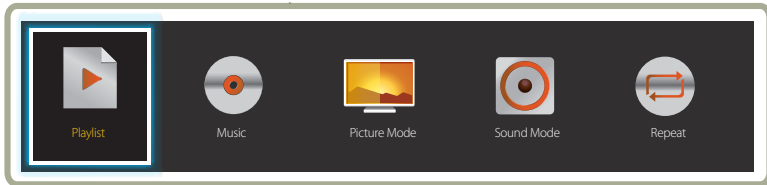


Press the **INFO** button on the remote control.

- **Name**
- **Current time**
- **Software Version**: Displays the software version of a device
- **MAC ID**: Displays the original identification number of a device
- **USB**: Displays the connection status of a USB device
- **Default Storage**: View the destination folder where distributed content is saved.
 - **Internal** is displayed if no external device is connected.

— The displayed image may differ depending on the model.

Changing the settings for the content that is running



- The displayed image may differ depending on the model.
- This feature is not available when content is playing through **Video Wall**.

Press the **TOOLS** button on the remote control during content playback to configure settings such as **Picture Mode** and **Sound Mode**.

- **Playlist**
View a list of content items currently playing.
- **Music**
Set the background music for the content currently playing.
- **Picture Mode**
Customizes the screen settings for the content currently playing
 - **Shops & Shopping Centres / Offices & Schools / Terminals & Stations / Video Wall / Calibration / BD Wise**
- **Sound Mode**
Customizes the audio settings for the content currently playing
 - **Standard / Music / Movie / Clear Voice / Amplify**
- **Repeat**
Set the repeat mode.
 - **One / All**

File Formats Compatible with Player

- Supported file systems include FAT32, EXFAT and NTFS.
- A file with a vertical and horizontal resolution larger than the maximum resolution cannot be played.
Check the vertical and horizontal resolution of the file.
- Check the supported video and audio Codec types and Versions.
- Check the supported file versions.
 - Flash player 11.0 and older and Flash Air 3.0 and older versions are supported.
 - PowerPoint version up to 97 – 2007 is supported
- Only the last USB device that was connected is recognized.

Network Schedule Multiframe

Playback restrictions

- A maximum of two video files (**Video**) can be played simultaneously.
- In portrait playback mode, only one video file can be played at a time.
- More than one **Flash** file cannot be played.
- For **Office** files (PPT and Word files) and **PDF** files, only one file type is supported at a time.
- LFD(.lfd) files are not supported.

Sound output restrictions

- More than one sound output cannot be used.
- Playback priority: **Flash** file > network BGM > local BGM > video file in the main frame selected by the user
 - Network BGM: Settings can be configured in step 1 when creating a server schedule.
 - Local BGM: BGM settings can be configured using the tools displayed after the **TOOLS** button is pressed during **Player** playback.
 - User-selected main frame: Main frame settings can be configured in step 2 when creating a server schedule.

Template files and LFD(.lfd) files

Restrictions

- Ensure a distributed folder (content / schedules) exists in **Internal** / **USB** memory.

Playback restrictions

- A maximum of two video (**Video**) files can be played.
- More than one **Flash** file cannot be played.
- For **Office** files (PPT and Word files) and **PDF** files, only one file type is supported at a time.
- Multiple videos (**Video**) cannot be played on a single display of a video wall simultaneously.

Sound output restrictions

- More than one sound output cannot be used.
- Playback priority: **Flash** file > network BGM > local BGM > video file in the main frame selected by the user

Contents

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.avi	AVI	DivX 3.11 / DivX 4 / DivX 5 / DivX 6	1920 x 1080	6~30	30	AC3
*.mkv	MKV					LPCM
*.asf	ASF					AAC
*.wmv	MP4	MPEG4 SP / ASP				HE-AAC
*.mp4	3GP					WMA
*.mov	VRO	H.264 BP / MP / HP				DD+
*.3gp	VOB					MPEG(MP3)
*.vro	PS	Motion JPEG				DTS Core
*.mpg	TS					G.711(ALaw,μ-Law)
*.mpeg						
*.ts		Window Media Video v9				
*.tp						
*.trp		MPEG2				
*.flv						
*.vob		MPEG1				
*.svi						
*.m2ts						
*.mts		VP6	640 x 480		4	
*.divx						

Video

- 3D video is not supported.
- Content with a resolution larger than the resolution specified in the table above is not supported.
- Video content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy video during playback.
- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Some USB/digital camera devices may not be compatible with the player.
- Supports up to H.264, Level 4.1
- H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.
- For all Video codecs except MVC, VP8, VP6:
 - Below 1280 x 720: 60 frame max
 - Above 1280 x 720: 30 frame max
- GMC 2 or higher is not supported.
- Supports only BD MVC Spec.
- Only one video file can play at a time if video files on the monitor use incompatible codecs or the resolution is 1080 x 1920.
- When a single video file is playing, Seamless mode is not supported under the following conditions:
 - Incompatible codec (MVC, VP3, MJPEG) ↔ Incompatible codec
 - Incompatible codec ↔ Compatible codec
 - The resolution is different from that of the monitor
 - The frequency is different from that of the monitor

Audio

- Audio content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy audio during playback.
- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Some USB/digital camera devices may not be compatible with the player.
- Supports up to WMA 10 Pro 5.1 channel. WMA lossless audio is not supported.
- QCELP, AMR NB/WB are not supported.

Image

- Compatible image file format : JPEG, PNG, BMP
 - 32-bit, 24-bit and 8-bit BMP files are supported.
- Supported maximum resolution : 4096 x 4096
- Supported maximum file size: 20MB
- Supported image effects : 9 effects
(**Fade1, Fade2, Blind, Spiral, Checker, Linear, Stairs, Wipe, Random**)

Flash

- Flash player 11.0 and older and Flash Air 3.0 and older versions are supported.
- Flash Animation
 - Compatible file format : SWF
- Recommended resolution : 960 x 540
 - Caution
Performance comparable to Flash Player on a Windows operating system cannot be guaranteed
Optimization is needed during content creation
- Flash Video
 - Compatible file format : FLV
 - Video
Codec : H.264 BP
Resolution : 1920 x 1080
 - Audio
Codec : H.264 BP
 - Caution
F4V file format is not supported
Screen Video is not supported

Power Point

- Compatible document file formats
 - Extension : ppt, pptx
 - Version : Office 97 ~ Office 2007
- Functions not supported
 - Animation effect
 - 3D shapes (which will be displayed in 2D)
 - Header and footer (some subitems are not supported)
 - Word Art
 - Align
A group alignment error may occur
 - Office 2007
SmartArt is not fully supported. 97 out of 115 subitems are supported.
 - Object insertion
 - Half-width characters
 - Letter spacing
 - Charts
 - Vertical text
some subitems are not supported
 - Slide notes and handout

PDF

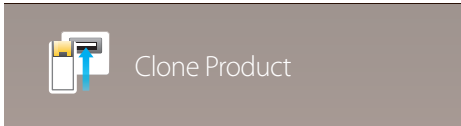
- Compatible document file formats
 - Extension : pdf
- Functions not supported
 - Content less than 1 pixel not supported because of performance degradation issue.
 - Masked Image, Tiled Image content not supported.
 - Content with Rotated Text, not supported.
 - 3D Shadow Effects not supported.
 - Some characters not supported
(Special characters may be corrupted)

WORD

- Compatible document file formats
 - Extension : .doc, .docx
 - Version : Office 97 ~ Office 2007
 - Functions not supported
 - Page background effect
 - Some paragraph styles
 - Word Art
 - Align
 - A group alignment error may occur
 - 3D shapes (which will be displayed in 2D)
 - Office 2007
 - SmartArt is not fully supported. 97 out of 115 subitems are supported.
 - Charts
 - Half-width characters
 - Letter spacing
 - Vertical text
 - some subitems are not supported
 - Slide notes and handout
-

Clone Product

HOME  → **Clone Product** → ENTER 



– The displayed image may differ depending on the model.

Export settings on the product to an external storage device. You can also import settings from an external storage device. This option is useful when assigning the same settings to several products.

When a duplicate file is not found on the external storage device

- 1 Connect the external storage device, then run the **Clone Product** function.
- 2 The **No cloning file found on the external storage device. Export this device's settings to the external storage device?** message appears.

When a duplicate file is found on the external storage device

- 1 Connect the external storage device, then run the **Clone Product** function.
- 2 The **Settings file found on the external storage device. Please select an option.** message appears.

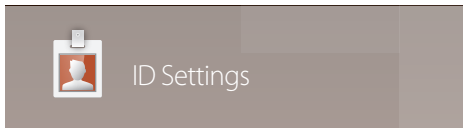
Run the **Import from External Storage** or **Export to External Storage** function.

- **Import from External Storage:** Copy settings saved on an external storage device to the product.
- **Export to External Storage:** Copy settings on the product to an external storage device.

— After configuration is complete, the product is rebooted automatically.

ID Settings

HOME  → ID Settings → ENTER 



– The displayed image may differ depending on the model.

Assign an ID to a set.

Device ID

Enter the ID number of the product connected to the input cable for input signal reception. (Range: 0~224)

— Press ▲/▼ to select a number, and press .

— Enter the number you want using the number buttons on the remote control.

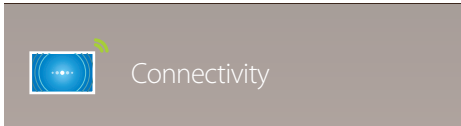
PC Connection Cable

Select a method to connect to MDC to receive the MDC signal.

- **RS232C cable**
Communicate with MDC via the RS232C-stereo cable.
- **RJ-45 (LAN)/Wi-Fi Network**
Communicate with MDC via the RJ45 cable.

Connectivity

HOME  → **Connectivity** → ENTER 



— The displayed image may differ depending on the model.

Network Settings

Connect to a wireless network and use the product as a TV+signage using **MagicInfo Express Content Creator** on your PC.

Network type

- **Wireless / Wired**

Wi-Fi Direct

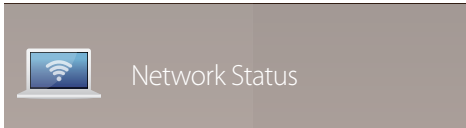
Set to connect the product to wireless mobile devices. Using this function, you can connect wireless mobile devices with your product directly without a router.

— To use this function, your mobile device should be supported by the **Wi-Fi Direct**.

Network Status

Check the current network and Internet connection.

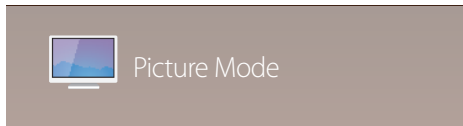
HOME  → Network Status → ENTER 



– The displayed image may differ depending on the model.

Picture Mode

HOME  → **Picture Mode** → ENTER 



– The displayed image may differ depending on the model.

Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

Videos/Images mode improves the picture quality of the video device. **Text** mode improves the picture quality of the computer.

- **Shops & Shopping Centres**

Suitable for shopping malls.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Offices & Schools**

Suitable for offices and schools.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Terminals & Stations**

Suitable for bus terminals and train stations.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Video Wall**

Suitable for environments where videowall display are used.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Calibration**

In this mode, the brightness, colour, gamma and uniformity settings customized using the colour calibration programme **Advanced Color Management** are applied.

- To apply the **Calibration** mode properly, make sure you configure the picture quality settings, such as brightness, colour, gamma and uniformity, using the colour calibration programme **Advanced Color Management**.
- To download the **Advanced Color Management** programme, visit www.samsung.com/displaysolutions.

- **BD Wise**

Provides the optimal picture quality for Samsung DVD, Blu-ray and Home Theatre products which support **BD Wise**.

When **BD Wise** is turned **On**, the picture mode is automatically changed to the optimal resolution.

- Available when you connect Samsung products that support **BD Wise** through an HDMI cable to the product.
- The **BD Wise** function is enabled only when a source device with the **BD Wise** function is connected.

On/Off Timer

HOME  → **On/Off Timer** → ENTER 



– The displayed image may differ depending on the model.

— You must set **Clock Set** before you can use this feature.

On Timer

Set **On Timer** so that your product turns on automatically at a time and on a day of your choosing.

The power is turned on with the specified volume or input source.

On Timer: Set the on timer by making a selection from one of the seven options. Ensure you set the current time first.

(**On Timer 1 ~ On Timer 7**)

- **Setup:** Select **Off, Once, Everyday, Mon~Fri, Mon~Sat, Sat~Sun** or **Manual**.
If you select **Manual**, you can choose the days you want **On Timer** to turn on your product.
 - The check mark indicates days you've selected.
- **Time:** Set the hour and minute. Use the number buttons or the up and down arrow keys to enter numbers. Use the left and right arrow buttons to change entry fields.
- **Volume:** Set the desired volume level. Use the left and right arrow buttons to change the volume level.
- **Source:** Select the input source of your choice.
- **Aerial** (when the **Source** is set to **TV**): Select **Terrestrial** or **Cable**.
- **Channel** (when the **Source** is set to **TV**): Select the desired channel.
- **Content** (when the **Source** is set to **Internal/USB**): From the USB device or internal memory device, select a folder containing content you want to play when the product turns on. Content can include music, photo or video files.

— This function is available only when a USB device is connected.

— If there is no music file on the USB device or you don't select a folder containing a music file, the Timer function does not operate correctly.

— If there is only one photo file in the USB, the **Slide Show** will not play.

— If a folder name is too long, the folder cannot be selected.

— Each USB you use is assigned its own folder. When using more than one of the same type of USB, make sure the folders assigned to each USB have different names.

— We recommend that you use a USB memory stick and a multi card reader when using **On Timer**.

— The **On Timer** function may not work with USB devices with a built-in battery, MP3 players, or PMPs made by some manufacturers because the product can take too long to recognize these devices.


Off Timer

Set the off timer (**Off Timer**) by making a selection from one of the seven options. (**Off Timer 1 ~ Off Timer 7**)

- **Setup:** Select **Off**, **Once**, **Everyday**, **Mon~Fri**, **Mon~Sat**, **Sat~Sun** or **Manual**.
If you select **Manual**, you can choose the days you want **Off Timer** to turn off your product.
 - The check mark indicates days you've selected.
- **Time:** Set the hour and minute. Use the number buttons or the up and down arrow keys to enter numbers. Use the left and right arrow buttons to change entry fields.

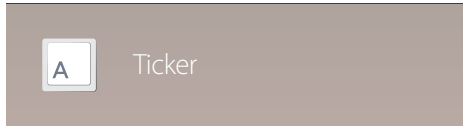
Holiday Management

Timer will be disabled during a period specified as a holiday.

- **Add Holiday:** Specify the period you want to add as a holiday.
Select the start and end dates of the holiday you want to add using the ▲/▼ buttons, and click the **Save** button.
The period will be added to the list of holidays.
 - **Start:** Set the start date of the holiday.
 - **End:** Set the end date of the holiday.
 - **Delete:** Delete selected items from the list of holidays.
 - **Edit:** Select a holiday item and then change the date.
- **Set Applied Timer:** Set the **On Timer** and **Off Timer** to not activate on public holidays.
 - Press  to select the **On Timer** and **Off Timer** settings you do not want to activate.
 - The selected **On Timer** and **Off Timer** will not activate.

Ticker

HOME  → **Ticker** → ENTER 



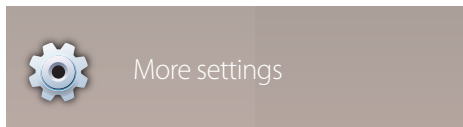
– The displayed image may differ depending on the model.

Input text while a video or image is displayed and display the text on the screen.

- **Off / On**
- **Message:** Enter a message to display on the screen.
- **Time:** Set the **Start Time** and **End Time** to display a **Message**.
- **Font options:** Specify the text font and colour for the message.
- **Position:** Select an orientation to display a **Message**.
- **Scroll:** Specify the scroll **Direction** and **Speed** for the message.
- **Preview:** Preview configured caption settings.

More settings

HOME  → **More settings** → ENTER 



– The displayed image may differ depending on the model.

Set a variety of features.

Chapter 05

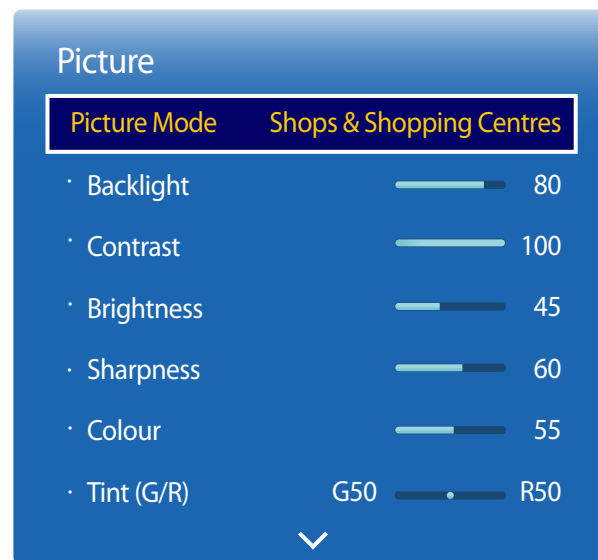
Screen Adjustment

Configure the **Picture** settings (**Backlight**, **Colour Tone**, etc.).

The layout of the **Picture** menu options may vary depending on the product.

Picture Mode

MENU  → **Picture** → **Picture Mode** → ENTER 



– The displayed image may differ depending on the model.

Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

Videos/Images mode improves the picture quality of the video device. **Text** mode improves the picture quality of the computer.

- **Shops & Shopping Centres**

Suitable for shopping malls.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Offices & Schools**

Suitable for offices and schools.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Terminals & Stations**

Suitable for bus terminals and train stations.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Video Wall**

Suitable for environments where videowall display are used.

- Select either **Videos/Images** or **Text** depending on the picture mode.

- **Calibration**

In this mode, the brightness, colour, gamma and uniformity settings customized using the colour calibration programme **Advanced Color Management** are applied.

- To apply the **Calibration** mode properly, make sure you configure the picture quality settings, such as brightness, colour, gamma and uniformity, using the colour calibration programme **Advanced Color Management**.
- To download the **Advanced Color Management** programme, visit www.samsung.com/displaysolutions.

- **BD Wise**

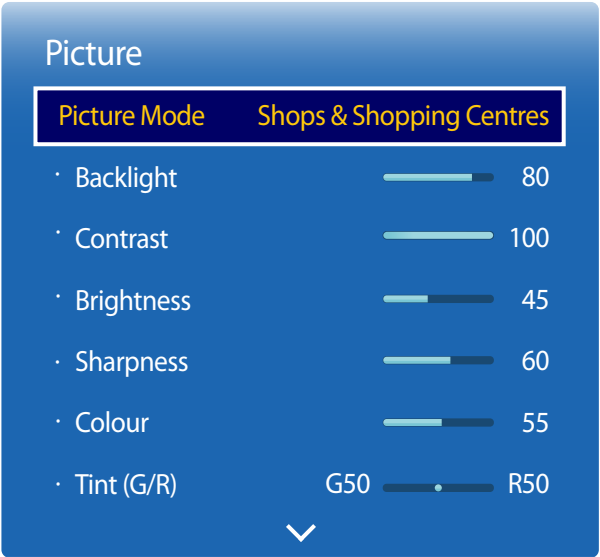
Provides the optimal picture quality for Samsung DVD, Blu-ray and Home Theatre products which support **BD Wise**.

When **BD Wise** is turned **On**, the picture mode is automatically changed to the optimal resolution.

- Available when you connect Samsung products that support **BD Wise** through an HDMI cable to the product.
- The **BD Wise** function is enabled only when a source device with the **BD Wise** function is connected.

Backlight / Contrast / Brightness / Sharpness / Colour / Tint (G/R)

MENU  → Picture → ENTER 



– The displayed image may differ depending on the model.

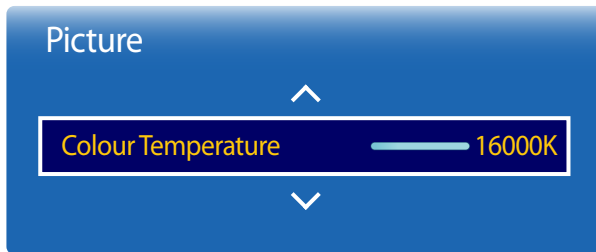
Your product has several options for adjusting picture quality.

Picture Mode	Picture Mode settings	Adjustable options
Shops & Shopping Centres, Offices & Schools, Terminals & Stations, Video Wall	Videos/Images	Backlight / Contrast / Brightness / Sharpness / Colour / Tint (G/R)
	Text	Backlight / Contrast / Brightness / Sharpness
Calibration		Backlight
BD Wise		Backlight / Contrast / Brightness / Sharpness / Colour / Tint (G/R)

- When you make changes to **Backlight, Contrast, Brightness, Sharpness, Colour** or **Tint (G/R)**, the OSD will be adjusted accordingly.
- You can adjust and store settings for each external device you have connected to an input on the product.
- Lowering picture brightness reduces power consumption.

Colour Temperature

MENU  → Picture → Colour Temperature → ENTER 



Adjust the colour temperature (Red / Green / Blue). (Range: 2800K–16000K)

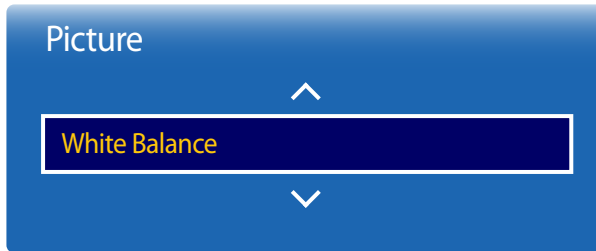
— Enabled when **Colour Tone** is set to **Off**.

— **Colour Temperature** is disabled if **Picture Mode** is set to **Calibration** or **BD Wise**.

— The displayed image may differ depending on the model.

White Balance

MENU  → **Picture** → **White Balance** → ENTER 



— The displayed image may differ depending on the model.

2 Point

Adjust the colour temperature for a more natural picture.

- **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.
- **Reset:** Suitable for environments where videowall display are used.

10 Point



Controls the white balance in 10 point interval by adjusting the red, green, and blue brightness.

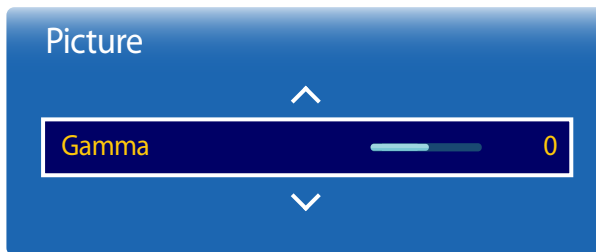
- **10 Point (Off / On)**
 - **Level, Red, Green, Blue** and **Reset** are enabled only when **10 Point** is set to **On**.
- **Level:** Select interval to adjust.
- **Red:** Adjust the red level.
- **Green:** Adjust the green level.
- **Blue:** Adjust the blue level.
- **Reset:** Suitable for environments where videowall display are used.

— Some external devices may not support this function.

— Enabled when **Picture Mode** is set to **Offices & Schools (Videos/Images)**.

Gamma

MENU  → Picture → Gamma → ENTER 



— The displayed image may differ depending on the model.

Adjust the primary colour intensity.

— If **Picture Mode** is set to **Calibration**, **Gamma** is disabled.

Calibrated value

MENU  → Picture → Calibrated value → ENTER 



— The displayed image may differ depending on the model.

Select whether to apply the brightness, colour, gamma and uniformity settings customized using the colour calibration programme **Advanced Color Management** to the Information and Advertisement modes.

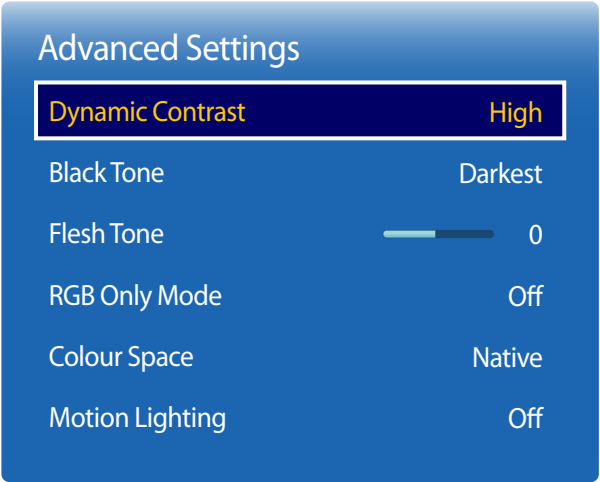
- **Don't apply / Apply**

— To download the **Advanced Color Management** programme, visit www.samsung.com/displaysolutions.

— If **Picture Mode** is set to **Calibration**, **Calibrated value** is disabled.

Advanced Settings

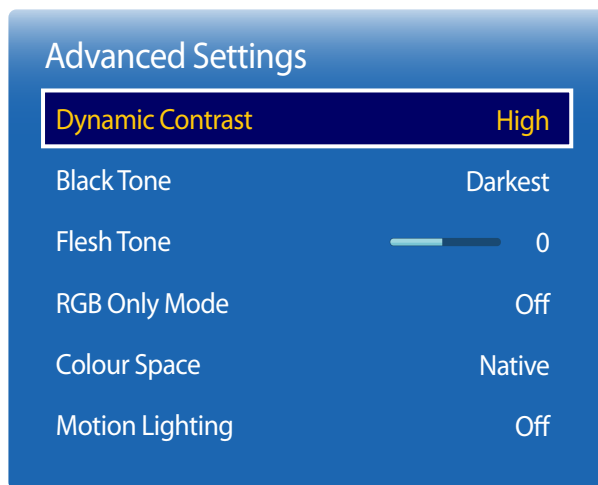
MENU  → Picture → Advanced Settings → ENTER 



— The displayed image may differ depending on the model.

Picture Mode	Picture Mode settings	Adjustable options
Shops & Shopping Centres, Offices & Schools, Video Wall	Videos/Images	Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Colour Space
	Text	Dynamic Contrast / Black Tone
Terminals & Stations	Videos/Images	Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Colour Space / Motion Lighting
	Text	Dynamic Contrast / Black Tone
BD Wise		Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Colour Space

— If **Picture Mode** is set to **Calibration**, **Advanced Settings** is disabled.



— The displayed image may differ depending on the model.

Dynamic Contrast

Adjust the screen contrast.

- **Off** / **Low** / **Medium** / **High**

Black Tone

Select the black level to adjust the screen depth.

- **Off** / **Dark** / **Darker** / **Darkest**

Flesh Tone

Emphasize pink **Flesh Tone**.

RGB Only Mode

Displays the **Red**, **Green** and **Blue** colour for making fine adjustments to the hue and saturation.

- **Off** / **Red** / **Green** / **Blue**

Colour Space

Adjusts the range and variety of colours (the colour space) available to create images.

- **Auto** / **Native** / **Custom**

— To adjust **Colour**, **Red**, **Green**, **Blue** and **Reset**, set **Colour Space** to **Custom**.

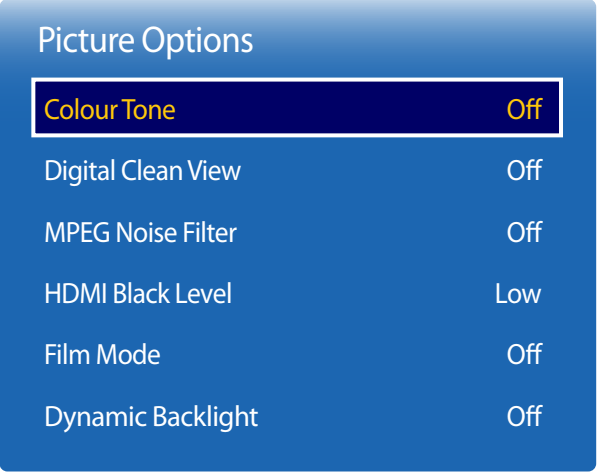
Motion Lighting

Reduces power consumption by reducing screen brightness when the picture on the screen is in motion.

- **Off** / **On**

Picture Options

MENU  → Picture → Picture Options → ENTER 



– The displayed image may differ depending on the model.

Picture Mode	Picture Mode settings	Adjustable options
Shops & Shopping Centres, Offices & Schools, Terminals & Stations, Video Wall	Videos/Images	Colour Tone / Digital Clean View / MPEG Noise Filter / HDMI Black Level / Film Mode / Dynamic Backlight
	Text	Colour Tone / HDMI Black Level / Dynamic Backlight
Calibration		HDMI Black Level / Dynamic Backlight
BD Wise		Colour Tone / Digital Clean View / MPEG Noise Filter / HDMI Black Level / Film Mode / Dynamic Backlight

Picture Options

Colour Tone	Off
Digital Clean View	Off
MPEG Noise Filter	Off
HDMI Black Level	Low
Film Mode	Off
Dynamic Backlight	Off

— The displayed image may differ depending on the model.

Colour Tone

If **Picture Mode** is set to **Text**

- **Off / Cool / Standard / Warm**

If **Picture Mode** is set to **Videos/Images** or **BD Wise**

- **Off / Cool / Standard / Warm1 / Warm2**

— If **Picture Mode** is set to **Calibration**, **Colour Tone** is disabled.

— Settings can be adjusted and stored for each external device connected to an input on the product.

Digital Clean View

If the broadcast signal received by your product is weak, you can activate the **Digital Clean View** feature to reduce any static and ghosting that may appear on the screen.

- **Off / Low / Medium / High / Auto / Auto Visualisation**

— **Auto Visualisation**: When changing analogue channels, displays signal strength.

— Received signal intensity is the strongest when the bar is green.

— When the signal is weak, try all the options until the the product displays the best picture.

MPEG Noise Filter

Reduces MPEG noise to provide improved picture quality.

- **Off / Low / Medium / High / Auto**

Picture Options

Colour Tone	Off
Digital Clean View	Off
MPEG Noise Filter	Off
HDMI Black Level	Low
Film Mode	Off
Dynamic Backlight	Off

— The displayed image may differ depending on the model.

HDMI Black Level

Selects the black level on the screen to adjust the screen depth.

- **Auto** / **Low** / **Normal**

— Available only in **HDMI** mode (AV Timing : 480p, 576p, 720p, 1080i, 1080p).

Film Mode

This mode is suitable to view movies.

Sets the product to automatically sense and process film signals from all sources and adjust the picture for optimum quality.

- **Off** / **Auto1** / **Auto2**

— Available in **TV**, **AV**, **HDMI** (1080i).

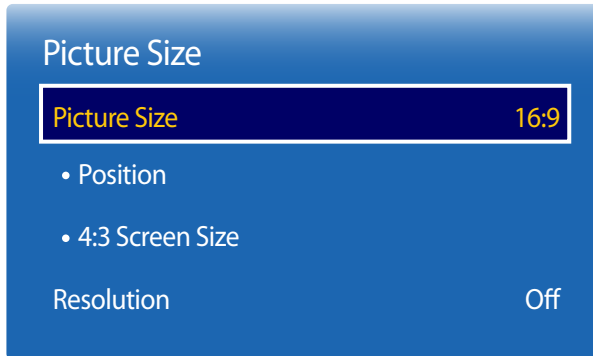
Dynamic Backlight

Automatically adjust the backlight to provide the best possible screen contrast under the current conditions.

- **Off** / **On**

Picture Size

MENU  → **Picture** → **Picture Size** → ENTER 



— The displayed image may differ depending on the model.

Choose size and aspect ratio picture displayed on screen.

Picture Size

— Different screen adjustment options are displayed depending on the current input source.

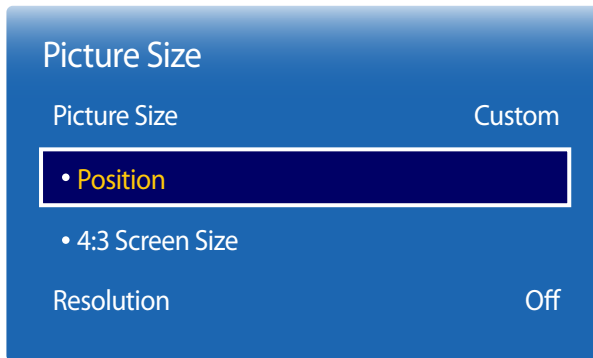
- **Auto Wide:** Automatically adjusts the picture size to the 16:9 aspect ratios.
- **16:9:** Sets the picture to **16:9** wide mode.
- **Zoom1:** Use for moderate magnification. Cuts off the top and sides.
- **Zoom2:** Use for a stronger magnification.
- **Smart View 1:** Reduces the **16:9** picture by 50%.
- **Smart View 2:** Reduces the **16:9** picture by 25%.
- **Wide Fit:** Enlarges the aspect ratio of the picture to fit the entire screen.
- **4:3:** Sets the picture to basic (**4:3**) mode.

— Do not set your product to **4:3** format for a long time.

The borders displayed on the left and right, or top and bottom of the screen may cause image retention (screen burn) which is not covered by the warranty.

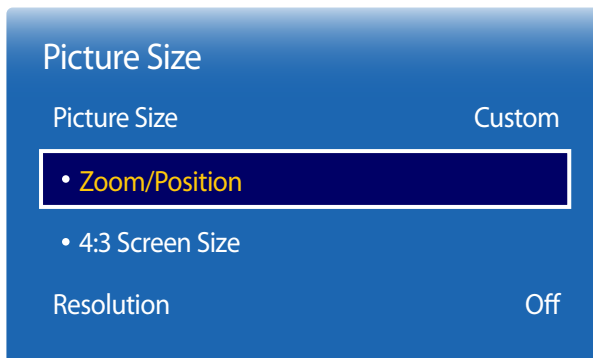
- **Screen Fit:** Displays the full image without any cut-off when **HDMI** (720p / 1080i / 1080p) signals are inputted.
- **Custom:** Changes the resolution to suit the user's preferences.
- **Original ratio:** If the input source is **PC, HDMI** (PC connection), the video will display in the original aspect ratio.

Position



— The displayed image may differ depending on the model.



Zoom/Position



— The displayed image may differ depending on the model.




Adjusts the picture position. **Position** is only available if **Picture Size** is set to **Zoom1**, **Zoom2**, **Wide Fit**, **Screen Fit** or **Custom**.

— To use the **Position** function after selecting **Zoom1**, **Zoom2**, **Wide Fit**, **Screen Fit** or **Custom**, follow these steps.

- 1 Press the ▼ button to select **Position**. Press the  button.
- 2 Press the ▲ or ▼ button to move the picture up or down.
- 3 Press the  button.

Adjusts the picture zoom and position. This option is available when the input source is set to **HDMI** (1080i/1080p), **AV**.

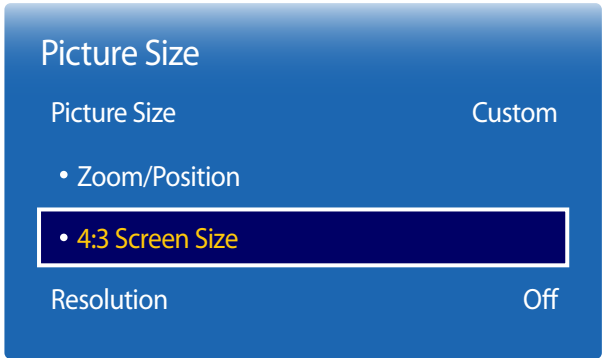
Picture Size must be set to **Custom** for the option to be available.

- 1 Press the ▼ button to select **Zoom/Position**. Press the  button.
- 2 Select the **Zoom** or **Position**. Press the  button.
- 3 Press the ▲/▼/◀/▶ button to move the picture.
- 4 Press the  button.

— If you want to reset the picture to its original position, select **Reset** in the **Zoom/Position** screen.

— The picture will be set to its default position.

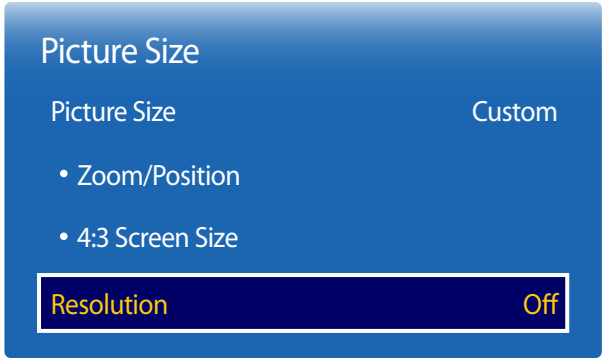
4:3 Screen Size



– The displayed image may differ depending on the model.

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.

Resolution



– The displayed image may differ depending on the model.

If the picture is not normal even when the resolution of the graphics card is one of the following, you can optimize the picture quality by selecting the same resolution for the product as the PC using this menu.

Available resolutions: **Off** / **1024x768** / **1280x768** / **1360x768** / **1366x768**

Auto Adjustment

Adjust frequency values/positions and fine tune the settings automatically.

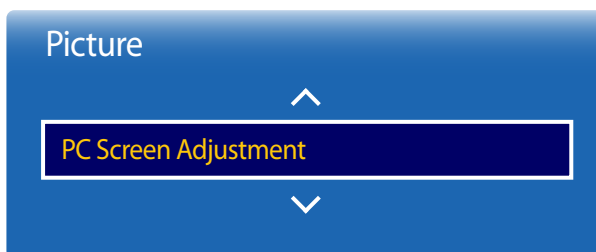
MENU  → **Picture** → **Auto Adjustment** → ENTER 



- Available in **PC** mode only.
- The displayed image may differ depending on the model.

PC Screen Adjustment

MENU  → **Picture** → **PC Screen Adjustment** → ENTER 



- Available in **PC** mode only.
- The displayed image may differ depending on the model.

- **Coarse / Fine**
Removes or reduces picture noise.
If the noise is not removed by Fine-tuning alone, use the **Coarse** function to adjust the frequency as best as possible (**Coarse**) and Fine-tune again. After the noise has been reduced, re-adjust the picture so that it is aligned with the centre of screen.
- **Position**
To adjust the PC's screen position if it is not centred or does not fit the product screen.
Press the ▲ or ▼ button to adjust the Vertical Position. Press the ◀ or ▶ button to adjust the Horizontal Position.
- **Image Reset**
Resets the image to the default settings.

Picture Off

MENU  → **Picture** → **Picture Off** → ENTER 

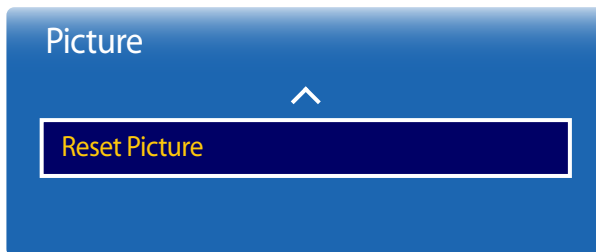


– The displayed image may differ depending on the model.

Selecting **Picture Off** switches off the screen. The volume is not disabled.
To switch the screen on, press any button other than the volume button.

Reset Picture

MENU  → **Picture** → **Reset Picture** → ENTER 



– The displayed image may differ depending on the model.

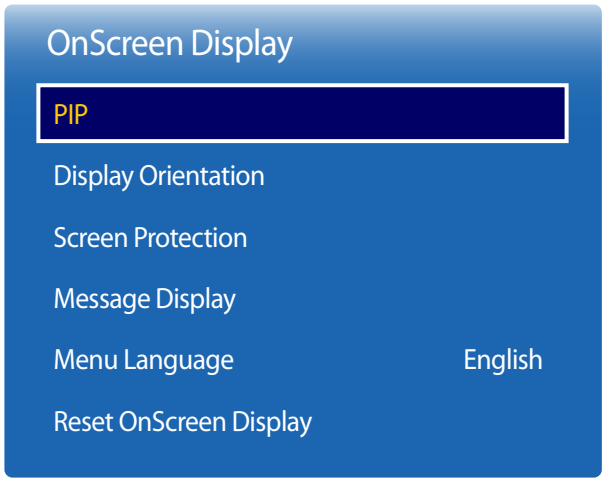
Resets your current picture mode to its default settings.

Chapter 06

OnScreen Display

PIP

MENU  → OnScreen Display → PIP → ENTER 



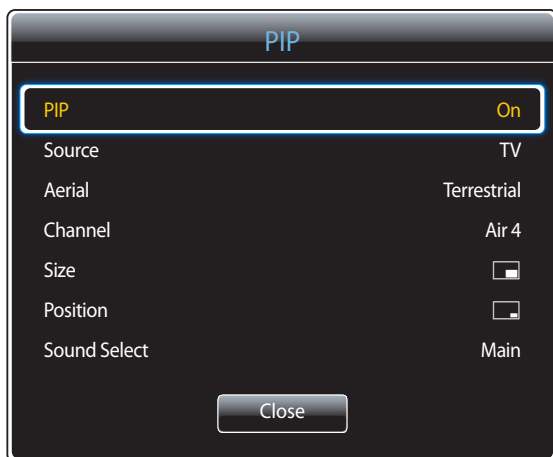
- The displayed image may differ depending on the model.
- For **PIP** sound, refer to the **Sound Select** instructions.
- If you turn the product off while watching in the **PIP** mode, **PIP** mode will remain after power Off/On.
- You may notice that the picture in the PIP screen becomes slightly unnatural when you use the main screen to view a game or karaoke.

PIP Settings

The picture from the external video source will be in the main screen and the picture from the product will be in the PIP sub-picture screen.

Main picture	Sub picture
PC	AV / TV / HDMI
AV	PC / HDMI
TV	PC / HDMI
HDMI	AV / TV / PC

— If **Source Content Orientation** is set to **Portrait**, **PIP** is disabled.



- **PIP (Off / On):** Activate or deactivate the PIP function.
- **Source:** You can select a source of the sub picture.
- **Aerial (Terrestrial / Cable):** Select either **Terrestrial** or **Cable** as the input source for the sub-screen.
— This option is enabled if the secondary display is set to **TV**.
- **Channel:** Select the channel for the sub-screen.
— This option is enabled if the secondary display is set to **TV**.
- **Size** ([icon] [icon] [icon] [icon] [icon] [icon]): Select a size for the subpicture.
- **Position** ([icon] [icon] [icon] [icon] [icon]): Select a position for the sub-picture.
— In double ([icon] [icon] [icon] [icon]) mode, you cannot select **Position**.
- **Sound Select (Main / Sub):** You can choose to listen to the sound from the **Main** picture or the **Sub** picture.

— The displayed image may differ depending on the model.

Display Orientation

MENU  → OnScreen Display → Display Orientation → ENTER 



— The displayed image may differ depending on the model.

Onscreen Menu Orientation

Set the menu screen orientation.

- **Landscape**: Display the menu in landscape mode (default).
- **Portrait**: Display the menu in portrait mode on the right side of the product screen.

Source Content Orientation

Set the orientation of content from external devices connected to the product.

- **Landscape**: Display the screen in landscape mode (default).
- **Portrait**: Display the screen in portrait mode.

— If **PIP** is set to **On**, **Source Content Orientation** is disabled.

Aspect Ratio



Set the rotated screen to be either full screen or original.

- **Full Screen**: Display the rotated screen in full screen.
- **Original**: Display the rotated screen in the original aspect ratio.

— Available only when **Source Content Orientation** is set to **Portrait**.

— If **PIP** is set to **On**, **Aspect Ratio** is disabled.

Screen Protection

MENU  → OnScreen Display → Screen Protection → ENTER 



— The displayed image may differ depending on the model.

Auto Protection Time

If the screen displays a still image for a certain period of time you define, the product activates the screen saver to prevent the formation of burnt in ghost images on the screen.

- Off / 2 hours / 4 hours / 8 hours / 10 hours

Screen Burn Protection

To reduce the possibility of screen burn, this unit is equipped with **Screen Burn Protection** screen burn prevention technology.

Screen Burn Protection moves the picture slightly on the screen.

The **Screen Burn Protection Time** setting allows you to programme the time between movements of the picture in minutes.

Pixel Shift

Minimize image retention by finely moving pixels horizontally or vertically.

- **Pixel Shift (Off / On)**
 - **Horizontal**, **Vertical** and **Time** are enabled only when **Pixel Shift** is set to **On**.
- **Horizontal**: Sets how many pixels the screen moves horizontally.
- **Vertical**: Sets how many pixels the screen moves vertically.
- **Time**: Set the time interval for performing the horizontal or vertical movement, respectively.

Available Pixel Shift Settings and Optimum Settings.

	Available Settings	Optimum Settings
Horizontal (pixels)	0 ~ 4	4
Vertical (pixels)	0 ~ 4	4
Time (minute)	1 min ~ 4 min	4 min

— The **Pixel Shift** value may differ depending on the product size (inches) and mode.

— Displaying a still image or a **4:3** output for an extended period of time may cause image retention. This is not a defect in the product.

— If **Picture Size** is set to **Screen Fit**, **Pixel Shift** is disabled.

Screen Burn Protection

Pixel Shift

Timer

Immediate display Off

Side Grey Off

— The displayed image may differ depending on the model.

Timer

You can set the timer for **Screen Burn Protection**.

The **Screen Burn Protection** feature stops automatically after a specified period of time.

Timer

Off

Repeat: Display the image retention-preventive pattern set in **Mode** at specified time intervals(Period).

Interval: Display the image retention-preventive pattern set in **Mode** for a specified period of time (from **Start Time** to **End Time**).

— **Mode, Period, Time, Start Time** and **End Time** are enabled only when **Timer** is set to **Repeat** or **Interval**.

- **Mode:** Select a screen protective pattern to display.
 - **Pixel:** Pixels on the screen alternate black continuously.
 - **Rolling bar:** A vertical bar moves left to right.
 - **Fading screen:** The entire screen becomes brighter, then darker.

— The **Rolling bar** and **Fading screen** patterns appear only once regardless of the specified repeat period or time.

- **Period:** Specify the time interval to activate the **Screen Burn Protection** function.

— The option is enabled when **Repeat** is selected for **Timer**.

- **Time:** Specify the duration to keep the **Screen Burn Protection** function on.

— Enabled when **Timer** is set to **Repeat** and **Mode** is set to **Pixel**.

- **Start Time:** Set the start time to activate the screen protection function.

— The option is enabled when **Interval** is selected for **Timer**.

- **End Time:** Set the end time to deactivate the screen protection function.

— The option is enabled when **Interval** is selected for **Timer**.

Screen Burn Protection

Pixel Shift

Timer

Immediate display Off

Side Grey Off

Immediate display

Select the screen saver you want to display immediately.

- Off / Pixel / Rolling bar / Fading screen

Side Grey

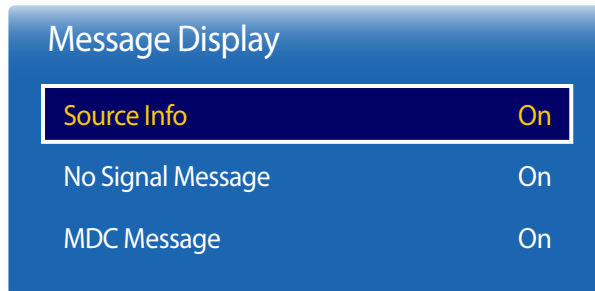
When the screen is set to 4:3 aspect ratio, adjust the brightness of white margins on sides to protect the screen.

- Off / Light / Dark

— The displayed image may differ depending on the model.

Message Display

MENU  → OnScreen Display → Message Display → ENTER 



— The displayed image may differ depending on the model.

Source Info

Select whether to display the source OSD when the input source changes.

- Off / On

No Signal Message

Select whether to display the no-signal OSD when no signal is detected.



- Off / On

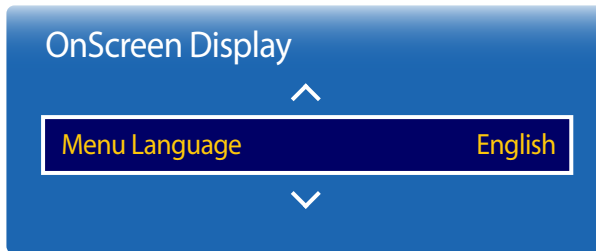
MDC Message

Select whether to display the MDC OSD when the product is controlled by the MDC.

- Off / On

Menu Language

MENU  → OnScreen Display → Menu Language → ENTER 



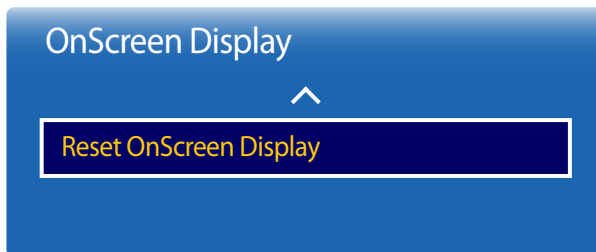
— The displayed image may differ depending on the model.

Set the menu language.

— A change to the language setting will only be applied to the onscreen menu display. It will not be applied to other functions on your PC.

Reset OnScreen Display

MENU  → OnScreen Display → Reset OnScreen Display → ENTER 



— The displayed image may differ depending on the model.

This option returns the current settings under **OnScreen Display** to the default factory settings.

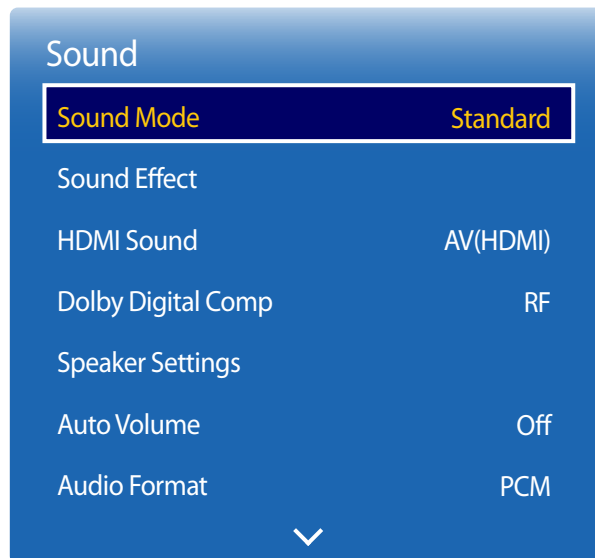
Chapter 07

Sound Adjustment

Configure the sound (**Sound**) settings for the product.

Sound Mode

MENU  → **Sound** → **Sound Mode** → ENTER 



You can select a sound mode to suit your personal preferences.

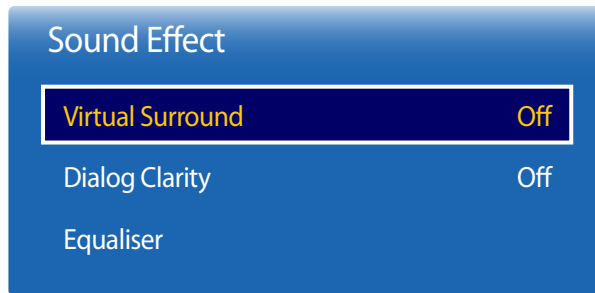
- **Standard**: Selects the normal sound mode.
- **Music**: Emphasizes music over voices.
- **Movie**: Provides the best sound for movies.
- **Clear Voice**: Emphasizes voices over other sounds.
- **Amplify**: Increase the intensity of high-frequency sound to allow a better listening experience for the hearing impaired.

— If **Speaker Settings** is set to **External**, **Sound Mode** is disabled.

— The displayed image may differ depending on the model.

Sound Effect

MENU  → **Sound** → **Sound Effect** → ENTER 



– The displayed image may differ depending on the model.

Configure your preferred sound effect for output sound.

— If **Speaker Settings** is set to **External**, **Sound Effect** is disabled.

— Available only when **Sound Mode** is set to **Standard**.

Virtual Surround

This function provides a virtual 5.1 channel surround sound experience through a pair of speakers using HRTF(Head Related Transfer Function) technology.

- **Off / On**

Dialog Clarity

This function allows you to increase the intensity of a voice over background music or sound effects so that dialog can be heard more clearly.

- **Off / On**

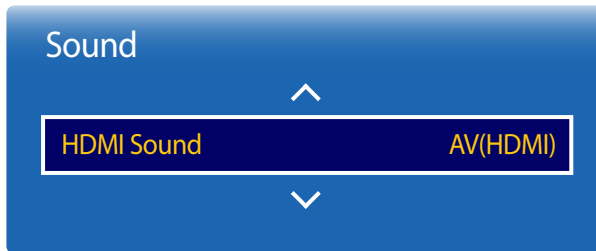
Equaliser

Use **Equaliser** to customize sound setting for each speaker.

- **Balance L/R**: Adjusts the balance between the right and left speaker.
- **100Hz / 300Hz / 1kHz / 3kHz / 10kHz** (Bandwidth Adjustment): Adjusts the level of specific bandwidth frequencies.
- **Reset**: Resets the equalizer to its default settings.

HDMI Sound

MENU  → Sound → HDMI Sound → ENTER 



– The displayed image may differ depending on the model.

Select whether to hear from **AV(HDMI)** or **PC(DVI)**.

- **AV(HDMI) / PC(DVI)**

Dolby Digital Comp

MENU  → Sound → Dolby Digital Comp → ENTER 



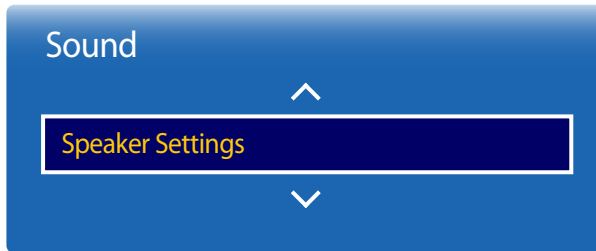
– The displayed image may differ depending on the model.

Set Dolby Digital Compression mode.

- **Line / RF**

Speaker Settings

MENU  → Sound → Speaker Settings → ENTER 



– The displayed image may differ depending on the model.

Sound Output

If you are listening to the sound track of a broadcast or movie through an external receiver, you may hear a sound echo caused by the difference in decoding speed between the products speakers and the speakers attached to your audio receiver. If this occurs, set the product to **External**.

- **External / Internal / Receiver / TV SoundConnect**

— When you set **Speaker Settings** to **External**, the products speakers are turned off.

You will hear sound through the external speakers only. When the **Speaker Settings** is set to **Internal**, both the product speakers and the external speakers are on. You will hear sound through both.

— If there is no video signal, both the products speakers and the external speakers will be mute.

TV SoundConnect

You can connect Samsung Bluetooth audio devices to the **SMART Signage TV**. They must be paired using the **SMART Signage TV**'s Bluetooth function. For more information on pairing, refer to the Samsung Bluetooth audio device's operating manual.

Samsung Audio Device List

Displays a list of paired Samsung audio devices. Select a device to display its menu options. You can activate/deactivate the audio device or remove it from the list.

Add New Device

Adds a new device to the list of paired devices. If **Add New Device** is set to **Off**, the connection signals from new devices are ignored.

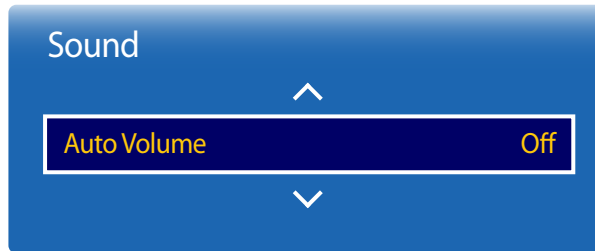
- **On / Off**

— Bluetooth is a short-distance wireless communication protocol allowing information exchange between connected mobile phones, laptops, earphones and headphones with Bluetooth compatible devices.

— **TV SoundConnect** and Bluetooth headphones can't be used simultaneously.

Auto Volume

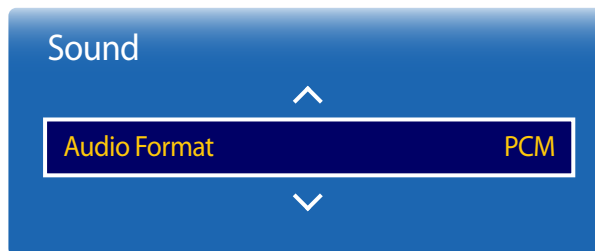
MENU  → Sound → Auto Volume → ENTER 



— The displayed image may differ depending on the model.

Audio Format

MENU  → Sound → Audio Format → ENTER 



— The displayed image may differ depending on the model.

The volume can vary depending on the channel.

Automatically equalize the volume level when switching to another channel.

- **Off / Normal / Night**

Normal equalizes the volume level on each channel, so that when you change channels, the volume level is the same.

Night equalizes and decrease the volume level on each channel, so each channel is quieter. **Night** is useful at night, when you may want to keep the volume low.

— To use the volume control of a connected source device, set **Auto Volume** to **Off**. A change to the volume control of the connected source device may not be applied if **Auto Volume** is set to **Normal** or **Night**.

— If **Speaker Settings** is set to **External**, **Auto Volume** is disabled.

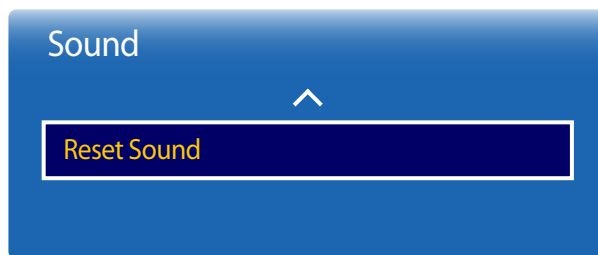
Selects the digital audio output (S/PDIF) format. The available formats are dependent on the input source.

- **PCM / Dolby Digital / DTS Neo 2:5**

Reset Sound

The displayed image may differ depending on the model. Reset all sound settings to the factory defaults.

MENU  → **Sound** → **Reset Sound** → ENTER 



– The displayed image may differ depending on the model.

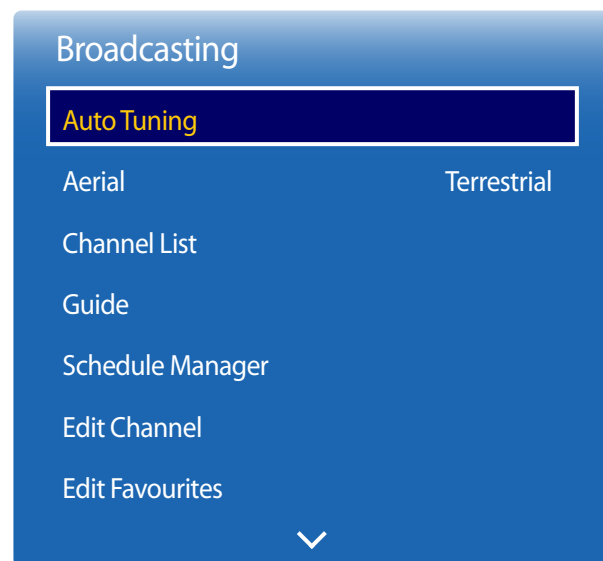
Chapter 08

Broadcasting

Configure the **Broadcasting** settings for the product.
Available in **TV** mode only.

Auto Tuning

MENU  → **Broadcasting** → **Auto Tuning** → ENTER 








- The displayed image may differ depending on the model.
- Available in **TV** mode only.

The **Auto Tuning** function memorizes all channels that are available over the aerial or through your cable system and adds them to the **Channel List**.

To start **Auto Tuning**, follow these steps:

Auto Tuning

To start **Auto Tuning**, follow these steps:

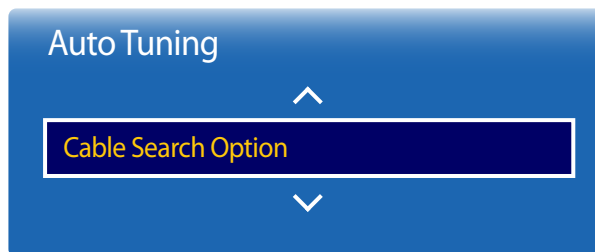
- 1 Push MENU  → **Broadcasting** → **Auto Tuning** → **Auto Tuning** → ENTER  on your remote. The **Auto Tuning** screen appears.
- 2 On the **Auto Tuning** screen, select the source of your product signal.
 - **Terrestrial**: If your product is connected to an antenna choose **Terrestrial**, and then press ENTER . The product will automatically start memorizing channels.
 - **Cable**: If your product is connected to a cable outlet, choose **Cable**, and then press ENTER . Go to Step 3.
 - Select **Digital & Analogue**, **Digital** or **Analogue** to scan for channels.
- 3 Sets Search Mode using ▲ / ▼ buttons. When done, select **Scan**, and then press ENTER . The product will start memorizing channels.
 - Channel memorization can take up to 45 minutes, depending on your cable system.
 - Memorized channels are added to the **Added Ch.** list. These are the channels you will see when you use the channel buttons on your remote.

Cancelling Auto Tuning

- 1 Press the **Stop** button.
- 2 A **Stop Auto Tuning?** message appears.
- 3 Press the **Yes** button.

Cable Search Option

MENU  → **Broadcasting** → **Auto Tuning** → **Cable Search Option** →
ENTER 



(when the aerial was set to **Cable**)

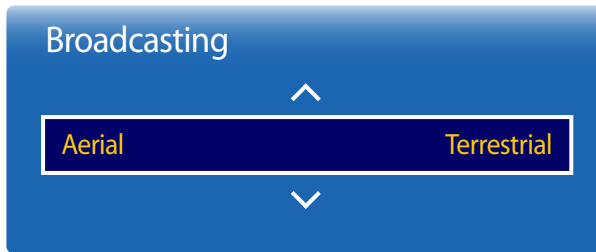
Sets additional search options such as the frequency and symbol rate for a cable network search.

— Availability depends on the specific model and area.

- The displayed image may differ depending on the model.
- Available in **TV** mode only.

Aerial

MENU  → **Broadcasting** → **Aerial** → ENTER 



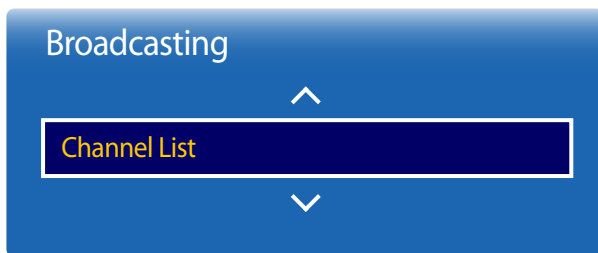
- The displayed image may differ depending on the model.
- Available in **TV** mode only.

Before your television can begin memorizing the available channels, you must specify the type of signal source that is connected to the LED display.

- **Terrestrial / Cable**

Channel List

MENU  → Broadcasting → Channel List → ENTER 



– The displayed image may differ depending on the model.

– Available in **TV** mode only.

Register or delete channels. Add favourite channels or rename analogue channels.

Select a desired channel from **Channel List** to view the channel instantly.

— To navigate **Channel List** faster, press the channel buttons. The channel list changes page by page.

Added Ch.

Shows all added channels.

Favourites 1 ~ Favourites 5



Shows all favourite channels, in up to five groups. Each group has a separate screen.

— The TV displays favourite groups only if you have added favourites using **Edit Favourites**.

Options

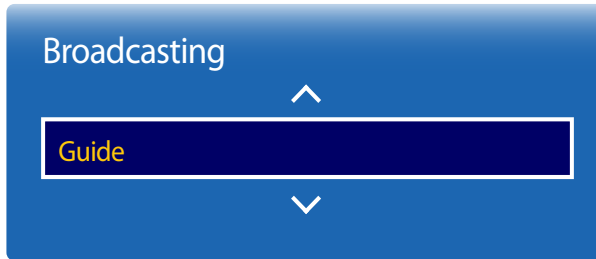
- **Aerial**
Select either **Terrestrial** or **Cable** as digital channel mode.
- **Category**
Channels saved on your TV are classified under the **All** and **Added Ch.** categories. Select a desired category.
- **Sorting**
Sort the list by Channel **Number** or by **Name** (Digital channels only).
- **Edit Favourites**
Edit favourite channel lists from **Edit Channel**.

Icons found in the channel list page

- : Analogue channel
- : A channel that is selected

Guide

MENU  → **Broadcasting** → **Guide** → ENTER 



- The displayed image may differ depending on the model.
- Available in **TV** mode only.

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

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

You can press the colour keys on the remote to access optional functions.

Quick Navigation

Search channel information quickly.

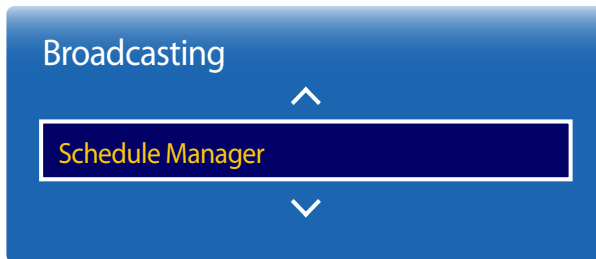
Schedule Manager

Access the **Schedule Manager** function.

You can view information on the **Schedule Manager**.

Schedule Manager

MENU  → **Broadcasting** → **Schedule Manager** → ENTER 



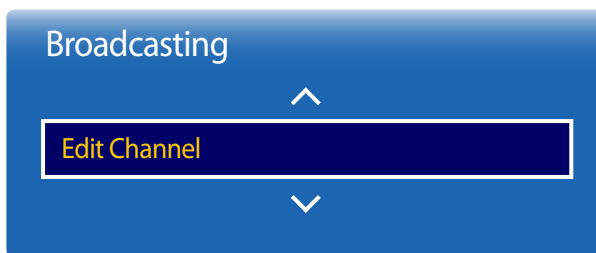
- The displayed image may differ depending on the model.
- Available in **TV** mode only.

Watch a desired channel at a scheduled time.

- **Aerial:** Select either **Terrestrial** or **Cable** as digital channel mode.
- **Channel:** Select the desired channel.
- **Repeat:** **Once** / **Manual** / **Sat~Sun** / **Mon~Fri** / **Everyday**
— Select **Manual** if you want to configure settings by day of the week.
- **Date:** Select the desired date.
- **Start Time:** Set the time to watch the desired channel.

Edit Channel

MENU  → Broadcasting → Edit Channel → ENTER 





– The displayed image may differ depending on the model.

– Available in **TV** mode only.

Manage channels saved on your TV. Delete channels, re-register deleted channels or rename analogue channels.


Icons found in the edit channel page

- : Analogue channel
- : A channel that is selected

Deleting/registering channels

Deleting channels


- 1 Select channels to delete from the screen. To cancel, select again. To select all channels, select **Options** from the screen and then select **Select All** from the sub-menu items.

— Alternatively, press and hold the  button on the remote control for about three seconds to run **Select All / Deselect All**.
- 2 After selecting channels, select **Delete** from the screen to delete the channels.

Re-registering deleted channels

Register deleted channels again, if required. Deleted channels are grayed out and can only be found in the list of all channels. The register function is enabled for deleted channels only.

- 1 Select **Options** from the screen. Sub-menu items are displayed. Select **Category** from the sub-menu items and then select **All**.
- 2 From the list of all channels, select deleted channels you want to register again. To cancel, select again. To select all channels, select **Options** from the screen and then select **Select All** from the sub-menu items.

— Alternatively, press and hold the  button on the remote control for about three seconds to run **Select All / Deselect All**.
- 3 After selecting channels, select **Add** from the screen to re-register the channels.

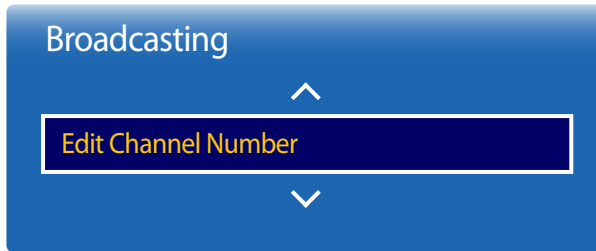
Editing registered channels

Select **Options** from the edit channel page. The following functions are provided in the page.
Provided functions may vary depending on the broadcast signal.

Option Name	Operations
Select All	Select all channels in the Edit Channel page.
Deselect All	Deselect all channels.
Aerial	Select either Terrestrial or Cable as digital channel mode.
Category	Channels saved on your TV are classified under the All and Added Ch. categories. Select a desired category.
Edit Favourites	Set frequently viewed channels as favourite channels.
Rename channel	Change the names of analogue channels to suit your preferences. A channel name can be up to five characters long.
Information	View information about the current broadcast programme on the aerial.

Edit Channel Number

MENU  → **Broadcasting** → **Edit Channel Number** → ENTER 



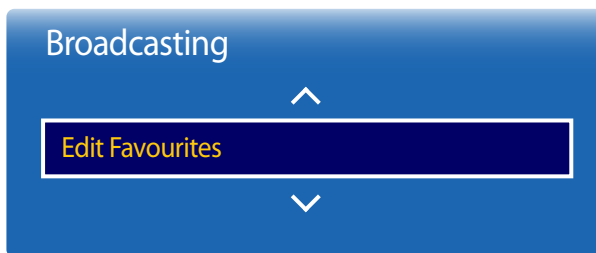
You can change the channel numbers. Set **Edit Channel Number** to **Enable**.

- This function is only available on certain models in specific geographical areas.
- When a channel number is changed, its channel information is not updated automatically.

-
- The displayed image may differ depending on the model.
 - Available in **TV** mode only.

Edit Favourites

MENU  → **Broadcasting** → **Edit Favourites** → ENTER 



– The displayed image may differ depending on the model.

– Available in **TV** mode only.

Creating a favourite channel list

Set frequently viewed channels as favourite channels. Favourite channels are indicated by a symbol in the **Edit Channel** or **Channel List** page. A maximum of five favourite channel lists are allowed. Create different favourites channel lists for each family member.

Adding the current channel to a favourite channel list

Add the channel you are currently watching to a favourite channel list.

- 1 Press the **TOOLS** button while watching TV. Sub-menu items are displayed. Select **Edit Favourites** from the sub-menu items.
- 2 From the displayed prompt box, select a favourite channel list to save the current channel to. Select **OK**.
- 3 The current channel is added in the selected favourite channel list. Select **OK**.

Adding multiple channels to a favourite channel list

Add multiple channels to a favourite channel list, if required.

- 1 Select **Edit Favourites** from **Channel List**.
- 2 Select desired channels from the channel list in the centre of the screen.
- 3 Select **Change Fav.** from the screen to change the favourite channel list on the right to another desired favourite channel list.
- 4 Select **Add** from the screen. The selected channels will create a favourite channel list.

Viewing channels saved under a favourite channel list

— Favourite channel lists are only displayed if they have been created previously.

When changing the channel using the channel buttons, channels saved in favourite channel lists can only be accessed.

- 1 Select **Channel List** from the **Broadcasting** menu. The channel list is displayed.
- 2 Select a favourite channel list among **Favourites 1 – Favourites 5**.
- 3 Select channels from the selected favourite channel list.

— Selecting **Channel List** while watching a favourites channel will display the updated favourites channel list.

Editing favourites channel lists

Select **Options** from the edit favourites channel list page. The following sub-menu items are displayed.

Option Name	Operations
-------------	------------

Copy to favourites	Copy channels from a favourite channel list to another favourite channel list. — This option is only available when channels under a favourite channel list are selected.
---------------------------	--

Rename Favourites	Change the name of a favourite channel list. — This option is only available when channels under a favourite channel list are selected.
--------------------------	--

Aerial	Select either the Terrestrial or Cable signal.
---------------	--

Edit Channel	Manage saved channels.
---------------------	------------------------

Information	View information about the current broadcast programme on the aerial.
--------------------	---


Deleting channels from a favourites channel list

Delete channels from a favourite channel list, if required.

- 1 Select **Change Fav.** from the screen to change the favourite channel list on the right to another desired favourite channel list.
- 2 Select channels to delete from the selected favourite channel list.
- 3 Select **Delete** from the screen. The selected channels are deleted from the favourite channel list.

Changing the order of channels in a favourites channel list

Change the order of channels saved in a favourites channel list, if required.

- 1 Select **Change Fav.** from the screen to change the favourite channel list on the right to another desired favourite channel list.
- 2 Select channels to rearrange from the selected favourite channel list.
- 3 Select **Change order** from the screen, and then change the order of the selected channels. To apply the new order of the channels, press the  button.

Renaming a favourite channel list

Change the name of a favourite channel list, if required.

- 1 Select **Change Fav.** from the screen to change the favourites channel list on the right to another desired favourite channel list.
- 2 Select **Options** from the screen. Sub-menu items are displayed.
- 3 Select **Rename Favourites** from the sub-menu items. A prompt box appears.
- 4 Change the favourites channel list using the prompt box. The name for a favourite channel list can be up to 20 characters long.



Copying channels between favourites channel lists

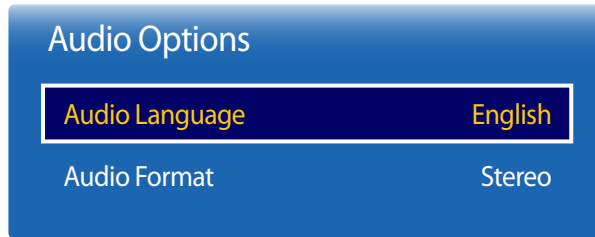
Copy channels from a favourite channel list to another favourite channel list, if required.

- 1 Select **Change Fav.** from the screen to change the favourite channel list on the right to another desired favourite channel list.
- 2 Select channels to copy from the favourite channel list on the right.
- 3 Select **Options** from the screen. Sub-menu items are displayed.
- 4 Select **Copy to favourites** from the sub-menu items. A prompt box appears.
- 5 Select favourite channel lists to copy the channels to using the prompt box. The channels are saved to the selected favourite channel lists.

— To use **Copy to favourites**, make sure channels are saved in a favourite channel list.

Audio Options

MENU  → **Broadcasting** → **Audio Options** → ENTER 



- The displayed image may differ depending on the model.
- Available in **TV** mode only.

Audio Language

(for digital broadcasts)

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.

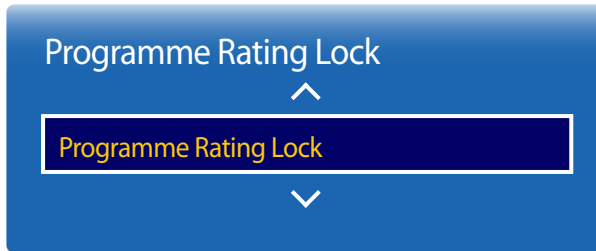
Audio Format

(for digital broadcasts)

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

Programme Rating Lock

MENU  → **Broadcasting** → **Programme Rating Lock** → ENTER 





- The displayed image may differ depending on the model.
- Available in **TV**, **AV** mode only.

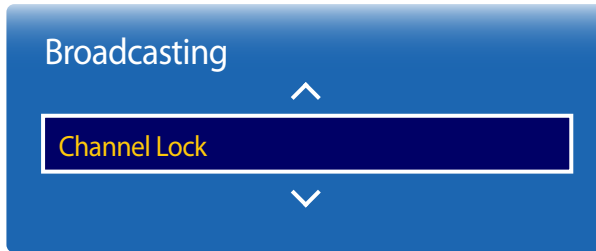
The **Programme Rating Lock** blocks programmes with ratings higher than those desired. This is useful for controlling what children watch on TV. This will not function for programmes originating from external sources, such as DVD players or USB files.

This PIN is required to watch a blocked programme.

- This option is available when the input source is **TV**.
- The default PIN number for a new product set is "0-0-0-0".
- Availability depends on the specific model and area.

Channel Lock

MENU  → **Broadcasting** → **Channel Lock** → ENTER 



- The displayed image may differ depending on the model.
- Available in **TV** mode only.

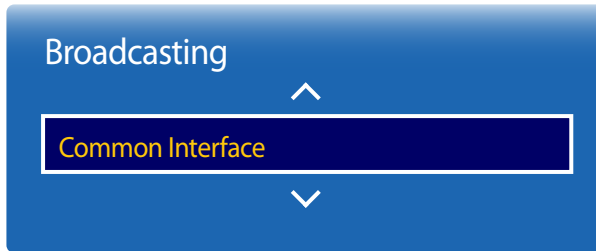
Prevent your children from accessing harmful content by locking channels.

- **On / Off**

- This option is available when the input source is **TV**.
- The default PIN number for a new product set is "0-0-0-0".
- Availability depends on the specific model and area.

Common Interface

MENU  → **Broadcasting** → **Common Interface** → ENTER 



- The displayed image may differ depending on the model.
- Available in **TV** mode only.

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.

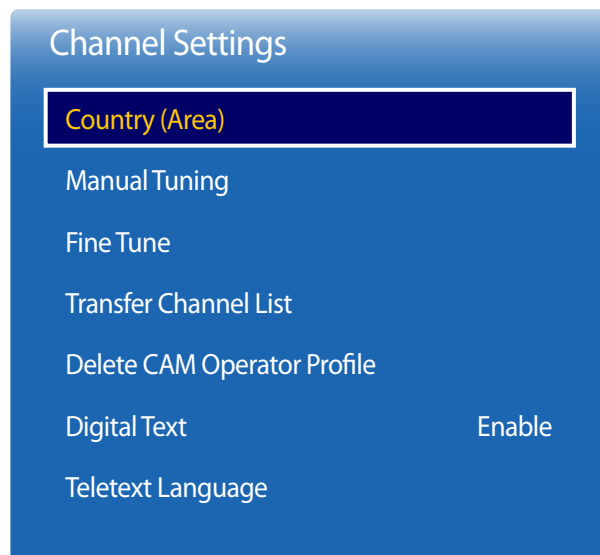
Application Info

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.

Channel Settings

MENU  → **Broadcasting** → **Channel Settings** → ENTER 



– The displayed image may differ depending on the model.

– Available in **TV** mode only.

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

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.

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**.

— **Channel**

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.

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

Fine Tune

(analogue channels only)

If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, fine tune the channel manually. Scroll to the left or right until the image is clear.

- Settings are applied to the channel you're currently watching.
- Fine tuned channels that have been saved are marked with an asterisk "*" on the right-hand side of the channel number in the channel banner.
- To reset the fine-tuning, select **Reset**.

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

Select the CAM operator to delete.

- Availability depends on the specific model and area.

Digital Text

Enable or disable the MHEG function.

— The MHEG function is enabled only in countries where it is supported.

- **Disable** / **Enable**

Teletext Language

Use this to set the teletext language.

— Availability depends on the specific model and area.

Primary Teletext

Set the primary teletext language.

Secondary Teletext

Set the secondary teletext language.

Chapter 09

Network

Network Status

MENU  → **Network** → **Network Status** → ENTER 

You can check the current network and Internet status.

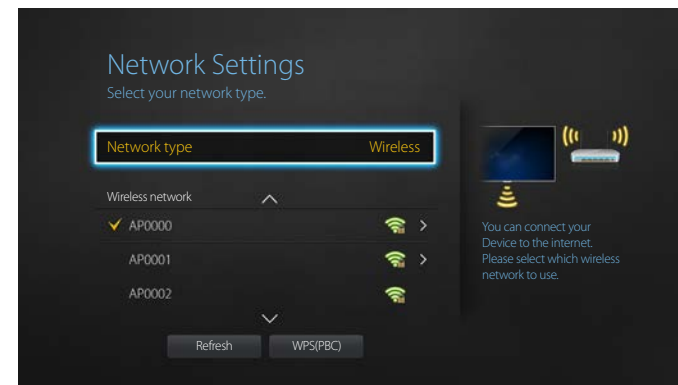


– The displayed image may differ depending on the model.

Network Settings

MENU  → **Network** → **Network Settings** → ENTER 

Connect to a wireless network and use the product as a TV+signage using **MagicInfo Express Content Creator** on your PC.



– The displayed image may differ depending on the model.

Network type

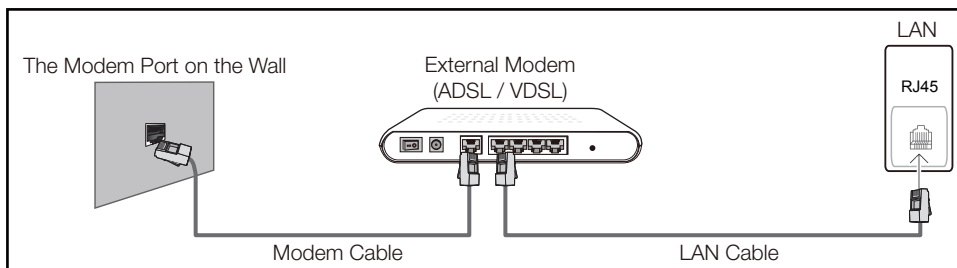
- **Wireless / Wired**

Network Settings (Wired)

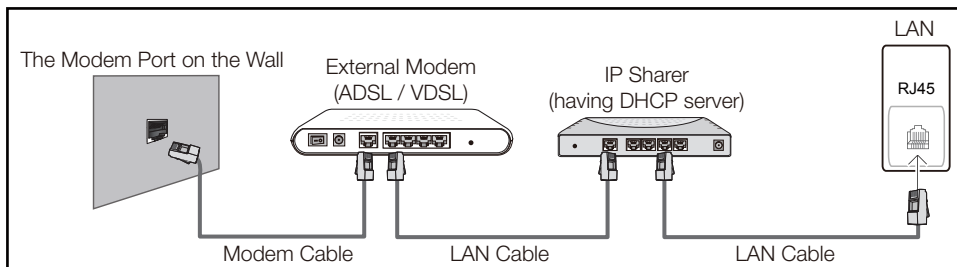
Connecting to a Wired Network

There are three ways to attach your product to your LAN using cable.

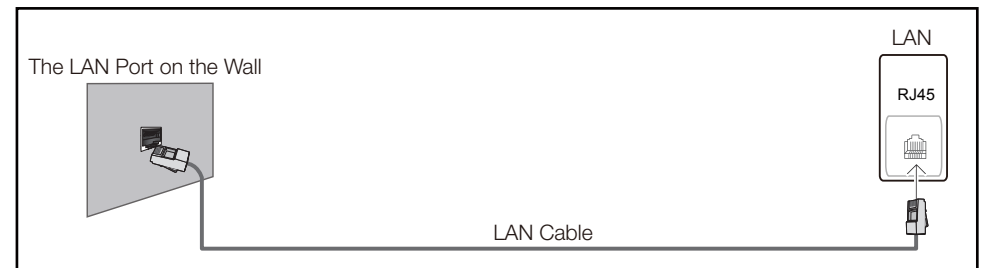
- You can attach your product to your LAN by connecting the LAN port on the back of your product to an external modem using a LAN cable. See the diagram below.



- You can attach your product to your LAN by connecting the LAN port on the back of your product to an IP Sharer which is connected to an external modem. Use LAN cable for the connection. See the diagram below.



- Depending on how your network is configured, you may be able to attach your product to your LAN by connecting the LAN port on the back of your product directly to a network wall outlet using a LAN cable. See the diagram below. Note that the wall outlet is attached to a modem or router elsewhere in your house.



If you have a Dynamic Network, you should 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 your product needs to access the Internet so you do not have to enter them manually. Most home networks are Dynamic Networks.

Some networks require a Static IP address. If your network requires a Static IP address, you must enter the IP address, subnet mask, gateway, and DNS values manually on your product Cable Setup Screen when you set up the network connection. To get the IP address, subnet mask, gateway, and DNS values, contact your Internet Service Provider (ISP).

If you have a Windows computer, you can also get these values through your computer.

- You can use ADSL modems that support DHCP if your network requires a Static IP address.
- ADSL modems that support DHCP also let you use Static IP addresses.

Set the network connection to use Internet services such as perform software upgrades.

Automatic Network Settings (Wired)

Connect to the network using a LAN cable.

Make sure a LAN cable is connected first.

How to set up automatically

- 1 Set **Network type** to **Wired** from the **Network Settings** page.
- 2 Press the **Connect** button to start **Network Settings**.
 - The **Connect** button is only enabled when the LAN cable is properly connected.
- 3 The network test screen appears and verifies the network connection.

When the connection has been verified, the “**Wired network and Internet connection completed.**” message appears.

 - If the connection process fails, check the LAN port connection.
 - If the automatic process cannot find the network connection values or if you want to set the connection manually, go to the next section, network setup.

Manual Network Settings (Wired)

Offices may use static IP addresses.

If this is the case, ask the network administrator for the IP address, subnet mask, gateway and DNS server address. Enter these values manually.



Getting the Network Connection Values

To view the Network connection values on most Windows computers, follow these steps.

- 1 Right click the Network icon on the bottom right of the screen.

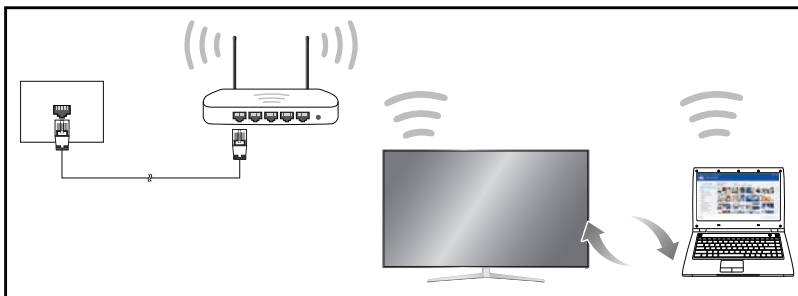
- 2 In the pop-up menu that appears, click Status.
- 3 On the dialog that appears, click the **Support** tab.
- 4 On the **Support** Tab, click the **Details** button. The Network connection values are displayed.

How to set up manually

- 1 Set **Network type** to **Wired** from the **Network Settings** page.
- 2 Press the **Connect** button to start **Network Settings**.
 - The **Connect** button is only enabled when the LAN cable is properly connected.
- 3 The network test screen appears and the verification process starts. Press **Stop**. The verification process stops.
- 4 Select **IP Settings** on network connection screen. The **IP Settings** screen appears.
- 5 Select the field at the top, press , and then set **IP Settings** to **Enter manually**. Repeat the entry process for each field in the **IP Address**.
 - Setting **IP Settings** to **Enter manually** automatically changes **DNS setting** to **Enter manually**.
- 6 When done, select **OK** at the bottom of the page, and then press . The network test screen appears and the verification process starts.
- 7 When the connection has been verified, the “**Wired network and Internet connection completed.**” message appears.

Network Setting (Wireless)

Connecting to a Wireless Network



Samsung recommends using IEEE 802.11n. When you play video over a network connection, the video may not play smoothly.


- Select a channel for the wireless IP sharer that is not currently being used. If the channel set for the wireless IP sharer is currently being used by another device nearby, this will result in interference and communication failure.
- Your product supports only the following wireless network security protocols.
If you select the Pure High-throughput (Greenfield) 802.11n mode and the Encryption type is set to WEP, TKIP or TKIP AES (WPS2Mixed) on your AP or wireless router, Samsung products will not support a connection in compliance with new Wi-Fi certification specifications.
- If your wireless router supports WPS (Wi-Fi Protected Setup), you can connect to the network via PBC (Push Button Configuration) or PIN (Personal Identification Number). WPS will automatically configure the SSID and WPA key in either mode.
- Connection Methods: You can setup the wireless network connection in three ways.
Auto Setup (Using the Auto Network Search function), Manual Setup, **WPS(PBC)**

Automatic Network Setup (Wireless)

Most wireless networks have an optional security system that requires devices that access the network to transmit an encrypted security code called an Access or **Security Key**. The **Security Key** is based on a Pass Phrase, typically a word or a series of letters and numbers of a specified length you were asked to enter when you set up security for your wireless network. If you use this method of setting up the network connection, and have a **Security Key** for your wireless network, you will have to enter the Pass Phrase during the the automatic or manual setup process.

How to set up automatically

- 1 Set **Network type** to **Wireless** from the **Network Settings** page.
- 2 The **Network** function searches for available wireless networks. When done, it displays a list of the available networks.
- 3 In the list of networks, press the ▲ or ▼ button to select a network, and then press the ↵ button twice.
 - If the desired wireless router does not appear, select **Refresh** to search again.
 - If the router cannot be found after retrying, select the **Stop** button.
The **Add Network** button appears.
- 4 If the **Enter password.** screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.
- 5 If the router has security, enter the **Enter password.** (Security key or PIN).

- When done, use the right arrow button to move the cursor to **Done**, and then press . The network connection screen appears and the verification process starts.

— A connection with the router is established, but the Internet cannot be accessed.

- When the connection has been verified, the “**Your wireless network and Internet connection are setup and ready to use.**” message appears.

Manual Network Setup (Wireless)

Offices may use static IP addresses.


If this is the case, ask the network administrator for the IP address, subnet mask, gateway and DNS server address. Enter these values manually.


Getting the Network Connection Values

To view the Network connection values on most Windows computers, follow these steps.

- Right click the Network icon on the bottom right of the screen.
- In the pop-up menu that appears, click Status.
- On the dialog that appears, click the **Support** tab.
- On the **Support** Tab, click the **Details** button. The Network connection values are displayed.

How to set up manually



- Set **Network type** to **Wireless** from the **Network Settings** page.
- The **Network** function searches for available wireless networks. When done, it displays a list of the available networks.
- In the list of networks, press the  or  button to select a network, and then press the  button twice.
 - If the desired wireless router does not appear, select **Refresh** to search again.
 - If the router cannot be found after retrying, select the **Stop** button. The **Add Network** button appears.
- If the **Enter password.** screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.
- If the router has security, enter the **Enter password.** (Security key or PIN).
- When done, use the right arrow button to move the cursor to **Done**, and then press . The network connection screen appears and the verification process starts.
- Select **Stop** while network connections are being attempted. This will stop the connection.
- Select **IP Settings** on network connection screen. The **IP Settings** screen appears.
- Select the field at the top, press , and then set **IP Settings** to **Enter manually**. Repeat the entry process for each field in the **IP Address**.
 - Setting **IP Settings** to **Enter manually** automatically changes **DNS setting** to **Enter manually**.

-
- 10 When done, select **OK** at the bottom of the page, and then press . The network test screen appears and the verification process starts.
 - 11 When the connection has been verified, the **"Your wireless network and Internet connection are setup and ready to use."** message appears.

WPS(PBC)

How to set up using WPS(PBC)

If your router has a **WPS(PBC)** button, follow these steps.

- 1 Set **Network type** to **Wireless** from the **Network Settings** page.
- 2 Select **WPS(PBC)**, press , and then press  again.
- 3 Press the **WPS(PBC)** button on your router within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.
- 4 The network connection screen appears, and network setup is done.

To use this function, your mobile device should be supported by the **Wi-Fi Direct**.

Wi-Fi Direct

MENU  → **Network** → **Wi-Fi Direct** → **ENTER** 

Set to connect the product to wireless mobile devices. Using this function, you can connect wireless mobile devices with your product directly without a router.

To connect your mobile device with your product using Wi-Fi Direct, follow these steps:

- 1 Go to **Wi-Fi Direct** screen. The product starts to search devices.
- 2 Turn on the **Wi-Fi Direct** function on your device. Select the desired Wi-Fi device.
 - **PBC** (Push Button Configuration): Press the **WPS(PBC)** button on your Wi-Fi device within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.
 - **PIN**: Input the displayed **PIN** on your device.

— If you want to disconnect the device, select the connected Wi-Fi device, and then select **Disconnected**.

Multimedia Device Settings

MENU  → **Network** → **Multimedia Device Settings** → **ENTER** 

Allow other devices such as smart phones and tablets on your network, to share content with your product.

Screen Mirroring

MENU  → **Network** → **Screen Mirroring** → **ENTER** 

Connect a mobile device that supports the mirroring function to the product. This allows the screen and sound from the mobile device to be outputted on the product. Mirroring refers to outputting the screen and sound from a mobile device on a display device.

- To use **Screen Mirroring**, make sure the mobile device supports the mirroring function such as AllShare Cast, WiDi (version 3.5 or higher) and Miracast. To check if the mirroring function is available, visit the mobile device manufacturer website.
- Screen or sound output may be choppy if there is network congestion.

Screen Mirroring

Run the mirroring function from the mobile device. The mobile device automatically searches and displays the product in a list.

- If the mobile device cannot connect to the product, turn them off and then on again, and try again.

Device Name

MENU  → **Network** → **Device Name** → **ENTER** 

Select or enter a device name.

This name can be shown on network remote controls over the network.

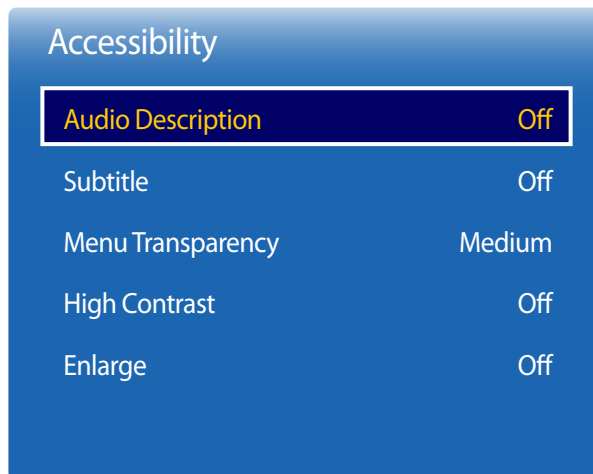
- **User Input / [Signage]Display 1 ~ 6**

Chapter 10

System

Accessibility

MENU  → **System** → **Accessibility** → ENTER 



— The displayed image may differ depending on the model.

Audio Description

(Not available in all locations) (for digital broadcasts)

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.

Subtitle

Show subtitles.

- **Subtitle Mode:** Set the subtitle mode.
- **Subtitle Language:** Set the subtitle language.

Primary Subtitle

Set the primary subtitle language.

Secondary Subtitle

Set the secondary subtitle language.

Accessibility

Audio Description	Off
Subtitle	Off
Menu Transparency	Medium
High Contrast	Off
Enlarge	Off

Menu Transparency

Adjust transparency of menu box.

- **High / Medium / Low**

High Contrast

Set the background and font to high-contrast colours in Menu. Menu transparencies become opaque when the option is selected.

- **Off / On**


Enlarge

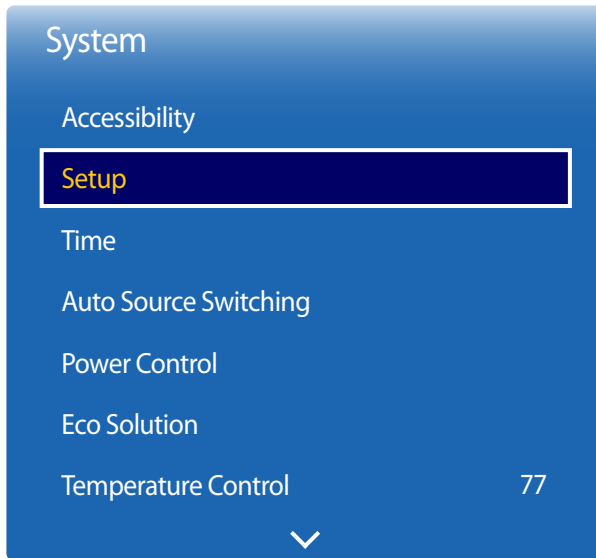
Set whether to enlarge highlighted item in Menu.

- **Off / On**

— The displayed image may differ depending on the model.

Setup

MENU  → **System** → **Setup** → ENTER 



– The displayed image may differ depending on the model.

Initial settings (Setup)

After powering on the product for the first time, configure basic settings such as the language, channel and time.

Press the  button.

– Initial **Setup** automatically changes **Source** to **TV**.

– The default PIN number for a new product set is “0-0-0-0”.

1 Menu Language

Selecting a language.

Press the ▲ or ▼ button, and then press the  button. Specify the OSD menu language.

2 Display Orientation

– **Landscape / Portrait**

Configure the menu page orientation.


3 Auto Power Off

The product will automatically turn off if you don't press a button on the remote or touch a button on product front panel within select hours to prevent overheating.

– **Off (Recommended) / 4 hours / 6 hours / 8 hours**

– Availability depends on the specific model and area.

4 Network Settings

Set up your network connection. Press the  button to start. If you do not know your network set up information or want to set to it later, select **Skip**. You can set up the network connection later using the **Network** menu.

5 Configure your TV

Choose where you are watching your TV.

Select the broadcast signal connected to the product.

– **Aerial (Direct to TV) / No channels (display only)**

6 Auto Tuning

- **Aerial:** Terrestrial / Cable
- **Channel Type:** Digital & Analogue / Digital / Analogue

This feature automatically searches and configures broadcast signals connected to the product.

To configure settings later, press the **Stop** button.

— **Auto Tuning** does not appear if **No channels (display only)** is selected.

7 Clock Set

Set the current date and time, and then select **Next**.

8 Device Name

- **User Input** / [Signage]Display 1 ~ 6

Select or enter a device name.

This name can be shown on network remote controls over the network.

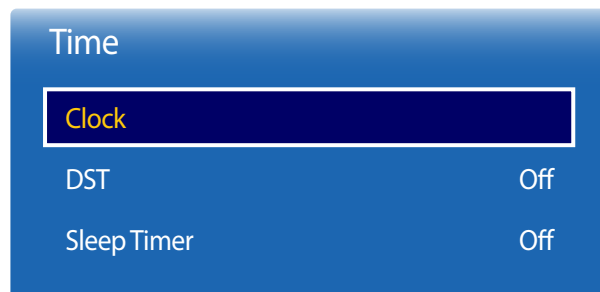
9 Setup Complete

Congratulations! Setup is complete and you're ready to get started.

To watch TV using the product now, select **OK**.

Time

MENU  → System → Time → ENTER 



– The displayed image may differ depending on the model.

You can configure **Clock Set** or **Sleep Timer**. You can also set the product to automatically turn on or off at a specified time using the **Timer** function.

Clock

Set the current year, date and time.

— Press the **INFO** button if you want to view the current time.

Clock Mode

Set the current time manually or automatically.


Auto: Have the product set the current time automatically using the time from a digital channel.

— You must have the cable or an antenna connected to the product to set the time automatically.

Manual: Set the current time manually.

Clock Set

Select **Clock Set**. Select **Date** or **Time**, and then press .

Use the number buttons to enter numbers or press the up and down arrow buttons. Use the left and right arrow buttons to move from one entry field to the next. Press  when done.

— Available only when **Clock Mode** is set to **Manual**.

— You can set the **Date** and **Time** directly by pressing the number buttons on the remote control.

Time Zone

Select your time zone.

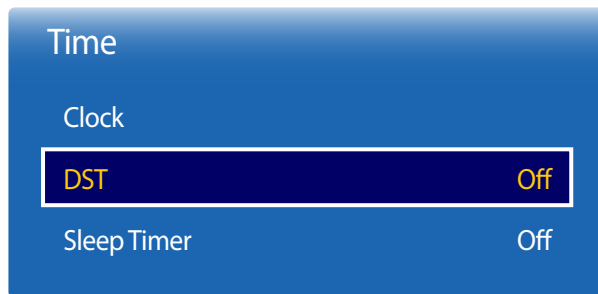
— This function is only available when the **Clock Mode** is set to **Auto**.

Time Offset

If the current time that has been automatically set is different from the actual time, adjust the hour between the interval -12 hours and +12 hours.

— **Time Offset** is only available when **Clock Mode** is set to **Auto** and the antenna is connected.

— When the current time information cannot be received through the signal from a broadcaster, the current time is set through the network (e.g., when watching TV through a cable broadcast receiver or satellite receiver).



— The displayed image may differ depending on the model.

DST

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

Off / Auto / Manual

- **Start Date:** Set the start date of Daylight Saving Time.
- **End Date:** Set the end date of Daylight Saving Time.
- **Time Offset:** Select the correct time offset your timezone.

— **Start Date**, **End Date** and **Time Offset** are enabled only when **DST** is set to **Manual**.

Sleep Timer

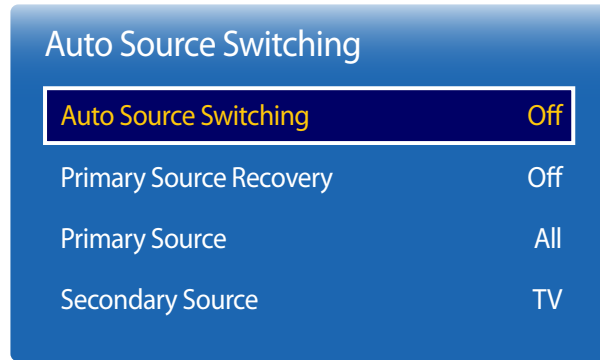
Automatically shuts off the product after a preset period of time.

(Off / 30 min / 60 min / 90 min / 120 min / 150 min / 180 min)

— Use the up and down arrows to select a period of time, and then press . To cancel **Sleep Timer**, select **Off**.

Auto Source Switching

MENU  → System → Auto Source Switching → ENTER 



— The displayed image may differ depending on the model.

Turning on the display with **Auto Source Switching On**, and the previous video source selection is not active, the display will automatically search the different video input sources for active video.

Auto Source Switching

When the **Auto Source Switching** is **On**, the display video source will automatically be searched for active video.

The **Primary Source** selection will be activated, if the current video source is not recognized.

Secondary Source selection will become active, if no primary video source is available.

If both the primary and secondary input sources are not recognized, the display will perform two searches for an active source, each search checking the primary and then secondary source. If both searches fail, the display will return to the first video source and display a message indicating that there is no signal.

When the **Primary Source** selection is set to **All**, the display will search all the video source inputs twice in sequence looking for an active video source, returning back to the first video source in the sequence if no video is found.

Primary Source Recovery

Select whether to restore the selected primary input source when a primary input source is connected.

— The **Primary Source Recovery** function is disabled if **Primary Source** is set to **All**.

Primary Source

Specify **Primary Source** for the automatic input source.

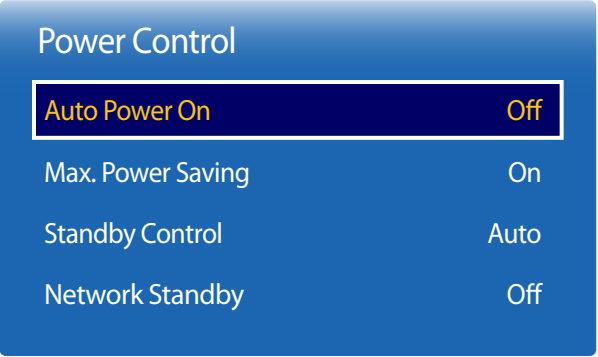
Secondary Source

Specify **Secondary Source** for the automatic input source.

— The **Primary Source Recovery** function is disabled if **Primary Source** is set to **All**.

Power Control

MENU  → System → Power Control → ENTER 



— The displayed image may differ depending on the model.

Auto Power On

This feature automatically turns on the product as soon as it is plugged in. Pressing the power button is not needed.

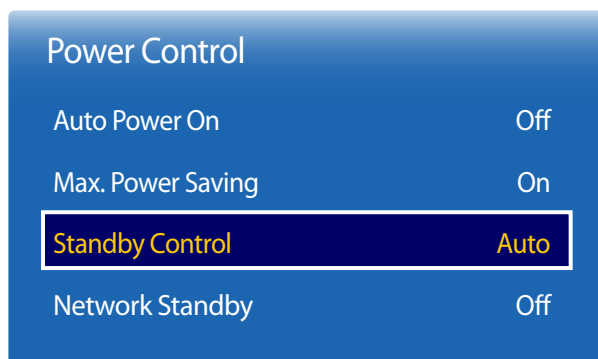
- Off / On

Max. Power Saving

Turns off the product to reduce power consumption after the PC has been left idle for a specified period of time.

- Off / On

— Available only PC, HDMI mode.



— The displayed image may differ depending on the model.

Standby Control

You can set the screen standby mode to be applied when an input signal is received.

- **Auto**
Power-saving mode will activate if no input signals are detected even though a source device is connected to the display.
The message **No Signal** will appear if no source device is connected.
- **Off**
The message **No Signal** will appear if no input signals are detected.
 - The **Standby Control** option is only enabled when **Source** is set to **PC** or **HDMI**.
 - If **No Signal** is displayed although a source device is connected, check the cable connection.
 - If **No Signal Message** is set to **Off**, the **No Signal** message does not appear.
If this is the case, set **No Signal Message** to **On**.
- **On**
Power-saving mode will activate if no input signals are detected.

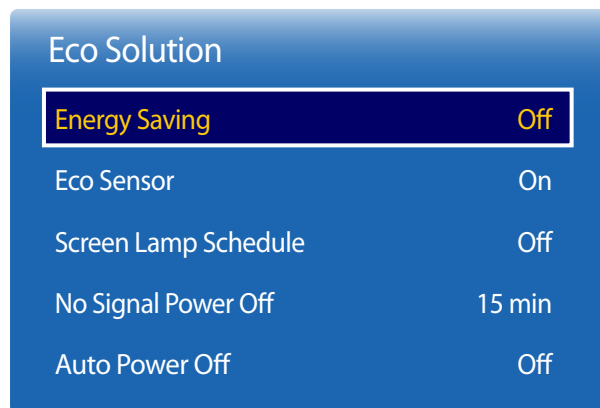
Network Standby

This feature keeps the network power on when the product turns off.

- **Off / On**

Eco Solution

MENU  → **System** → **Eco Solution** → ENTER 



— The displayed image may differ depending on the model.

Energy Saving

Reduce the power consumption by adjusting the screen brightness.

- **Off / Low / Medium / High**

Eco Sensor

To enhance your power savings, the picture settings will automatically adapt to the light in the room.

- **Off / On**

— Adjusting the **Backlight** setting under **Picture** while **Eco Sensor** is on will disable the **Off**.

Min. Backlight

When **Eco Sensor** is **On**, you can manually adjust the minimum screen brightness. **Min. Backlight** is the darkest backlight mode. Make sure the **Min. Backlight** setting is lower than the **Backlight** setting.

— If **Eco Sensor** is **On**, the display brightness may change (become slightly darker or brighter) depending on the surrounding light intensity.

Screen Lamp Schedule

Enable or disable the lamp schedule.

- **Off / On**

Schedule 1, Schedule 2

Time

The panel brightness will change to the brightness set in **Time** at a specified time.

Lamp

Adjust the panel brightness. A value closer to 100 makes the panel brighter.

- **0 ~ 100**

Eco Solution

Energy Saving	Off
Eco Sensor	On
Screen Lamp Schedule	Off
No Signal Power Off	15 min
Auto Power Off	Off

— The displayed image may differ depending on the model.

Temperature Control

MENU  → **System** → **Temperature Control** → ENTER 

System

Temperature Control

77

— The displayed image may differ depending on the model.

No Signal Power Off

Save power by turning the device off when no signal is received from any source.

- **Off / 15 min / 30 min / 60 min**

— Disabled when an attached PC is in power saving mode.

— The product will automatically power off at a specified time. The time can be changed as required.

Auto Power Off

The product will automatically turn off if you don't press a button on the remote or touch a button on product front panel within select hours to prevent overheating.

- **Off / 4 hours / 6 hours / 8 hours**

— Availability depends on the specific model and area.

This function detects the internal temperature of the product. You can specify the temperature range that is acceptable.

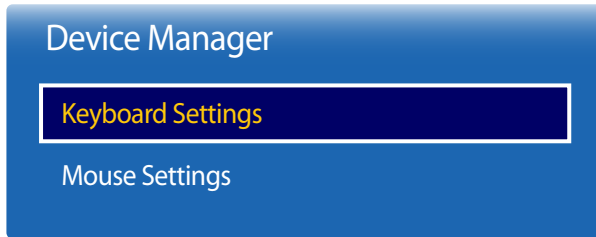
The default temperature is set to 77°C.

The recommended operating temperature for this product is 75 to 80°C (based on an ambient temperature of 40°C).

— The screen will become darker if the current temperature exceeds the specified temperature limit. If the temperature continues to rise, the product will power off to prevent overheating.

Device Manager

MENU  → **System** → **Device Manager** → ENTER 



— The displayed image may differ depending on the model.

Configure options for external input devices connected to the product.

Keyboard Settings

Connecting a keyboard to the product displays the **Keyboard Settings** menu.


Select Keyboard

Select a keyboard you want to use from the available connected keyboards.

— It is possible to use only one connected keyboard.

Add Bluetooth Keyboard

Connecting a Bluetooth keyboard

- 1 Place the Bluetooth keyboard into standby status.
- 2 Select MENU  → **System** → **Device Manager** → **Keyboard Settings** → **Add Bluetooth Keyboard**. The **SMART Signage TV** automatically scans for available keyboards.
 - If your keyboard was not detected, position the keyboard close to the **SMART Signage TV**, and then select **Refresh**. The **SMART Signage TV** scans for available keyboards again.
- 3 Select the Bluetooth keyboard from the scan list, and then select **Pair and connect**. A number appears on the screen.
- 4 Enter the number using the Bluetooth keyboard. This pairs the Bluetooth keyboard to the **SMART Signage TV**.

Keyboard Options

— Depending on the country.

Keyboard Language

Specify the keyboard input language.

Keyboard type

Specify the keyboard type.

Switch Input Language

Configure the key combination used to change the input language.

Device Manager

Keyboard Settings

Mouse Settings

— The displayed image may differ depending on the model.

Mouse Settings

Connecting a mouse to the product displays the **Mouse Settings** menu.


Select Mouse

Configure mouse connection settings or options for connected mouse devices.

— Among connected mouse devices, only one mouse can be used.

Add Bluetooth Mouse

Connecting a Bluetooth mouse

- 1 Place the Bluetooth mouse in standby status.
- 2 Select **MENU**  → **System** → **Device Manager** → **Mouse Settings** → **Add Bluetooth Mouse**.
- 3 Select the Bluetooth mouse from the scanned list, and then select **Pair and connect**. This pairs the Bluetooth mouse to the **SMART Signage TV**.

Mouse Options

— Depending on the country.

Primary Button

Select a button on the mouse that will perform basic functions (click and enter).

- **Left** (default) / **Right**

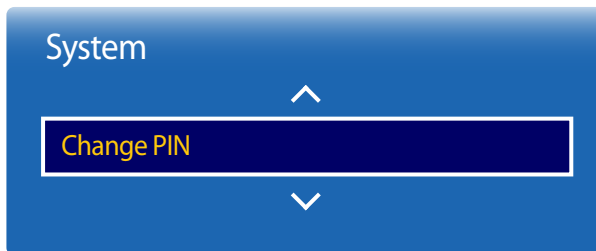
Pointer Speed

Set the mouse pointer speed.

- **Slow** / **Standard** / **Fast**

Change PIN

MENU  → **System** → **Change PIN** → ENTER 



— The displayed image may differ depending on the model.


The **Change PIN** screen will appear.

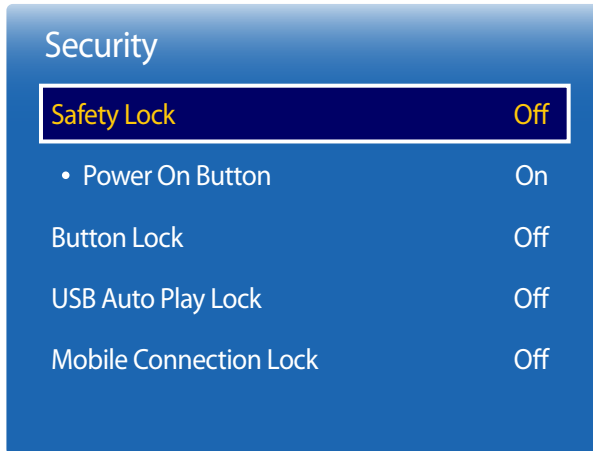
Choose any 4 digits for your PIN and enter it in **Enter New PIN**. Reenter the same 4 digits in **Confirm New PIN**.

When the Confirm screen disappears, press the **Close** button. The product has memorized your new PIN.

— Default password: 0 - 0 - 0 - 0

Security

MENU  → System → Security → ENTER 



– The displayed image may differ depending on the model.

Safety Lock

— Enter your 4 digit PIN number. The default PIN number is "0-0-0-0".

If you want to change the PIN number, use the **Change PIN** function.

It sets safe lock function.

- **Off / On**

All the menus and buttons of the product and remote control, except for the **LOCK** button on the remote control, will be locked by the **Safety Lock** function.

To unlock the menus and buttons, press the **LOCK** button and then enter the password (default password: 0 - 0 - 0 - 0).

Power On Button

Enable or disable the power button on the remote control when **Safety Lock** is **On**.

- **Off / On**

Button Lock

This menu can be used to lock the buttons on the product.

Only the remote control can control the product if **Button Lock** is set to **On**.

- **Off / On**

USB Auto Play Lock

Select whether to automatically play **MagicInfo** content saved on a connected USB device.

- **Off**

Play **MagicInfo** content saved on the USB device automatically.

- **On**

Do not play **MagicInfo** content saved on the USB device automatically.

— Connecting a USB device containing **MagicInfo** content displays "**USB Auto Play Lock : On**" for five seconds.

Security

Safety Lock Off

• Power On Button On

Button Lock Off

USB Auto Play Lock Off

Mobile Connection Lock Off

Mobile Connection Lock



Configure the product so that it cannot be searched from mobile devices.

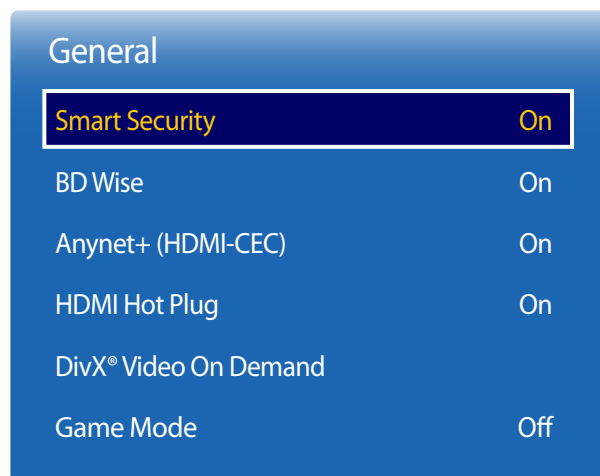
This feature is provided for customers that do not want their device to be included in searches through **Contents Creator** on mobile devices. Devices are hidden for security reasons.

- **Off:** Configure **SMART Signage TV** to not be included in searches from mobile devices.
- **On:** Configure **SMART Signage TV** to be searchable from mobile devices.

— The displayed image may differ depending on the model.

General

MENU  → **System** → **General** → ENTER 



– The displayed image may differ depending on the model.

Smart Security

Security provided to protect your TV and connected storage devices against viruses includes.

Smart Security

Use this option to turn **Smart Security** protection On/Off.

- **Off / On**

Scan

Inspect the TV and connected storage devices to check for viruses.

Isolated List

This is the list of items that have been Isolated for containing viruses.

Allowed List

This is the list of items that have been Allowed as not containing viruses.

Settings

Set the **Smart Security** options.

Auto Scan

Scan automatically when the TV is turned on.

- **Off / On**

Move to Isolated List automatically

Moves viruses to the Isolated List automatically.

- **Off / On**

General

Smart Security On

BD Wise On

Anynet+ (HDMI-CEC) On

HDMI Hot Plug On

DivX® Video On Demand

Game Mode Off

BD Wise

Provides the optimal picture quality for Samsung DVD, Blu-ray and Home Theatre products which support **BD Wise**. When **BD Wise** is turned **On**, the picture mode is automatically changed to the optimal resolution.

- **Off / On**

— Available when you connect Samsung products that support **BD Wise** through an HDMI cable to the product.

— The **BD Wise** function is enabled only when a source device with the **BD Wise** function is connected.

— The displayed image may differ depending on the model.

General

Smart Security	On
BD Wise	On
Anynet+ (HDMI-CEC)	On
HDMI Hot Plug	On
DivX® Video On Demand	
Game Mode	Off

Anynet+ (HDMI-CEC)

Anynet+ (HDMI-CEC)

Anynet+ is a function that enables you to control all connected Samsung devices that support Anynet+ with your Samsung product remote. The Anynet+ system can be used only with Samsung devices that have the Anynet+ feature. To be sure your Samsung device has this feature, check if there is an Anynet+ logo on it.

- You can only control Anynet+ devices using the product remote control, not the buttons on the product.
- The product remote control may not work under certain conditions. If this occurs, reselect the Anynet+ device.
- **Anynet+** works when the AV device supporting **Anynet+** is in the standby or on status.
- While in **PIP** mode, **Anynet+** functions only when an AV device is connected as the primary display. It does not work if the AV device is connected as a secondary display.
- **Anynet+** supports up to 12 AV devices in total. Note that you can connect up to 3 devices of the same type.

Anynet+ Menu

The **Anynet+** menu changes depending on the type and status of the Anynet+ devices connected to the product.

- Press the **TOOLS** button to display the **Anynet+** menu and select a menu you want.

Anynet+ Menu	Description
View TV	Changes Anynet+ mode to TV mode.
Select Device	Shows the Anynet+ device list.
(device_name) MENU	Shows the menu of the connected device menus. E.g. if a DVD player is connected, the disc menu of the DVD player will appear.
(device_name) Tools	Shows the tools menu of the connected device. E.g. if a DVD player is connected, the tools menu of the DVD player will appear. — Depending on the device, this menu may not be available.
(device_name) Title Menu	Shows the title menu of the disc in the connected device. E.g. If a DVD player is connected, the title menu of the movie in the DVD player will appear. — Depending on the device, this menu may not be available.

— The displayed image may differ depending on the model.

Anynet+ (HDMI-CEC)

Anynet+ (HDMI-CEC) On

Auto Turn Off No

Search for Devices

Auto Turn Off




Setting an **Anynet+** Device to turn **Off** automatically when the product is turned off.

- **No / Yes**

- If **Auto Turn Off** is set to **Yes**, running external devices will turn off at the same time as the product powers off.
- May not be enabled depending on the device.

Search for Devices

Switching between Anynet+ Devices

- 1 Press the **TOOLS** button, select **Anynet+ (HDMI-CEC)**, and then press .
- 2 Select **Select Device**, and then press the  button.
If you cannot find a device you want, select **Refresh** to refresh the list.
- 3 Select a device, and then press the  button. You can switch to the selected device.

- The **Select Device** menu appears only when you set **Anynet+ (HDMI-CEC)** to **On** in the **System** menu.
- Switching to the selected device may take up to 2 minutes. You cannot cancel the switching operation while switching is in progress.
- If you have selected an Anynet+ device by pressing the **SOURCE** button and then selecting its input source, you cannot use the **Anynet+** function.
- Make sure to switch to an **Anynet+** device by using the **Select Device**.

— The displayed image may differ depending on the model.

Troubleshooting for Anynet+

Problem	Possible Solution
Anynet+ does not work.	<ul style="list-style-type: none">• Check if the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.• Check if the Anynet+ device power cord is properly connected.• Check the Anynet+ device's Video/Audio/HDMI cable connections.• Check whether Anynet+ (HDMI-CEC) is set to On in the System menu.• Check whether the remote control is Anynet+ compatible.• Anynet+ doesn't work in certain situations. (initial setup)• If you have removed and then reconnected the HDMI cable, please make sure to search devices again or turn your product off and on again.• Check if the Anynet+ function of the Anynet device is set on.
I want to start Anynet+.	<ul style="list-style-type: none">• Check if the Anynet+ device is properly connected to the product and check if the Anynet+ (HDMI-CEC) is set to On in the System menu.• Press the TOOLS button to display the Anynet+ menu and select a menu you want.
I want to exit Anynet+.	<ul style="list-style-type: none">• Select View TV in the Anynet+ menu.• Press the SOURCE button on the product remote control and select a non- Anynet+ device.
The message " Disconnecting Anynet+ device ... " appears on the screen.	<ul style="list-style-type: none">• You cannot use the remote control when you are configuring Anynet+ or switching to a view mode.• Use the remote control after the product has completed Anynet+ configuration or has finished switching to Anynet+.
The Anynet+ device does not play.	<ul style="list-style-type: none">• You cannot use the play function when initial setup is in progress.

Problem

Possible Solution

The connected device is not displayed.

- Check whether or not the device supports Anynet+ functions.
- Check whether or not the HDMI cable is properly connected.
- Check whether **Anynet+ (HDMI-CEC)** is set to **On** in the **System** menu.
- Search Anynet+ devices again.
- Anynet+ requires an HDMI connection. Make sure the device is connected to your product with an HDMI cable.
- Some HDMI cables may not support Anynet+ functions.
- If the connection is terminated because there has been a power failure or the HDMI cable has been disconnected, please repeat the device scan.

General

Smart Security	On
BD Wise	On
Anynet+ (HDMI-CEC)	On
HDMI Hot Plug	On
DivX® Video On Demand	
Game Mode	Off

HDMI Hot Plug

This feature is used to activate the time delay to turn on a DVI/HDMI source device.

- **Off / On**

DivX® Video On Demand

Shows the registration code authorized for the product.

If you connect to the DivX® web site and register using that code, you can download the VOD registration file.

For more information about DivX® VOD, visit "<http://vod.divx.com>".

Game Mode

When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by selecting game mode.

- **Off / On**

— Precautions and limitations for **Game Mode**

To disconnect the game console and connect another external device, set **Game Mode** to **Off** in the setup menu.

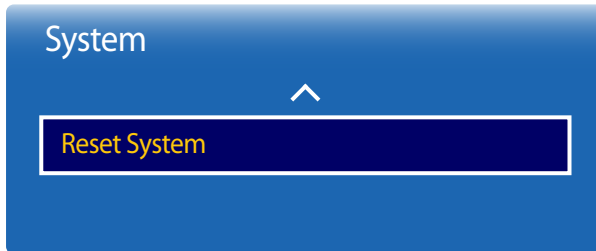
— **Game Mode** is not available when the input source is set to **TV**.

— The displayed image may differ depending on the model.

Reset System

This option returns the current settings under system to the default factory settings.

MENU  → **System** → **Reset System** → ENTER 



– The displayed image may differ depending on the model.

Chapter 11

Support

Self Diagnosis

MENU  → **Support** → **Self Diagnosis** → ENTER 

Signal Information

You can check the digital channel's signal information and strength.

- If your **SMART Signage 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 function is only available for digital channels.

Reset

You can restore all **SMART Signage TV** settings (excluding the Internet and network settings) to the factory defaults.

- 1 Select **Reset**. The security PIN entry window appears.
- 2 Enter the security PIN and select **Yes**. All settings are then reset. The TV turns off and on again automatically and displays the **Setup** screen.

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

-
- **Current version:** This is the software version already installed in the product.

Software Update

MENU  → **Support** → **Software Update** → ENTER 

The **Software Update** menu lets you upgrade your product software to the latest version.

- Be careful not to turn off the power until the upgrade is complete. The product will turn off and on automatically after completing the software upgrade.
- When you upgrade software, all video and audio settings you have made will return to their default settings. We advise you to write down your settings so that you can easily reset them after the upgrade.

Update now


Update the software to the latest version.

Auto update

This feature automatically updates the product when not in use.

- **Off / On**

Use Mode

MENU  → **Support** → **Use Mode** → ENTER 

Select the appropriate mode according to where the product is used.

If you choose **Demo Mode**, the demo content will be played automatically and the picture settings will be reset in 5 minutes after change.

- **Standard Use / Demo Mode**

Contact Samsung

MENU  → **Support** → **Contact Samsung** → **ENTER** 

View this information when your product does not work properly or when you want to upgrade the software.

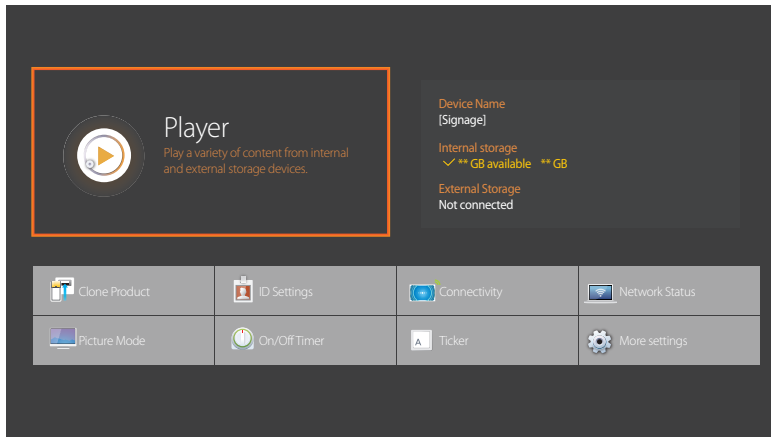
You can find information regarding our call centres and how to download products and software.

— **Contact Samsung** and find the product **Model Code** and **Software Version**.

Go to Home

Accessible using the **HOME** button on the remote control.

MENU → **Support** → **Go to Home** → **ENTER**



- The displayed image may differ depending on the model.
- Refer to the "Home feature" chapter for details on sub-menu items.

Go to Home to play a variety of content from a memory device or a connected network.

Player

Search or play channels or content saved on devices.

Clone Product

Export settings on the product to an external storage device. You can also import settings from an external storage device. This option is useful when assigning the same settings to several products.

ID Settings

Assign an ID to a set.

Connectivity

Configure **Network Settings** and **Wi-Fi Direct**.

Network Status

Check the current network and Internet connection.

Picture Mode

Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

On/Off Timer

— You must set the clock before you can use **On/Off Timer**.

Set **On Timer** so that your product turns on automatically at a time and on a day of your choosing.

The power is turned on with the specified volume or input source.

Ticker



Input text while a video or image is displayed and display the text on the screen.

More settings

The picture settings menu appears.

Reset All

This option returns all the current settings for a display to the default factory settings.

MENU  → **Support** → **Reset All** → ENTER 



– The displayed image may differ depending on the model.

Chapter 12

Playing photos, videos and music (Media Play)

Enjoy videos, photos, music files saved on a USB Mass Storage Class (MSC) device.

Play photos, videos or music saved on a storage device.

Play a variety of content using the following methods.

- Using a USB device: Play media content such as videos, photos and music from a USB device.
- Connecting a storage device: Play media content saved on a storage device such as a smartphone, camera, PC or cloud service.

Read the following before using media play with a USB device

Caution

- Before connecting a USB device to the product, back up files to ensure your data is not damaged or lost.
Samsung Electronics is not liable for any damage or loss of data.
- Do not remove a USB device while it is loading.
- If a USB device is connected using a USB extension cable, the USB device may not be recognized or files saved on the device may not be able to be read.
- If the product does not recognize a connected USB device, the files on the USB device may be corrupted or may not be able to be played.
If this occurs, connect the USB device to the PC to format the device, then make sure the device is connected properly.
- USB HDD greater than 2TB is not supported.

Compatible devices with media play

- Some USB digital cameras, smartphones and audio devices may not be compatible with the product.
- Media play is only compatible with USB MSC devices.
- MSC device refers to a Mass Storage Class Bulk-Only Transport device.
Examples of MSC devices include Thumb drives, Flash card readers and USB HDDs. (USB hubs are not supported.)
These MSC devices must be connected directly to a USB port on the product.
- If more than one Picture Transfer Protocol (PTP) device is connected, only one will work at a time.
- If multiple MSC devices are connected, some devices may not be recognized. USB devices that require high power (higher than 500mA or 5V) may not be supported.
- If an overheating warning message appears when a USB device is connected or used, the USB device may not be recognized or function properly.
- The screensaver activates if the product is left idle for a period of time specified in **Auto Protection Time**.
- Power-saving mode on some external hard disk drives may automatically deactivate after connecting to the product.

File system and formats

- Media play may not function properly with unlicensed multimedia files.
- Media Transfer Protocol (MTP) is not supported.
- Supported file systems include FAT16, FAT32 and NTFS (read only).
- Media play supports the sequential JPEG format.
It does not support the progressive JPEG format.
- Images with a higher resolution take longer to be displayed on the screen.
- The maximum JPEG resolution supported is 15360x8640 pixels.
- If a file is incompatible or corrupted, a message **Not Supported File Format** appears.
- When sorting files in folder view mode, a maximum of 1000 files can be displayed in each folder.
- If a USB device contains 8000 files and folders or more, some files and folders may not open.
- DRM MP3 files downloaded from websites that charge a fee cannot be played.
Digital Rights Management (DRM) refers to a system for protecting the copyrights of data circulated via the Internet or other digital media by enabling secure distribution and/or disabling illegal distribution of the data.

It is recommended to use a USB HDD that has a power adapter.

It is recommended to remove a USB device using the **Disconnect USB Device** function.

Using a USB device

Connecting a USB device

- 1 Turn on your product.
 - 2 Connect a USB device containing photo, music and/or movie files to the USB port on the back or side panel of the product.
 - 3 The **Player** page automatically appears as soon as a USB device connects to the product.
- If only one USB device is connected, files saved on the USB device are displayed automatically.
 - To view content saved on a USB device, connect the USB device to a USB port on the product.

Removing a USB device

Removing a USB device from Source

- 1 Press **SOURCE** on the remote control. Alternatively, go to **Source** using the OSD menu.
SOURCE → **Source**
- 2 Select **USB** from **Source**, and then press the **TOOLS** button on the remote control. The **Options** menu is displayed.
- 3 Select **Disconnect USB Device** and wait until the USB device is disconnected. The USB device is disconnected.

Playing media content from a PC/mobile device

Approving a PC/mobile device connection

Play photos, videos or music saved on a PC or mobile device.

To play media content from a PC or mobile device on the product, the connection with the PC or mobile device must be approved.

— The media playback feature is available on any devices that support DLNA DMC. The DLNA DMC feature allows you to search media content and control content playback from a product after connecting a PC or mobile device to the product.

1 Press **SOURCE** on the remote control. Alternatively, go to **Source** using the OSD menu.

SOURCE → Source

2 Select **Network** from **Source**. The **Network Device** menu appears.

3 Select **Options** from the screen, and then select **Multimedia Device Settings**. A list of devices connected to the product will appear.

4 Select a device and approve the device connection. Playback is only available on devices that are permitted to connect.

— Sending a media content playback request from a PC or mobile device displays a prompt asking if connection with the product is permitted. Conveniently connect the devices using the prompt.

— For details on how to configure a network, refer to the section **Network Settings**.

— Ensure the product and PC are connected to the same network subnet.

All IP addresses are made up of four parts separated by dots.

(E.g. IP address 111.222.333.444) The product should have the same IP address as the PC, except for the fourth part of the address, if they are connected to the same subnet. (E.g. 111.222.333.***)

When connected to a home network (DLNA)

Play content saved on a device connected to a home network.

- Playing media content using a non-Samsung DLNA server may result in a compatibility issue.
- Playback of some media content shared with a PC or mobile device may not be possible depending on the content encoding type or the content file format. Some functions may not be available.
- Media content may not play properly if there is network congestion. If this is the case, use a USB device.

1 Press **SOURCE** on the remote control. Alternatively, go to **Source** using the OSD menu.

SOURCE → **Source**

2 Select **Network** from **Source**. The **Network Device** menu appears.

3 Select a device connected via the home network (DLNA). A list of files and folders shared with the selected device will appear.

4 Select media content to play from the list. Play the selected media content.

Features provided in the media content list page

SOURCE → **Source** → **USB**

The media content list page on a storage device provides the following features.


- **Sort by**
Rearrange the media content list under the selected file format in a desired view mode.
 - This menu item is not available if **Filter** is set to **All**.
- **Filter**
Among **Photos**, **Videos** and **Music** content saved on a storage device, view content files under a desired file format only.
- **Options**
 - This menu item is not available if **Filter** is set to **All**.

Menu items in the media content list page

Option Name	Operations	Photos	Videos	Music
Slide Show	Start a slideshow. — This menu item is not available if Sort by is set to Folder .	✓		
Encoding	Select an encoding language if the title of media content appears corrupted.			✓
Rename Playlist	Rename a playlist.			✓
Delete Playlist	Delete a playlist.			✓
Add to Playlist	Add files to a playlist or create a new playlist.			✓
Play Selected	Select and play desired content from the media content list.	✓	✓	✓
Send	Send media content to another storage device. This is similar to the "copy" feature on PCs.	✓	✓	✓
Index	Select an index to conveniently locate media content if a storage device contains a lot of media content. — Provided indices include dates and alphanumeric characters. — This menu item is not available if Sort by is set to Folder .	✓	✓	✓

-
- Pressing the **INFO** button while a device name is selected will display information about the selected device.
 - Pressing the **INFO** button while a file is selected will display information about the selected file.

Available buttons and features during photo playback


Pressing the  or **TOOLS** button displays the following buttons. The **RETURN** button makes the buttons disappear.





- **Pause / Play**
Start or stop a slideshow. Using a slideshow, it is possible to play all photos in a folder.
- **Previous / Next**
View the previous or next photo.
- **Settings**

Option Name	Operations
-------------	------------

Slideshow Settings	Speed: Change the slideshow speed. Effects: Apply transition effects between photos.
Rotate	Rotate photos.
Zoom	Zoom in on photos up to 4x.
Picture Mode	Change the Picture Mode .
Background Music	Play background music while viewing photos. <ul style="list-style-type: none">— Make sure a music file is saved on the same device.— The mini player is displayed while background music (Background Music) is playing. Using the mini player, pause the music currently playing or change to another music.
Sound Mode	Change the Sound Mode . <ul style="list-style-type: none">— This menu item is only available when background music (Background Music) is playing.
Select Speakers	Select a speaker that will output the background music (Background Music). <ul style="list-style-type: none">— This menu item is only available when background music (Background Music) is playing.
Send	Send open photos to another storage device. This is similar to the "copy" feature on PCs.
Information	View information about a file.





Available buttons and features during video playback

Pressing the  or **TOOLS** button displays the following buttons. The **RETURN** button makes the buttons disappear.

- **Pause / Play**
Pause or play a video.
The following features are available in pause mode. Note that sound cannot be heard in pause mode.
- **Rewind / Fast forward**
Rewind or fast forward a video. Speed up playback up to 3x, if required. To change the playback speed to the original speed, select .
- ~~**Previous / Next**
To play the previous video, select  twice. Selecting  once will play the current video from the beginning.
To play the next video, select .~~
- **Settings**

Option Name	Operations
Select Scene	Thumbnails: Select a scene and play the video from the scene. — Thumbnails is not available if 1) the thumbnail of the video is not extracted yet, 2) the video contains audio only or 3) the video play time is shorter than 60 seconds. Chapter Titles: Select and play another video in the same folder. Time Bar: You can use the ◀ and ▶ buttons to scan through the file in 10-second intervals or enter a specific time value to jump to that point in the video.
Subtitle	Language / Sync / Reset Sync / Size / Encoding — If the subtitle is displayed incorrectly, change Encoding options.
Repeat	Configure Repeat . Off Repeat One: Play the current video repeatedly. Repeat All: Play all videos in a folder repeatedly.
Rotate	Rotate an image.
Picture Size	Change the screen size (Picture Size). Supported screen sizes vary depending on the image.
Picture Mode	Change the Picture Mode .
Sound Mode	Change the Sound Mode .
Select Speakers	Select a speaker that will output sound from the product.
Audio Language	Play a video using a desired language. This feature only activates when a streaming file that supports multiple audio formats is playing.
Information	View information about a file.

Available buttons and features during music playback

- **Pause / Play**
Pause or play music.
- **Rewind / Fast forward**
Rewind or fast forward music. Speed up playback up to 3x, if required. To play the previous music file, select  twice.
- **Previous / Next**
To play the previous music file, select  twice. Selecting  once will play the current music from the beginning.
To play the next music file, select .
- **Repeat**
Configure **Repeat** mode. **Repeat One** plays the current music file repeatedly. **Repeat All** plays all files in a folder repeatedly.
- **Shuffle**
Enable or disable shuffle playback mode.
- **Select Speakers**
Select a speaker that will output sound from the product.
- **Sound Mode**
Change the **Sound Mode**.
- **Settings**

Supported Subtitle and Media play file formats

Subtitle

External

- MPEG-4 timed text (.txt)
- SAMI (.smi)
- SubRip (.srt)
- SubViewer (.sub)
- Micro DVD (.sub or .txt)
- SubStation Alpha (.ssa)
- Advanced SubStation Alpha (.ass)
- Powerdivx (.psb)

Internal

- Xsub
Container: AVI
- SubStation Alpha
Container: MKV
- Advanced SubStation Alpha
Container: MKV
- SubRip
Container: MKV
- MPEG-4 timed text
Container: MP4

Supported image resolutions

File Extension	Type	Resolution
*.jpg, *.jpeg	JPEG	15360 x 8640
*.png	PNG	1920 x 1080
*.bmp	BMP	1920 x 1080
*.mpo	MPO	15360 x 8640

Supported music file formats

File Extension	Type	Codec	Comments
*.mp3	MPEG	MPEG1 Audio Layer 3	
*.m4a, *.mpa, *.aac, *.3ga	MPEG4	AAC	
*.flac	FLAC	FLAC	The Seek (jump) function is not supported. Supports up to 2 channel

Supported Video Formats

- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Sound or video may not work if the contents have a standard bitrate/frame rate above the compatible Frame/sec listed in the table above.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- You may experience file stuttering while playing a video through a network connection.
- The menu may take longer to appear if the video's bit rate exceeds 10Mbps.
- Some USB/digital camera devices may not be compatible with the player.

Video Decoder

Supports up to H.264, Level 4.1
H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.
For all Video codecs except MVC, VP8, VP6:

- Below 1280 x 720: 60 frame max
- Above 1280 x 720: 30 frame max

GMC 2 over is not supported.
Supports only BD MVC Spec.

Audio Decoder

Supports up to WMA 10 Pro 5.1 channel.
WMA lossless audio is not supported.
QCELP, AMR NB/WB are not supported.
If Vorbis is only in Webm container, supports up to 2 channel.

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.avi	AVI	DivX 3.11 / DivX 4 / DivX 5 / DivX 6	1920 x 1080	6~30	30	AC3
*.mkv	MKV					LPCM
*.asf	ASF					ADMPCM
*.wmv	MP4	MPEG4 SP / ASP				(IMA, MS)
*.mp4	3GP					AAC
*.mov	VRO	H.264 BP / MP / HP				HE-AAC
*.3gp	VOB					WMA
*.vro	PS					DD+
*.mpg	TS	Motion JPEG				MPEG(MP3)
*.mpeg						DTS Core
*.ts		Window Media Video v9				G.711(ALaw,μ-Law)
*.tp						
*.trp						
*.mov		MPEG2				
*.flv						
*.vob		MPEG1				
*.svi						
*.m2ts		VP6	640 x 480		4	
*.mts						
*.divx		MVC	1920 x 1080	24 / 25 / 30	40	
*.webm	WebM	VP8		6 ~ 30	8	Vorbis

Chapter 13

Troubleshooting Guide

Before calling Samsung Customer Service Centre, test your product as follows. If the problem persists, contact Samsung Customer Service Centre.

If the screen remains blank, check the PC system, video controller and cable.

Requirements Before Contacting Samsung Customer Service Centre

Testing the Product

Check if your product is operating normally by using the product test function.

If the screen remains blank while the power LED blinks even when the product is correctly connected to a PC, perform product testing.

- 1 Power off both the PC and product.
- 2 Disconnect all the cables from the product.
- 3 Power on the product.
- 4 If **No Signal** is displayed, the product is operating normally.

Checking the Resolution and Frequency

Not Optimum Mode will briefly be displayed if a mode that exceeds a supported resolution is selected (refer to Supported Resolutions).

Check the followings.

Installation issue (PC mode)

The screen keeps switching on and off.	Check the cable connection between the product and PC, and ensure the connection is secure.
Blank spaces are found on all four sides of the screen when an HDMI or HDMI-DVI cable is connected to the product and PC.	The blank spaces found on the screen have nothing to do with the product.
	Blank spaces on the screen are caused by the PC or graphics card. To resolve the problem, adjust the screen size in the HDMI or DVI settings for the graphics card.
	If the graphics card settings menu does not have an option to adjust the screen size, update the graphics card driver to the latest version. (Please contact the graphics card or computer manufacturer for further details about how to adjust the screen settings.)
PC is shown in Source when a PC is not connected.	PC is always shown in Source irrespective of whether or not a PC is connected.

Screen issue

The power LED is off. The screen will not switch on.	Make sure that the power cord is connected.
No Signal is displayed on the screen.	Check that the product is connected correctly with a cable.
	Check that the device connected to the product is powered on.
Not Optimum Mode is displayed.	This message is displayed when a signal from the graphics card exceeds the product's maximum resolution and frequency.
	Refer to the Standard Signal Mode Table and set the maximum resolution and frequency according to the product specifications.
The images on the screen look distorted.	Check the cable connection to the product.

Screen issue

The screen is not clear. The screen is blurry.	Adjust Coarse and Fine .
	Remove any accessories (video extension cable, etc) and try again.
	Set the resolution and frequency to the recommended level.
The screen appears unstable and shaky.	Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu and the Standard Signal Mode Table.
There are shadows or ghost images left on the screen.	
The screen is too bright. The screen is too dark.	Adjust Brightness and Contrast .
Screen colour is inconsistent.	Go to Picture and adjust the Colour Space settings.
White does not really look white.	Go to Picture and adjust the White Balance settings.
There is no image on the screen and the power LED blinks every 0.5 to 1 second.	The product is in power-saving mode.
	Press any key on the keyboard or move the mouse to return to the previous screen.
The product will turn off automatically.	Go to System and make sure Sleep Timer is set to Off .
	If a PC is connected to the product, check the power status of the PC.
	Make sure the power cable is connected properly to the product and power outlet.
	If the signal from a connected device is not detected, the product automatically turns off after 10 to 15 minutes.
Picture quality of the product is different from the dealer shop where it was purchased.	Use an HDMI cable to obtain high-definition (HD) picture quality.

Screen issue

The screen display does not look normal.

Encoded video content may cause the display to appear corrupted in scenes featuring fast moving objects such as in a sports event or action video.

Low signal level or low picture quality may cause the display to appear corrupted. This does not mean the product is defective.

A cell phone within a distance of one-meter radius may cause static on analogue and digital products.

The brightness and colour do not look normal.

Go to **Picture** and adjust the screen settings such as **Picture Mode**, **Colour**, **Brightness** and **Sharpness**.

Go to **System** and adjust the **Energy Saving** settings.

Reset the screen settings to the default settings.

Broken lines are displayed on the edges of the screen.

If **Picture Size** is set to **Screen Fit**, change the setting to **16:9**.

Lines (red, green or blue) are displayed on the screen.

These lines are displayed when there is a defect in DATA SOURCE DRIVER IC on the **SMART Signage TV**. Contact a Samsung Service Centre to resolve the issue.

The display looks unstable and then freezes.

The screen may freeze when a resolution other than the recommended resolution is used or if the signal is not stable. To resolve the issue, change the PC resolution to the recommended resolution.

The screen cannot be displayed in full screen.

A scaled SD (4:3) content file can cause black bars on both sides of an HD channel screen.

A video with an aspect ratio different from the product can cause black bars at the top and bottom of the screen.

Change the screen size setting to full screen on the product or source device.

Sound issue

There is no sound.

Check the connection of the audio cable or adjust the volume.

Check the volume.

Sound issue

The volume is too low.

Adjust the volume.

If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software programme.

Video is available but there is no sound.

If an HDMI cable is connected, check the audio output settings on the PC.

Go to **Sound** and change **Speaker Settings** to **Internal**.

If a source device is used

- Make sure the audio cable is properly connected to the audio input port on the product.
- Check the audio output settings for the source device.
(For example, if an HDMI cable is connected to the **SMART Signage TV**, the audio setting for the cable box may need to be changed to HDMI.)

If the product has a headphone port, make sure nothing is connected to it.

Reconnect the power cable to the device and then reboot the device.

There is static coming from the speakers.

Check the cable connection. Make sure a video cable is not connected to an audio input port.

Check the signal strength after connecting a cable.

Low signal level can cause corrupted sound.

There is audible sound when the volume is muted.

When **Speaker Settings** is set to **External**, the volume button and mute function are disabled.

Adjust the volume for the external speakers.

Audio settings for main speakers are separate from the internal speakers on the product.

Changing or muting the volume on the product does not affect an external amplifier(decoder).

Sound from the SMART Signage TV does not change after **Sound Mode** is changed.

Audio settings for main speakers are separate from the internal speakers on the product.

Audio settings on a source device do not affect the internal speaker settings on the product.

Sound issue

There is an echo sound coming from the speakers.

Different decoding speeds between the product speakers and external speakers can cause an echo.
In this case, set **Speaker Settings** to **External**.

Remote control issue

The remote control does not work.

Make sure that the batteries are correctly in place (+/-).

Check if the batteries are flat.

Check for power failure.

Make sure that the power cord is connected.

Check for any special lighting or neon signs switched on in the vicinity.

Source device issue

A beeping sound is heard when my PC is booting.

If a beeping sound is heard when your PC is booting, have your PC serviced.

Other issue

The product smells like plastic.	The plastic smell is normal and disappears over time.									
The product appears tilted.	Remove and then attach the stand again to the product.									
Audio or video cuts out intermittently.	<p>Check the cable connection and connect it again if required.</p> <p>Using a very hard or thick cable may corrupt audio and video files.</p> <p>Make sure cables are flexible enough to ensure durability. When mounting the product onto a wall, it is recommended to use right-angle cables.</p>									
Small particles are found on the edges of the product.	The particles are part of the product design. The product is not defective.									
The PIP menu is not available.	The menu is enabled or disabled depending on the Source mode.									
When I try to change the PC resolution, a message " The defined resolution is not supported. " appears.	<p>The message "The defined resolution is not supported." appears if the input source resolution exceeds the maximum resolution of the display.</p> <p>To resolve the issue, change the PC resolution to a resolution supported on the display.</p>									
HDMI Black Level is not functioning properly on an HDMI device with YCbCr output.	This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.									
There is no sound in HDMI mode.	<p>Displayed picture colours may not look normal. Video or sound may not be available. This can occur if a source device that only supports an older version of the HDMI standard is connected to the product.</p> <p>If these issues occur, connect an audio cable along with the HDMI cable.</p> <p>Some PC graphics cards may not automatically recognize HDMI signals that do not include sound. In this case, manually select a sound input.</p> <table><tr><td></td><td>Sound input</td><td>Screen mode</td></tr><tr><td>PC</td><td>Auto</td><td>PC settings</td></tr><tr><td>DVI PC</td><td>Audio In(Stereo ports)</td><td>PC settings</td></tr></table>		Sound input	Screen mode	PC	Auto	PC settings	DVI PC	Audio In(Stereo ports)	PC settings
	Sound input	Screen mode								
PC	Auto	PC settings								
DVI PC	Audio In(Stereo ports)	PC settings								

Other issue

The IR sensor is not functioning.

Make sure the sensor light turns on when a button is pressed on the remote control.

-
- If the sensor light does not turn on, turn the power switch off and then on again on the back of the product.
(The power LED lights up red when the screen is switched off.)
If the sensor light still does not turn on after the power switch is turned off and then on again, an internal jack may be disconnected.
Contact your nearest service centre to have the product serviced.
-
- If the sensor light that is on does not flash red when a button is pressed on the remote control, the IR sensor may be defective.
Contact your nearest service centre to have the product serviced.
-
- This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.
-

Q & A

Question

How can I change the frequency?

-
- Refer to the user manual for your PC or graphics card for further instructions on adjustment.

Answer

Set the frequency on your graphics card.

- Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** → **Advanced** → **Monitor** and adjust the frequency in **Monitor Settings**.
- Windows ME/2000: Go to **Control Panel** → **Display** → **Settings** → **Advanced** → **Monitor** and adjust the frequency in **Monitor Settings**.
- Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**.
- Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust resolution** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**.
- Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust resolution** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**.

How can I change the resolution?

- Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** and adjust the resolution.
- Windows ME/2000: Go to **Control Panel** → **Display** → **Settings** and adjust the resolution.
- Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings** and adjust the resolution.
- Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution** and adjust the resolution.
- Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution** and adjust the resolution.

Question

How do I set powersaving mode?

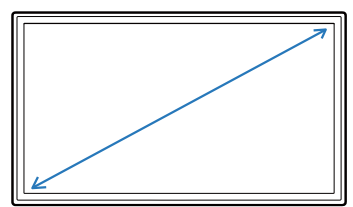
Answer

- Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC.
 - Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC.
 - Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
 - Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
 - Windows 8: Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
-

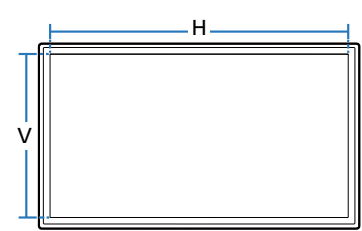
Chapter 14

Specifications

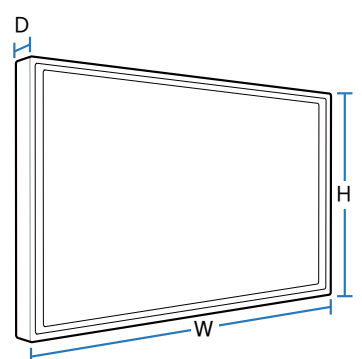
Size



Display area



Dimensions (W x H x D)



General

Model Name		RH48E	RH55E
Panel	Size	48 CLASS (47.6 inches / 120.9 cm)	55 CLASS (54.6 inches / 138.7 cm)
	Display area	1054.08 mm (H) x 592.92 mm (V) 41.5 inches (H) x 23.3 inches (V)	1209.6 mm (H) x 680.4 mm (V) 47.6 inches (H) x 26.8 inches (V)
Dimensions (W x H x D) / Weight	Without Stand	1076.1 x 624.4 x 67.1 mm / 11.3 kg 42.4 x 24.6 x 2.6 inches / 24.9 lbs	1231.6 x 711.9 x 67.8 mm / 13.6 kg 48.5 x 28.0 x 2.7 inches / 30.0 lbs
	With Stand	1076.1 x 681.3 x 310.5 mm / 12.3 kg 42.4 x 26.8 x 12.2 inches / 27.1 lbs	1231.6 x 770.6 x 310.5 mm / 14.6 kg 48.5 x 30.3 x 12.2 inches / 32.2 lbs
Audio Output		10 W + 10 W	
Power Supply		AC 100 to 240 VAC (+/- 10%), 60 / 50 Hz ± 3 Hz Refer to the label at the back of the product as the standard voltage can vary in different countries.	
Environmental considerations	Operating	Temperature : 32 °F – 104 °F (0 °C – 40 °C) Humidity : 10 % – 80 %, non-condensing	
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) Humidity : 5 % – 95 %, non-condensing	

— Plug-and-Play

This **SMART Signage TV** can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the **SMART Signage TV** and PC system optimizes the **SMART Signage TV** settings. **SMART Signage TV** installation takes place automatically. However, you can customize the installation settings if desired.

— Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1 ppm) may appear brighter or darker on the panel. This does not affect product performance.

— This device is a Class A digital apparatus.

Power Consumption

		Normal Operation			Stand-by
		Rating	Typical	Max	
Power Indicator		Off			On
Power Consumption	RH48E	130 W	80 W	143 W	Less than 0.5 W
	RH55E	159 W	108 W	174.9 W	

- The displayed power consumption level can vary in different operating conditions or when settings are changed.
- SOG (Sync On Green) is not supported.
- To reduce the power consumption to 0, disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.).

Preset Timing Modes

- This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Using a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your product.
- Check the frequency when you exchange a CDT product (connected to a PC) for an LCD product. If the LCD product does not support 85 Hz, change the vertical frequency to 60 Hz using the CDT product before you exchange it with the LCD product.

Model Name RH48E / RH55E

Synchronization	Horizontal Frequency	30 - 81 kHz
	Vertical Frequency	48 - 75 Hz
Resolution	Optimum resolution	1920 x 1080 @ 60 Hz
	Maximum resolution	1920 x 1080 @ 60 Hz

The screen will automatically be adjusted if a signal that belongs to the following standard signal modes is transmitted from your PC. If the signal transmitted from the PC does not belong to the standard signal modes, the screen may be blank with the power LED on. In such a case, change the settings according to the following table by referring to the graphics card user manual.

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-

– Horizontal Frequency

The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

– Vertical Frequency

The product displays a single image multiple times per second (like a fluorescent light) to display what the viewer sees. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1366 x 768	47.712	59.790	85.500	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900 RB	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

Chapter 15

Appendix

Responsibility for the Pay Service (Cost to Customers)

When the service is requested, in spite of in warranty, we may charge you for a visit from a service technician in the following cases:

Not a product defect

Cleaning of the product, Adjustment, Explanation, Re-installation and etc.

- If a service technician gives instructions on how to use product or simply adjusts options without disassembling product.
- If a defect is caused by external environmental factors (Internet, Antenna, Wired Signal, etc.)
- If a product is reinstalled or devices are connected additionally after installing the purchased product for the first time.
- If a product is reinstalled to move to a different spot or to move to a different house.
- If customer requests instructions on how to use because of another company's product.
- If customer requests instructions on how to use the network or another company's programme.
- If customer requests software installation and setup for the product.
- If a service technician removes/cleans dusts or foreign materials inside of the product.
- If customer requests an installation additionally after purchasing a product through home-shopping or online.

A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

- External impact or drop.
- Use of supplies or separately sold product unspecified by Samsung.
- Repair from a person besides an engineer of outsourcing service company or partner of Samsung Electronics Co., Ltd.
- Remodeling or repairing the product by customer.
- Using it with incorrect voltage or non- authorised electrical connections.
- Not following the "cautions" in User Manual.

Others

- If product fails by natural disaster. (lightning, fire, earthquake, flood damage, etc)
 - If consumable components are all used up. (Battery, Toner, Fluorescent lights, Head, Vibrator, Lamp, Filter, Ribbon, etc.)
- If customer requests a service in case the product has no defect, service fee may be charged. So please read User Manual first.

~~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 batteries in this product~~



~~(Applicable in countries with separate collection systems)~~

~~This marking on the 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.~~

Optimum Picture Quality and Afterimage Burn in Prevention

Optimum Picture Quality

- Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the panel. This does not affect product performance.
 - The number of sub-pixels by panel type: 6,220,800
- Run **Auto Adjustment** to improve the picture quality. If noise is still found even after auto adjustment, adjust **Coarse** or **Fine**.
- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn in or defective pixels:
 - Activate power saving mode or a dynamic screen saver if you will not be using the product for an extended period of time.

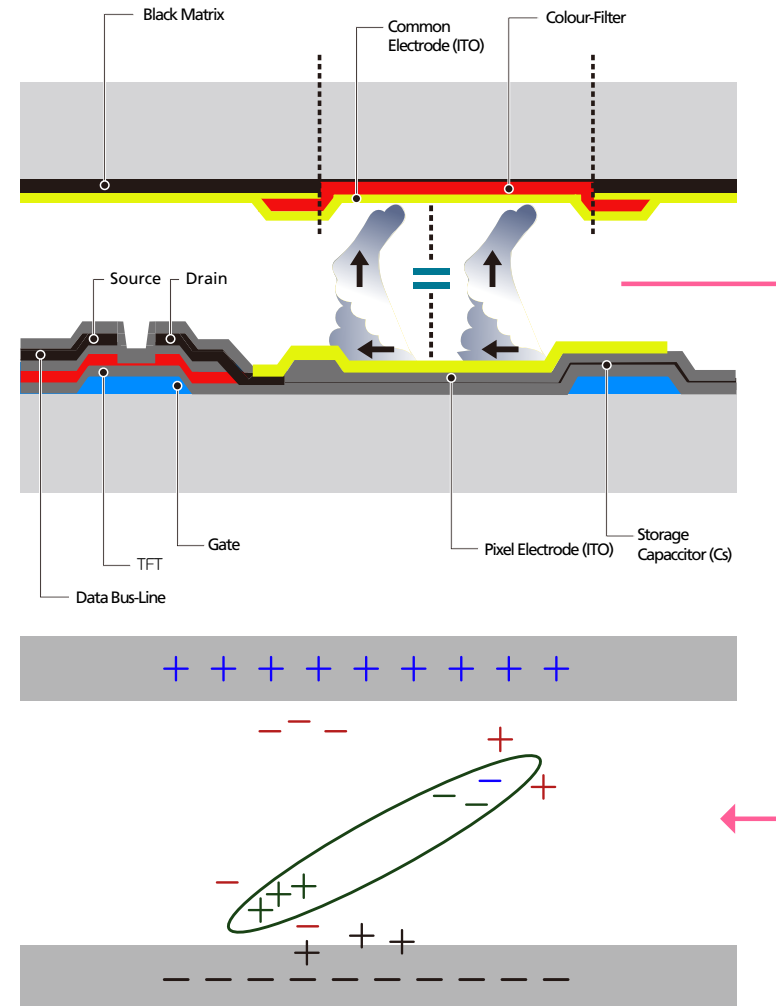
Prevention of Afterimage Burn in

What is afterimage burn in?

Afterimage burn in should not occur when the LCD panel is operating normally. Normal operation refers to a continuously changing video pattern. If the LCD panel displays a fixed pattern for an extended period of time (more than 12 hours), a slight voltage difference may occur between the electrodes in pixels that control the liquid crystals.

Such a voltage difference between electrodes increases with time and makes the liquid crystals thinner. When this occurs, a previous image can remain on the screen when the pattern changes. To prevent this, the accumulated voltage difference should be reduced.

- Afterimage burn in should not occur when an LCD panel is operating in proper conditions.



Preventing afterimage burn-in

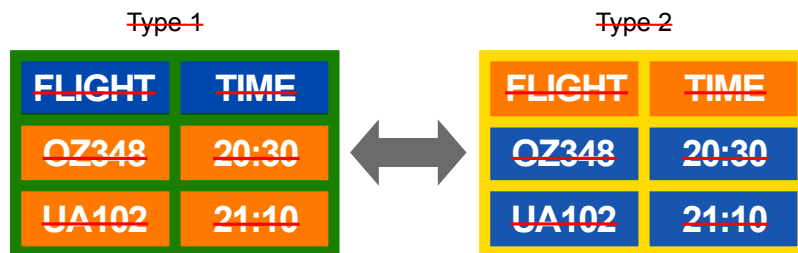
The best way to protect the product from afterimage burn-in is switching the power off or setting the PC or system to run a screen saver when not in use. Also, Warranty service may be limited depending on instruction guide.

Powering Off, Screen Saver and Power Saving Mode

- Power off the product for 2 hours after using it for 12 hours.
- Go to Display Properties > Power Supply on your PC and set the product to power off as required.
- Using a screen saver is recommended.
It is best to use a single colour or moving image screen saver.

Regular colour Change

- Use 2 colours
- Switch between 2 colours every 30 minutes as shown above:



Avoid combinations of a text colour and background colour of contrasting brightness.
(Brightness: refers to the lightness or darkness of a colour which varies depending on the amount of light emitted.)

Avoid using grey as it may contribute to afterimage burn-in.

Avoid using colours of contrasting brightness (black and white; grey).



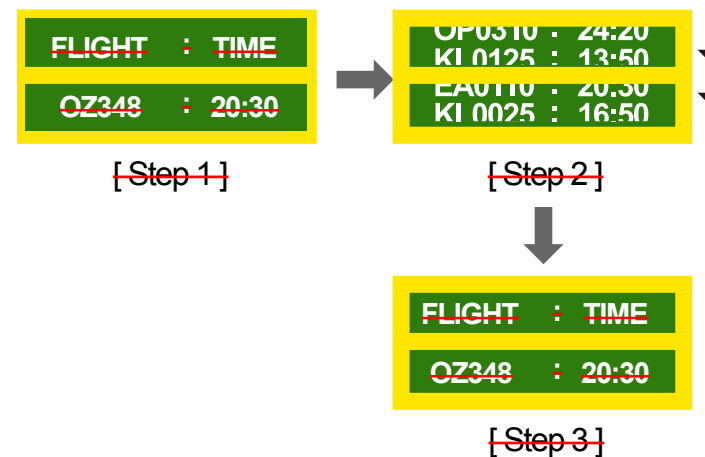
Regular Text colour Change

- Use bright colours of similar brightness.

Interval: Change text colour and background colour every 30 minutes



- Move and change text every 30 minutes as shown below:



- Regularly display a moving image along with a logo.

Interval: Display a moving image along with a logo for 60 seconds after using for 4 hours.

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Terminology

480i / 480p / 720p / 1080i / 1080p

Each of the scanning rates above refers to the number of effective scanning lines that decides the screen resolution. The scanning rate may be indicated in i (interlaced) or p (progressive), depending on the scanning method.

- Scanning

Scanning refers to a process of sending pixels that form an image progressively. A larger number of pixels will deliver a clearer and more vivid picture.

- Progressive

In progressive scan mode, all lines of pixels are scanned one by one (progressively) on the screen.

- Interlaced

In interlaced scan mode, every other line of pixels is scanned from top to bottom first and then the remaining lines of pixels (that were not scanned) are scanned.

Non-interlace Mode and Interlace Mode

Non-interlace mode (progressive scan) displays a horizontal line from the top to the bottom of a screen progressively. Interlace mode displays the odd number lines first and the even number lines next. Non-interlace mode is mainly used in monitors as it produces screen clarity and interlace mode is mainly used in TVs.

Dot Pitch The screen consist of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same colour. Dot pitch is measured in millimeters.

Vertical Frequency The product displays a single image many times per second (like a fluorescent light that flickers) to display an image for a viewer to see. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz. E.g. 60Hz refers to a single image being displayed 60 times in one second.

Horizontal Frequency The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

Source Input source refers to a video source device connected to the product such as a camcorder or video or DVD player.

Plug & Play Plug & Play is a function that allows the automatic exchange of information between a monitor and PC to produce an optimum display environment. The product uses VESA DDC (international standard) to execute Plug & Play.

Resolution Resolution is the number of horizontal dots (pixels) and vertical dots (pixels) that form a screen. It represents the level of display detail. A higher resolution enables more data to be displayed on the screen and is useful to perform multiple tasks simultaneously. E.g. A resolution of 1920 X 1080 consists of 1,920 horizontal pixels (horizontal resolution) and 1,080 vertical pixels (vertical resolution).

DVD (Digital Versatile Disc) DVD refers to a CD-sized mass storage disk where you can save multimedia (audio, video or game) applications using MPEG-2 video compression technology.

HDMI (High Definition Multimedia Interface) It is an interface that can be connected to a digital audio source as well as a high-definition video source by using a single cable without compression.

Multiple Display Control (MDC) MDC (Multiple Display Control) is an application that allows multiple display devices to be controlled simultaneously using a PC. Communication between a PC and monitor takes place using RS232C (serial data transmission) and RJ45 (LAN) cables.