

# User Manual

## H32B H40B H46B

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

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## Copyright

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# Before Using the Product

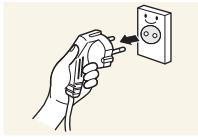
## Cleaning

Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.

Take the following steps when cleaning.



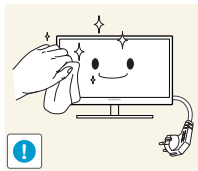
The following images are for reference only. Real-life situations may differ from what is shown in the images.



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.



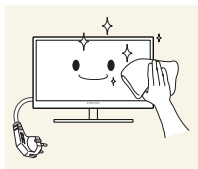
3. Wipe the product with a clean, soft and dry cloth.



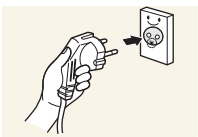
- Do not use detergents that contain alcohol, solvent or surface-active agents.



- 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

High-glossy models can develop white stains on the surface if an ultrasonic wave humidifier is used nearby.





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







# Before Using the Product

## 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.

# Before Using the Product

## 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.

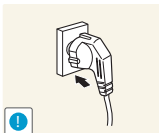


Do not use multiple products with a single power socket.

- Overheated power sockets may cause a fire.

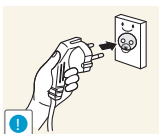


Do not touch the power plug with wet hands. Otherwise, an electric shock may result.



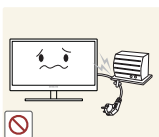
Insert the power plug all the way in so it is not loose.

- 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.

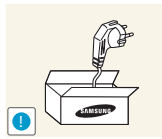
# Before Using the Product

## Caution



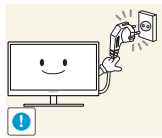
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.



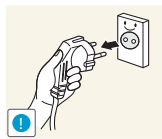
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

- 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.

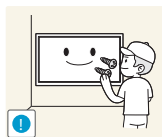
## Installation

## 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.



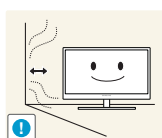
Have a technician install the wall-mount hanger.

- 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 10cm away from the wall to allow ventilation.

- An increased internal temperature may cause a fire.

# Before Using the Product



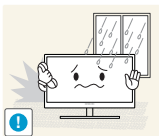
Keep the plastic packaging out of the reach of children.

- Children may suffocate.



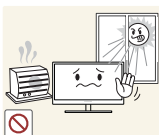
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

- 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.



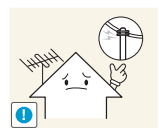
Do not install the product within the reach of young children.

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



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.



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.

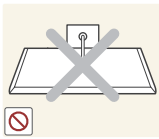
# Before Using the Product

## Caution



Do not drop the product while moving.

- Product failure or personal injury may result.



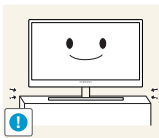
Do not set down the product on its front.

- 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 particles, chemical substances or extreme temperatures, or an airport or train station where the product should operate continuously for an extended period of time) may seriously affect its performance.

- Be sure to consult Samsung Customer Service Center 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.

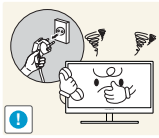
- A fire or electric shock may result.
- Contact Samsung Customer Service Center for repairs.



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

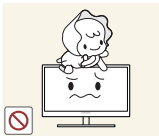
- Damage to the cord may result in a fire or electric shock.

# Before Using the Product



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

- 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.



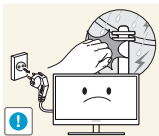
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.

- 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, power off the product and remove the power 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.



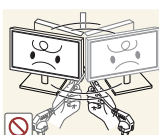
Do not move the product by pulling the power cord or any cable.

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



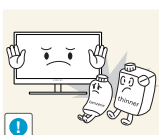
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- 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.

# Before Using the Product



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).

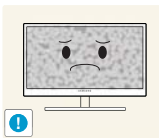
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.



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

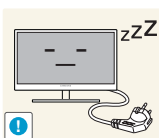
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

## **Caution**



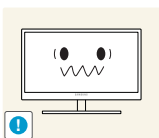
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- 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.

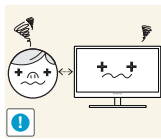
- Your eyesight may deteriorate.



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.

# Before Using the Product

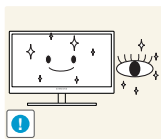


Looking at the screen too close for an extended period of time can deteriorate your eyesight.



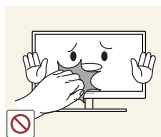
Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.

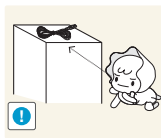


Rest your eyes for more than 5 minutes for every 1 hour of product use.

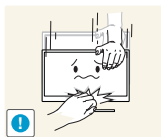
- Eye fatigue will be relieved.



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

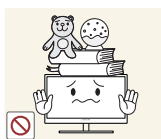


Store small accessories out of the reach of children.



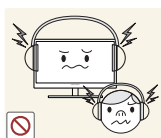
Exercise caution when adjusting the product angle or stand height.

- 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.



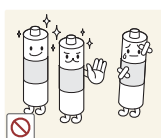
When using headphones or earphones, do not turn the volume too high.

- 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.

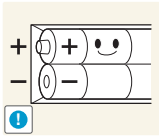


Use only the specified standardized batteries, and do not use a new battery and a used battery at the same time.

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

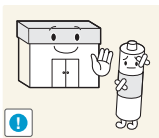


# Before Using the Product



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.



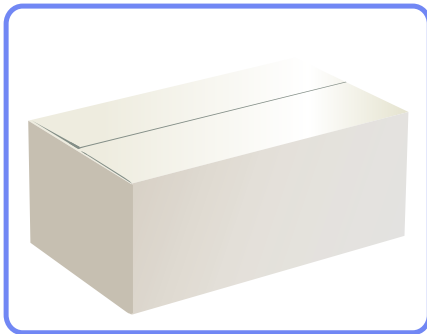
The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.

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

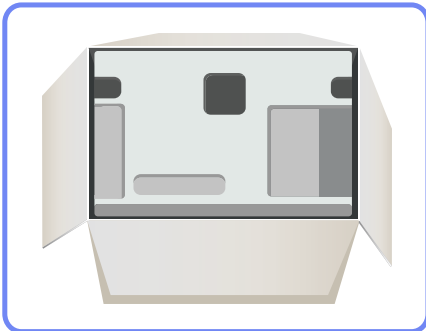
## 1.1 Checking the Contents

### 1.1.1 Removing the Packaging

- 1 Open the packaging box. Be careful not to damage the product when you open the packaging with a sharp instrument.



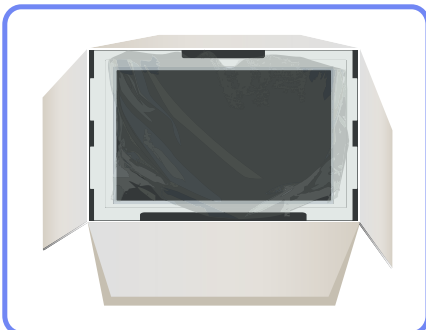
- 2 Remove the styrofoam from the product.



- 3 Check the components and remove the styrofoam and plastic bag.



- The appearance of actual components may differ from the image shown.
- This image is for reference only.



- 4 Store the box in a dry area so that it can be used when moving the product in the future.

## 1.1.2 Checking the Components

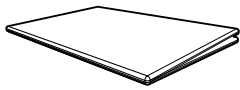


- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components and items sold separately may differ from the image shown.

### Components



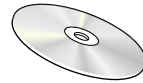
Components may differ in different locations.



Quick setup guide



Warranty card  
(Not available in some locations)



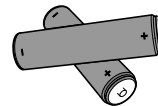
User manual



Power cord



Remote Control



Batteries  
(Not available in some locations)

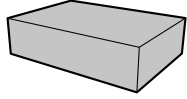


Holder wire stand

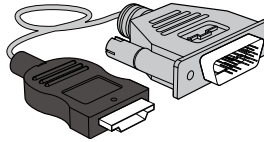
## Items sold separately



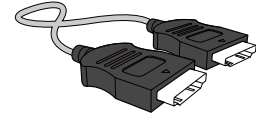
The following items can be purchased at your nearest retailer.



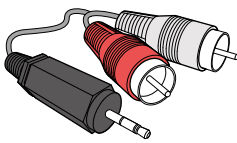
Wall-mount KIT



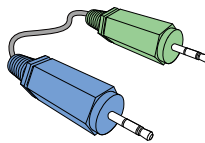
HDMI-DVI cable



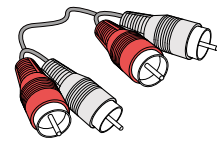
HDMI cable



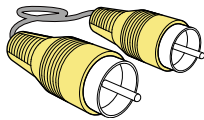
RCA stereo cable



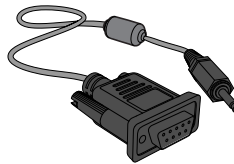
Stereo cable



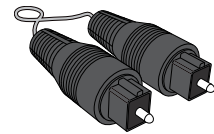
RCA cable



Video cable



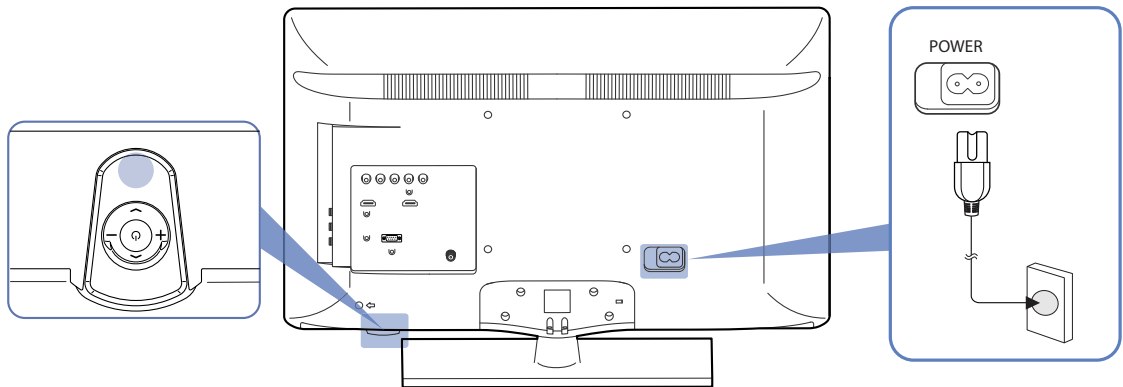
RS232C stereo cable



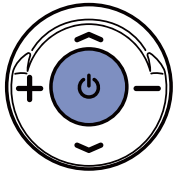

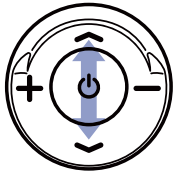

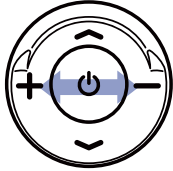

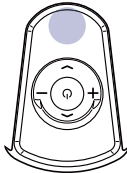
Optical cable

## 1.2 Parts

### 1.2.1 Control Panel



#### Panel Key

Location	Description
	<p>Power on the product.</p> <p>If you press the [⏻] button when the product is turned on, the control menu will be displayed.</p> <p> To exit the OSD menu, press and hold the panel key for at least one second.</p>
	<p>Move to the upper or lower menu. You can also adjust the value of an option.</p> <p> In TV mode, you can change the channel by moving the panel key up or down when the control menu is not displayed.</p>
	<p>Move to the left or right menu.</p> <p> You can adjust the volume by moving the panel key left or right when the control menu is not displayed.</p>
	<p>Remote sensor</p> <p>To control the remote control in front of the product, lower the remote control sensor in the direction of the arrow.</p>

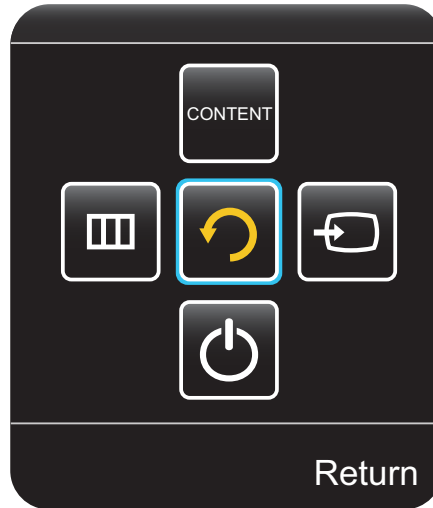


The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

### Control menu



If you press the [⏻] button on the panel key (product) when the product is turned on, the control menu will be displayed.

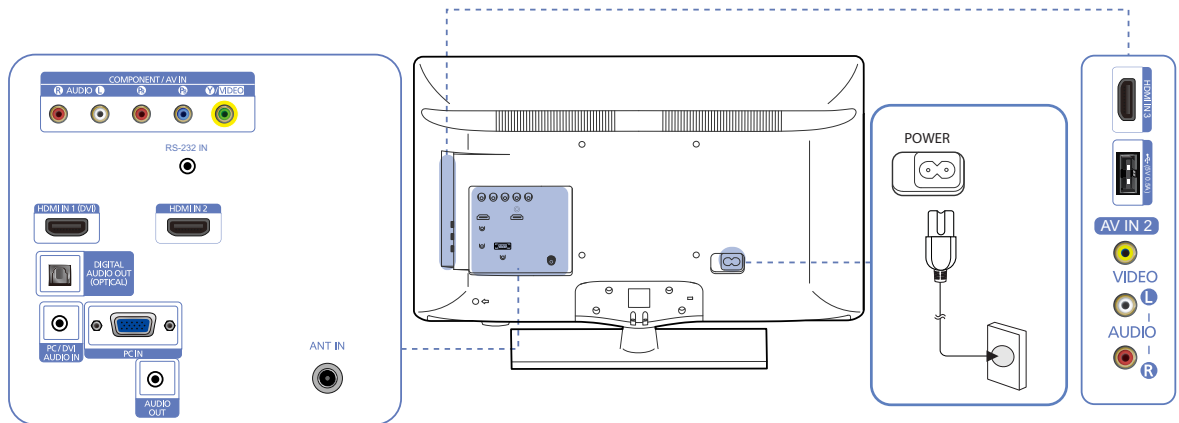


Location	Description
	Select the connected input source. Move the panel key right to select <b>Source</b> [] in the control menu. When the list of input sources is displayed, move the panel key up or down to select the desired input source. Next, press the panel key.
	Display the OSD menu. Move the panel 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.
	Enter <b>Contents Home</b> mode. Move the panel key up to select <b>Contents Home</b> [] in the control menu.
	Power off the product. Move the panel key down to select <b>Power off</b> [] in the control menu. Next, press the panel key.
	Exit the control menu.

## 1.2.2 Reverse Side

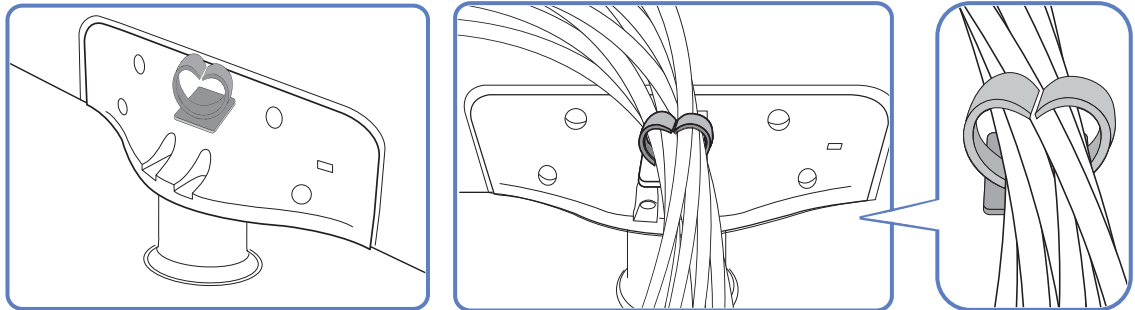


The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



Port	Description
[COMPONENT / AV IN]	Connects to a source device using the AV/component cable.
[RS-232 IN]	Connects to a source device using an RS232C cable.
[HDMI IN 1 (DVI)]	Connects to a source device using an HDMI-DVI cable.
[HDMI IN 2], [HDMI IN 3]	Connects to a source device using an HDMI cable.
[DIGITAL AUDIO OUT(OPTICAL)]	Connects to a audio device using the optical(digital) cable.
[PC / DVI AUDIO IN]	Receives sound from a PC via an audio cable.
[PC IN]	Connects to a source device using a D-SUB cable.
[AUDIO OUT]	Connects to a audio device using the audio(analog) cable.
[ANT IN]	Connect to an antenna cable.
[ (5V 0.5A)]	USB memory device port.
[AV IN 2]	Connects to the audio and video output port on a source device through an AV/RCA cable.  <b>H32B, H40B</b> model only.

### Assembling the Holder-Wire

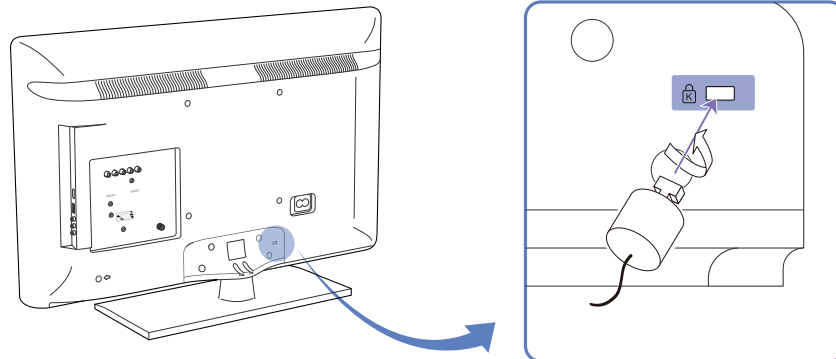


### 1.2.3 Anti-theft Lock



- 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.

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.

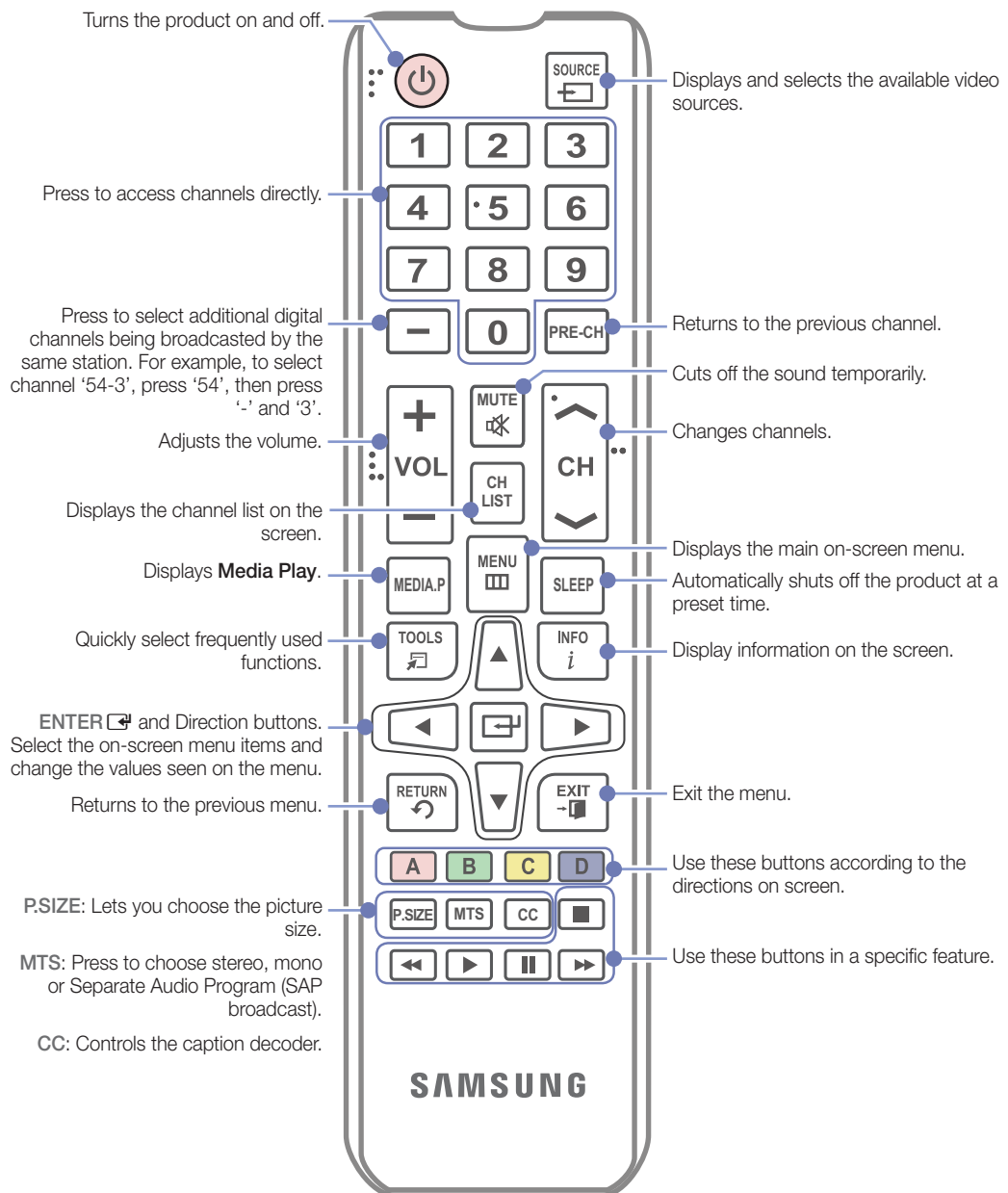


## 1.2.4 Remote Control


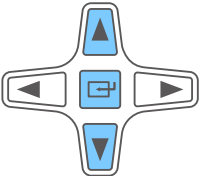
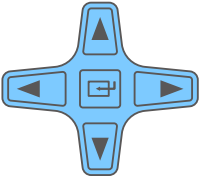
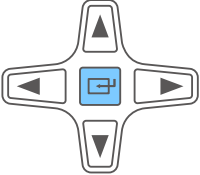



Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.

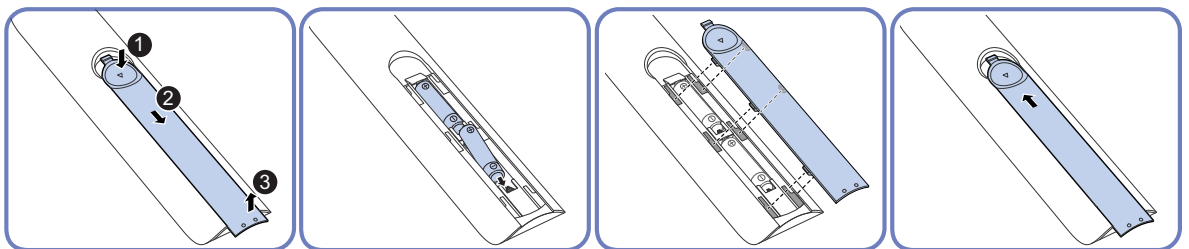
- Remote control button functions may differ for different products.



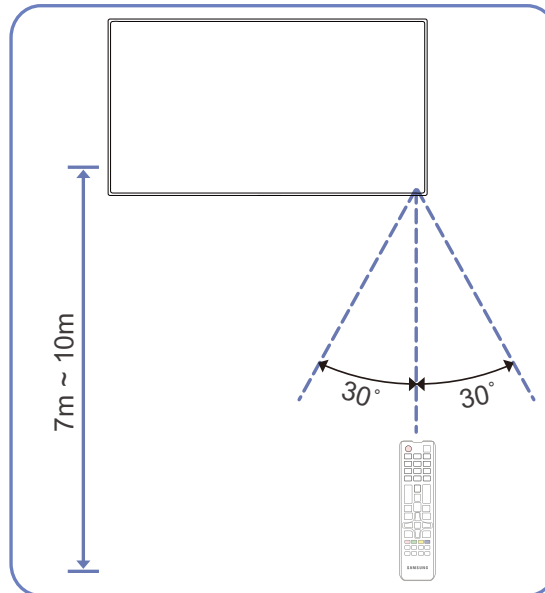
## Adjusting the OSD with the Remote Control

	1. Open the OSD menu.
	2. Select from <b>Picture</b> , <b>Sound</b> , <b>Channel</b> , <b>System</b> or <b>Support</b> in the displayed OSD menu screen.
	3. Change settings as desired.
	4. Finish setting.
	5. Close the onscreen display (OSD) menu.

## To place batteries in the remote control



## Remote Control Reception Range



Use the remote control within 7m to 10m 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.

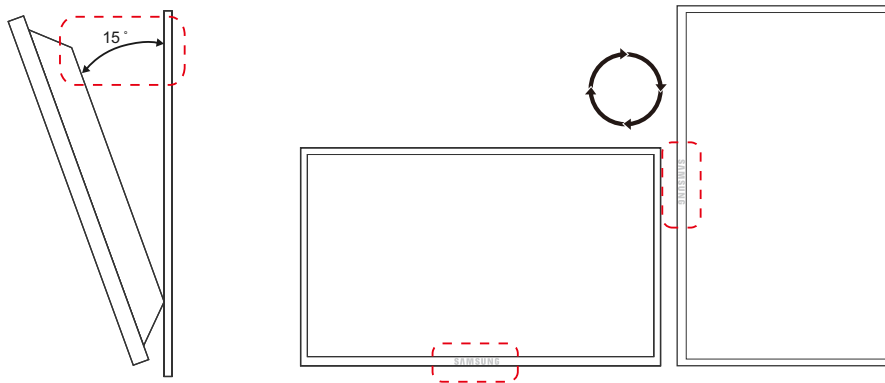
## 1.3 Before Installing the Product (Installation Guide)

**!** 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.

### 1.3.1 Tilting Angle and Rotation

 Contact Samsung Customer Service Center for further details.



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

### 1.3.2 Ventilation

#### 1. Installation on a Perpendicular Wall

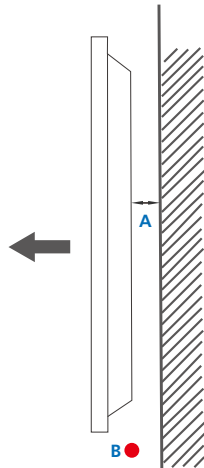


Figure 1.1 Side view

A Minimum 4 cm

B Ambient temperature: Under 35°C

- When installing the product on a perpendicular wall, allow at least 4 cm of space between the product and wall surface for ventilation and ensure that the ambient temperature is kept below 35°C.

#### 2. Installation on an Indented Wall



Contact Samsung Customer Service Center for further details.

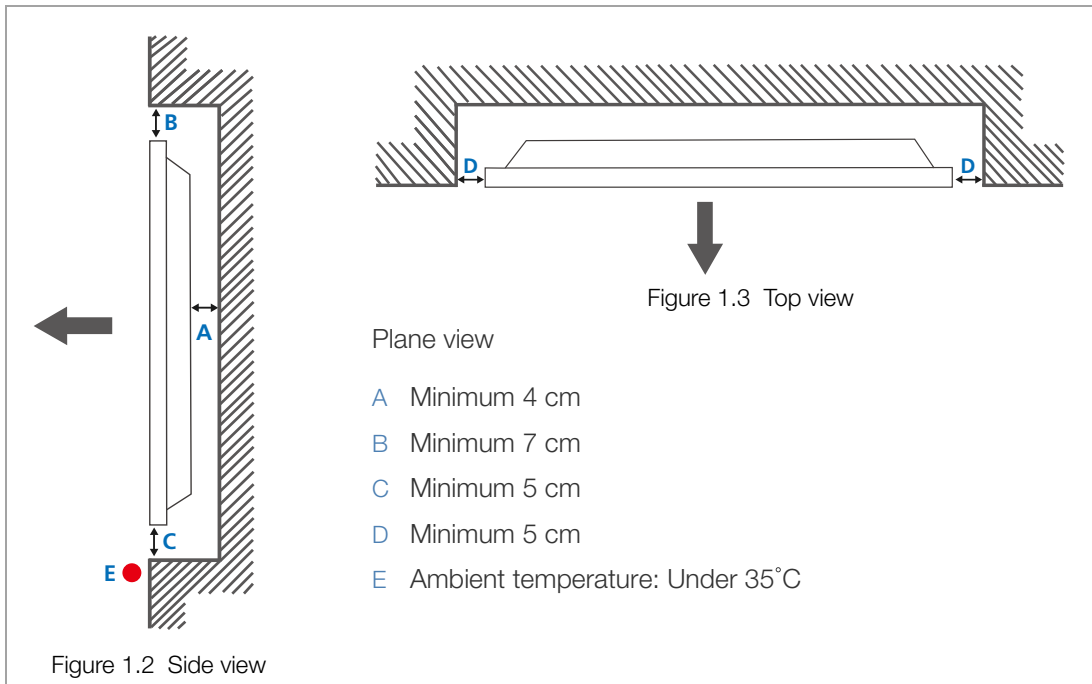


Figure 1.2 Side view

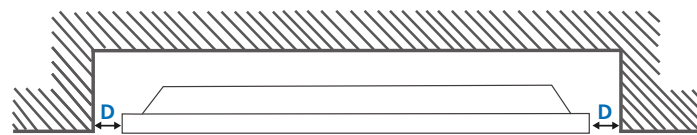


Figure 1.3 Top view

Plane view

A Minimum 4 cm

B Minimum 7 cm

C Minimum 5 cm

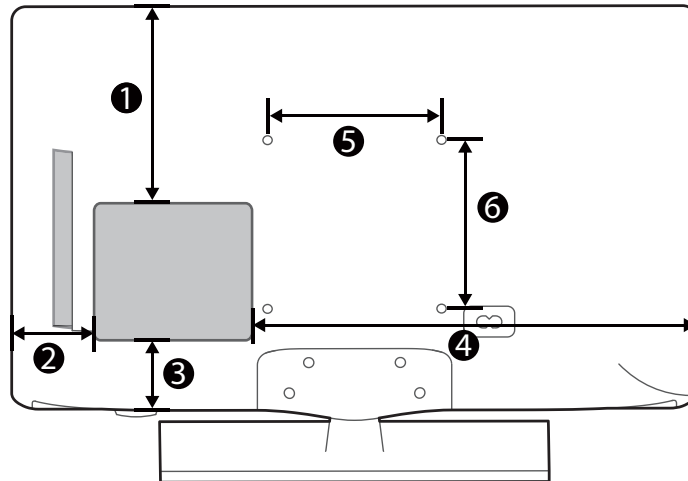
D Minimum 5 cm

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.

## 1.4 Dimensions



Unit: inches (cm)

Model name	①	②	③	④	⑤	⑥
H32B	7.4 (18.88)	3.5 (8.81)	3.8 (9.54)	19.0 (48.24)	7.9 (20.00)	7.9 (20.00)
H40B	9.6 (24.40)	5.8 (14.85)	6.3 (16.00)	24.1 (61.31)	7.9 (20.00)	7.9 (20.00)
H46B	11.7 (29.61)	5.3 (13.42)	7.8 (19.79)	29.8 (75.72)	15.7 (40.00)	15.7 (40.00)



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.

## 1.5 Installing the Wall Mount

### 1.5.1 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.

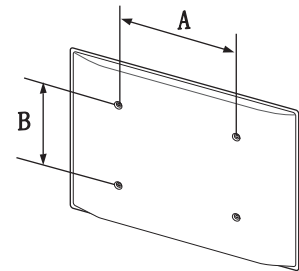
### 1.5.2 Wall Mount Kit Specifications (VESA)



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.



- Standard dimensions for wall mount kits are shown in the table below.
- Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that do not comply with the VESA standard screw specifications.
- Do not use screws that are longer than the standard 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.



# 1

## Preparations

Unit: inches (cm)

Model name	VESA	Standard Screw	Quantity
H32B H40B	7.9 x 7.9 (20 x 20)	M6	4
H46B	15.7 x 15.7 (40 x 40)	M8	



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



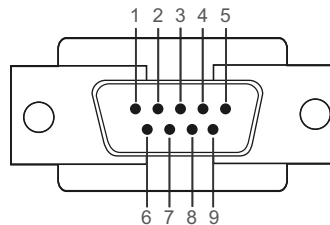
## 1.6 RS232C Connection

### 1.6.1 Cable Connection

#### RS232 Network spec

Interface	RS232C (9 pins)
Pin	TxD (No. 2), RxD (No. 3), GND (No. 5)
Bit rate	9600 bps
Data bits	8 bit
Parity	None
Stop bit	1 bit
Flow control	None
Maximum length	4m (only shielded type)

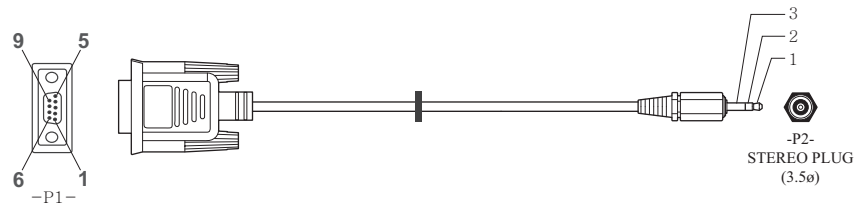
#### Pin assignment



Pin	Signal
1	Detect data carrier
2	Received data
3	Transmitted data
4	Prepare data terminal
5	Signal ground
6	Prepare data set
7	Send request
8	Clear to send
9	Ring indicator

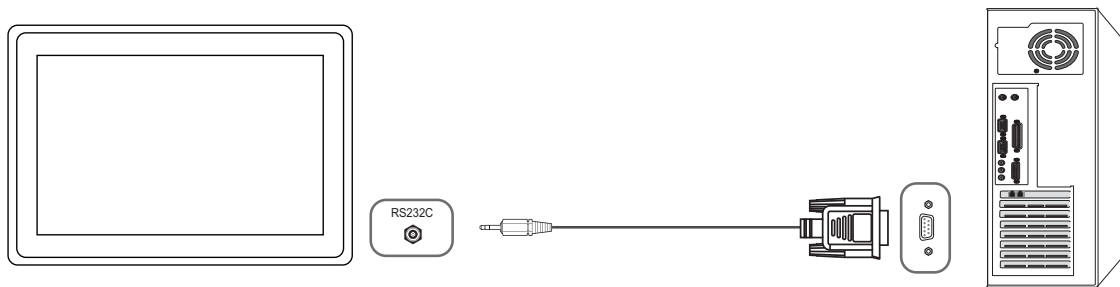
### RS232C cable

Connector: 9-Pin D-Sub to Stereo Cable



-P1-		-P1-		-P2-		-P2-
Female	Rx	2	----->	1	Tx	STEREO
	Tx	3	<-----	2	Rx	PLUG
	Gnd	5	-----	3	Gnd	(3.5ø)

### Connection



### Control Code

No.	Command type	Command	Value range
1	Power control	0x11	0~1
2	Input Source Control	0x14	-
3	Contrast Control	0x24	0 ~ 100
4	Brightness Control	0x25	0 ~ 100
5	Manual Lamp (Backlight) Control	0x58	0 ~ 100
6	CHANNEL UP DOWN	0x61	0 ~ 1
7	VOLUME UP DOWN	0x62	0 ~ 1

- All communications take place in hexadecimals. The checksum is calculated by adding up all values except the header. If a checksum adds up to be more than 2 digits as shown below (11+FF+01+01=112), the first digit is removed.

E.g. Power On & ID=0

Header	Command	ID	Data length	Data 1	Checksum
0xAA	0x11		1	"Power"	



Header	Command	ID	Data length	Data 1	Checksum
0xAA	0x11		1	1	

This product doesn't support ID setup. This product uses only zero value for ID.

### Power control

- Function  
A product can be powered on and off using a PC.
- Viewing power state (Get Power ON / OFF Status)

Header	Command	ID	Data length	Checksum
0xAA	0x11		0	

- Setting power ON/Off (Set Power ON / OFF)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x11		1	"Power"	

"Power": Power code to be set on a product.

1: Power ON

0: Power OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x11	"Power"	

"Power": Power code to be set on a product.

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x11	"ERR"	

"ERR": A code showing what error has occurred.

### Input source control

- Function  
The input source of a product can be changed using a PC.
- Viewing input source state (Get Input Source Status)


Header	Command	ID	Data length	Checksum
0xAA	0x14		0	

- Setting the input source (Set Input Source)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x14		1	"Input Source"	

"Input Source": An input source code to be set on a product.

0x14	PC
0x0C	AV (AV1)
0x0D	AV2
0x0E	Ext. (SCART1)
0x08	Component
0x40	DTV
0x21	HDMI1
0x22	HDMI1_PC
0x23	HDMI2
0x24	HDMI2_PC
0x31	HDMI3
0x32	HDMI3_PC

-  Note. HDMI1\_PC, HDMI2\_PC and HDMI3\_PC cannot be used with the Set command. They only respond to "Get" commands.

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x14	"Input Source"	

"Input Source": An input source code to be set on a product.

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x14	"ERR"	

"ERR": A code showing what error has occurred.

0 : Check Sum Error

1 : Not Supported Command

### Contrast Control

- Function  
The "Contrast" of a product can be changed using a PC.
- Get "Contrast" Status

Header	Command	ID	Data length	Checksum
0xAA	0x24		0	

- Set Contrast

Header	Command	ID	Data length	Data 1	Checksum
0xAA	0x24		1	"Contrast"	

"Contrast" : Contrast value code to be set on a product ( 0 ~ 100 )

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x24	"Contrast"	

"Contrast" : Contrast value code to be set on a product ( 0 ~ 100 )

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x24	"ERR"	

"ERR": A code showing what error has occurred.

0 : Check Sum Error

1 : Not Supported Command

### Brightness Control

- Function  
The "Brightness" of a product can be changed using a PC.
- Get "Brightness" Status

Header	Command	ID	Data length	Checksum
0xAA	0x25		0	

- Set Brightness

Header	Command	ID	Data length	Data	Checksum
0xAA	0x25		1	"Brightness"	

"Brightness" : Brightness value code to be set on a product. ( 0 ~ 100 )

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x25	"Brightness"	

"Brightness" : Brightness value code to be set on a product. ( 0 ~ 100 )

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x25	"ERR"	

"ERR": A code showing what error has occurred.

### Manual Lamp (Backlight) Control

- Function  
The "Manual Lamp(backlight)" of a product can be changed using a PC.
- Get "LampValue" Status

Header	Command	ID	Data length	Checksum
0xAA	0x58		0	

- Set "LampValue"

Header	Command	ID	Data length	Data	Checksum
0xAA	0x58		1	"LampValue"	

"LampValue" : Manual Lamp value to be set on a product. (0 ~ 100)

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x58	"LampValue"	

"LampValue" : Manual Lamp value to be set on a product. (0 ~ 100)

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x58	"ERR"	

"ERR": A code showing what error has occurred.

0 : Check Sum Error

1 : Not Supported Command



### Channel Up/Down

- Function  
Personal Computer can control TV Channel.  
(If PIP is on and PIP source is TV, it also should work.)
- Get TV Channel Up/Down : N/A
- Set TV "Channel Up/Down"

Header	Command	ID	Data length	Data 1	Checksum
0xAA	0x61		1	"Channel Up/Down"	

"Channel Up/Down": Channel UP or Down to be set on a product. (0~1)

0 : Up

1 : Down

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x61	"Channel Up/Down"	

"Channel Up/Down": Channel UP or Down to be set on a product. (0~1)

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x61	"ERR"	

"ERR": A code showing what error has occurred.

0 : Check Sum Error

1 : Not Supported Command

### Volume control

- Function  
The volume of a product can be adjusted using a PC.
- Viewing volume state (Get Volume Status) : N/A
- Setting the volume (Set Volume)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x62		1	"Volume"	

"Volume": Volume value code to be set on a product. (0 ~ 1)

0 : Up

1 : Down

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x62	"Volume"	

"Volume": Volume value code to be set on a product.

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x62	"ERR"	

"ERR": A code showing what error has occurred.

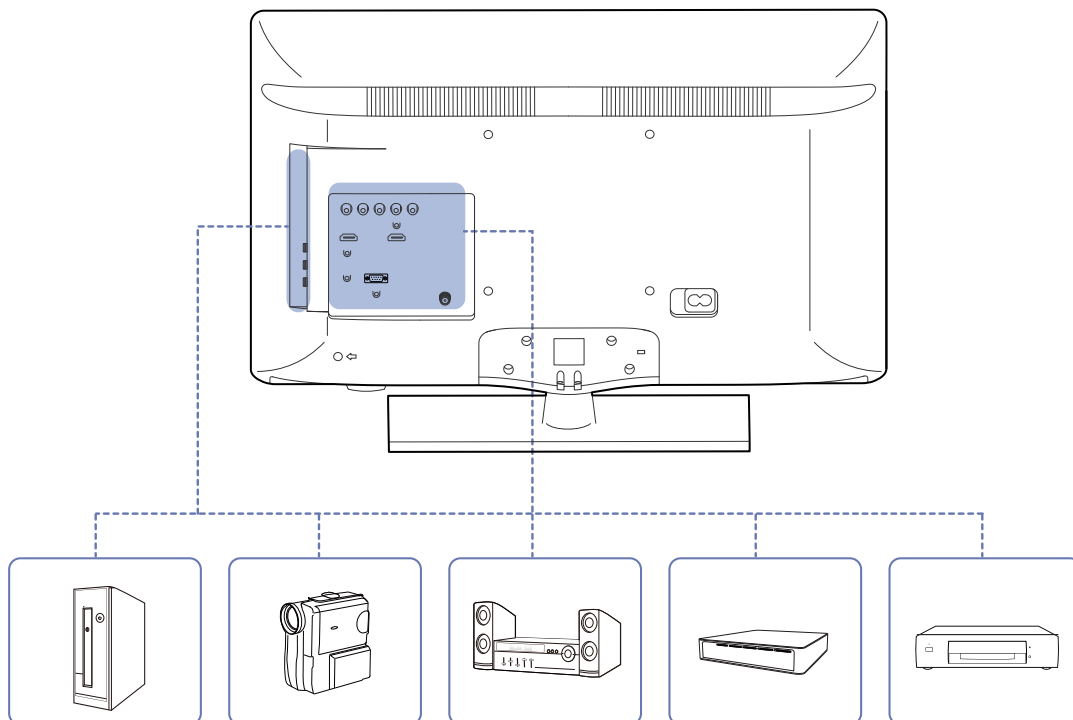
0 : Check Sum Error

1 : Not Supported Command

## 2.1 Before Connecting

Check the following before you connect this product with other devices.

Devices that can be connected to this product include PCs, camcorders, speakers, set top boxes and DVD/Blu-ray Disc players.



### 2.1.1 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.

## 2.2 Connecting and Using a PC

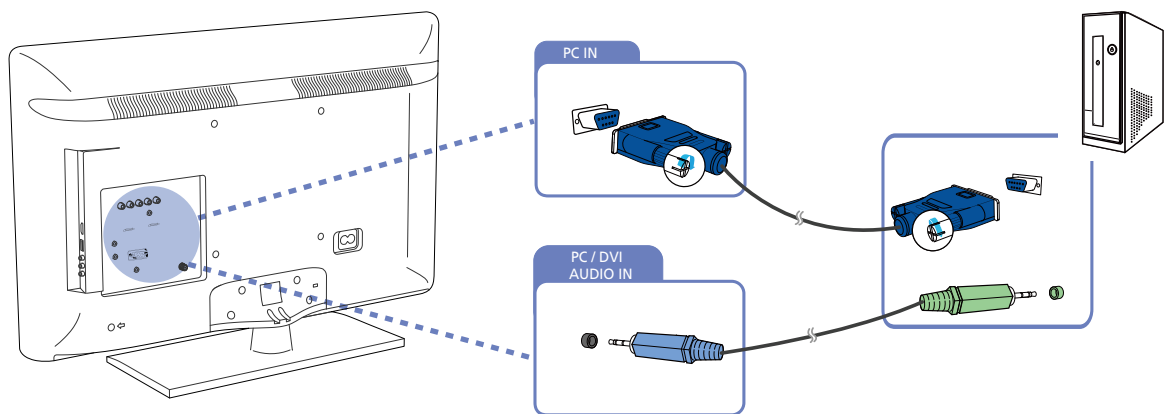
### 2.2.1 Connecting to a PC

- 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.

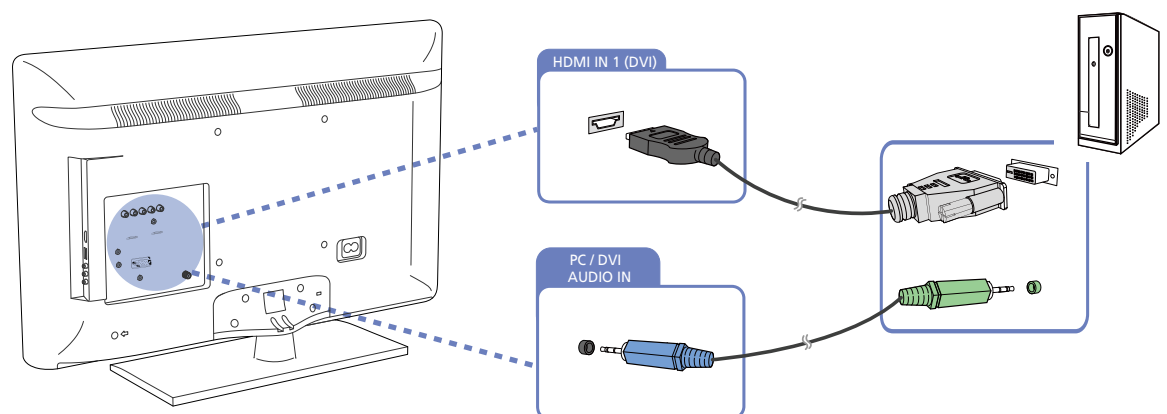


Connecting parts may differ in different products.

#### Connection using the D-SUB cable (analog type)

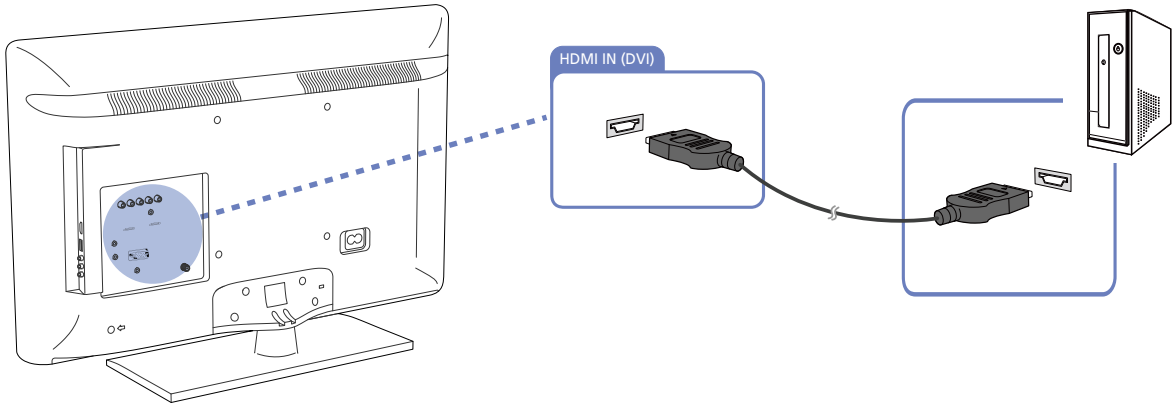


#### Connection Using an HDMI-DVI Cable



When you connect a PC to the product using an HDMI-DVI cable, set **Edit Name** to **DVI PC** to access video and audio content stored on the PC.

## Connection Using an HDMI Cable



### 2.2.2 Changing the Resolution

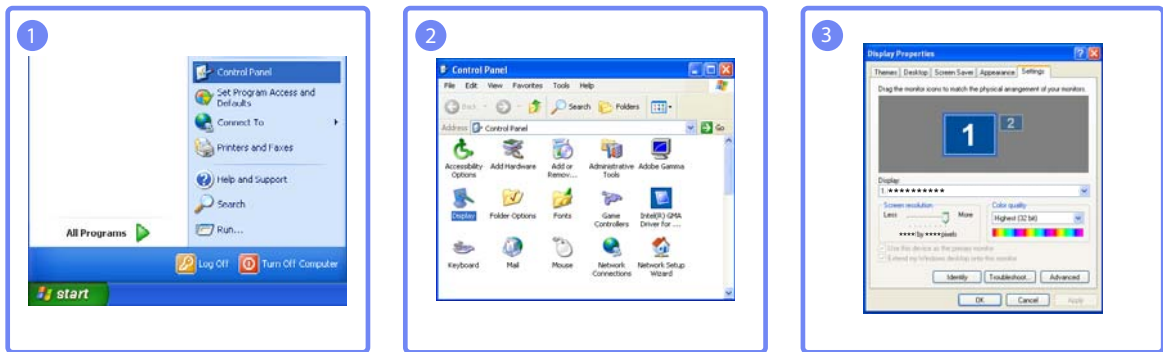


Adjust the resolution and refresh rate in Control Panel on your PC to obtain optimum picture quality.

The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.

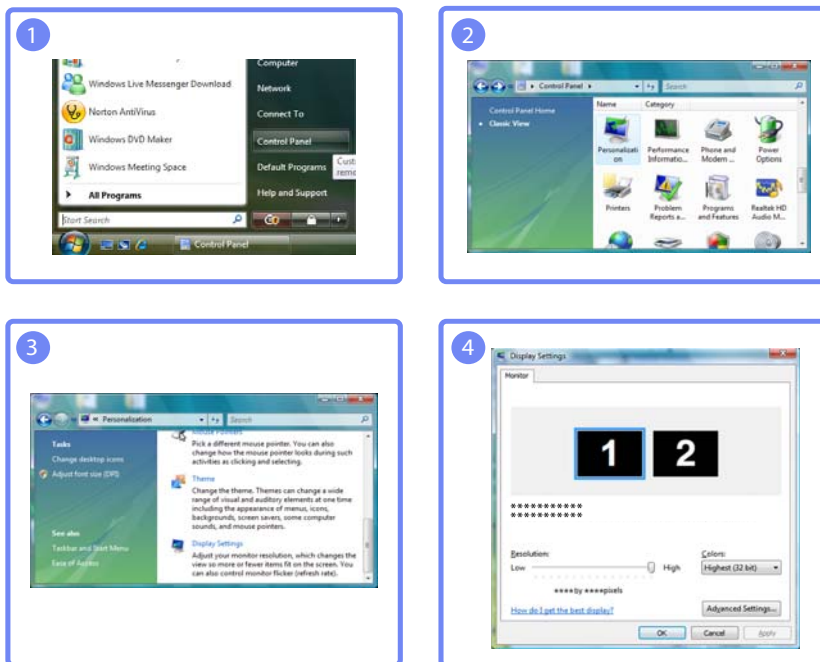
Changing the Resolution on Windows XP

Go to **Control Panel** → **Display** → **Settings**, and change the resolution.



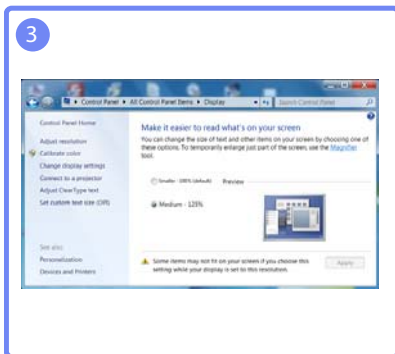
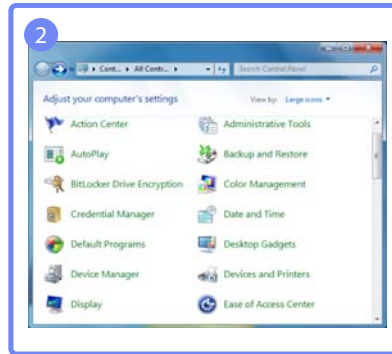
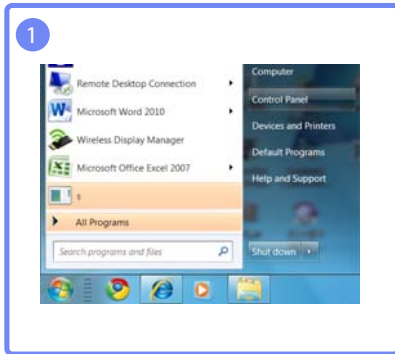
Changing the Resolution on Windows Vista

Go to **Control Panel** → **Personal Settings** → **Display Settings**, and change the resolution.



Changing the Resolution on Windows 7

Go to **Control Panel** → **Display** → **Screen Resolution**, and change the resolution.

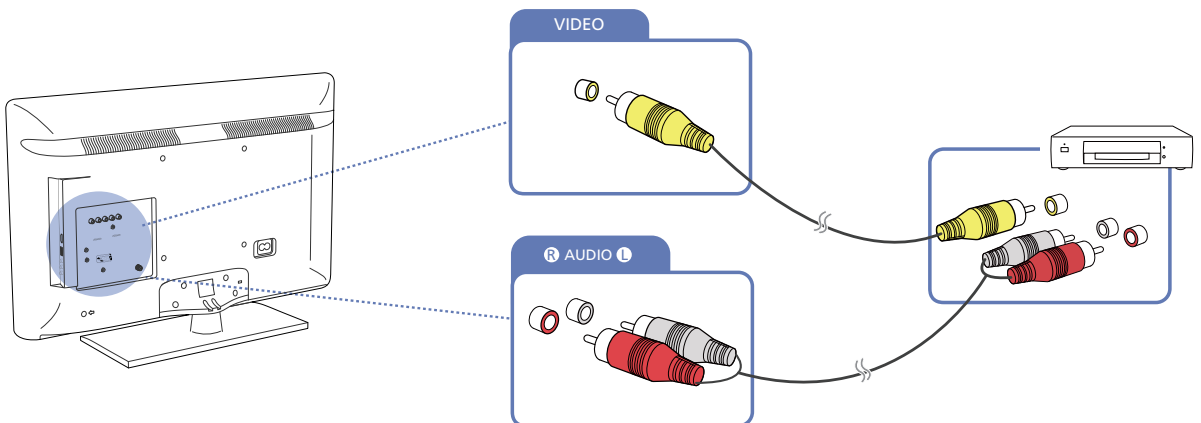


## 2.3 Connecting to a Video Device

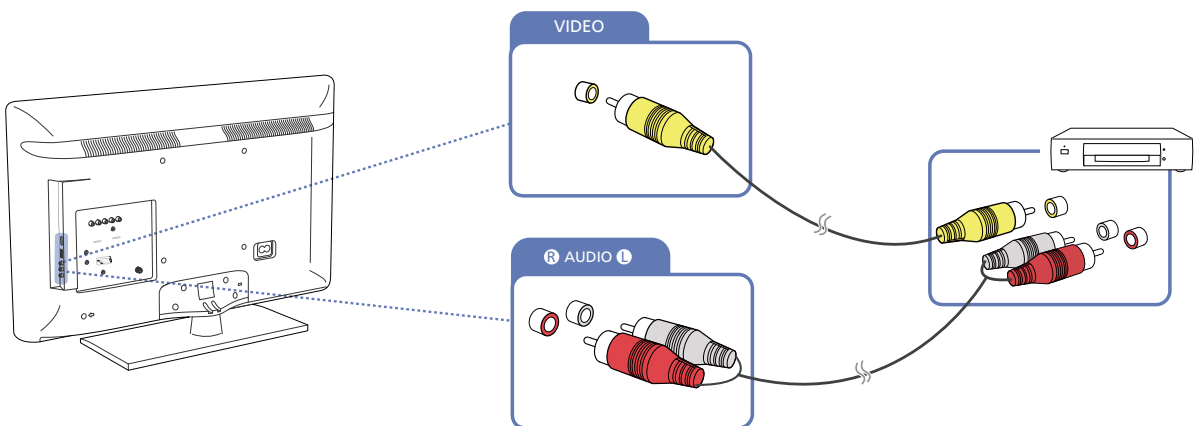
- Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
- You can connect a video device to the product using a cable.
  - Connecting parts may differ in different products.
  - After connecting a source device,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

### 2.3.1 Connection Using the AV Cable

#### Rear

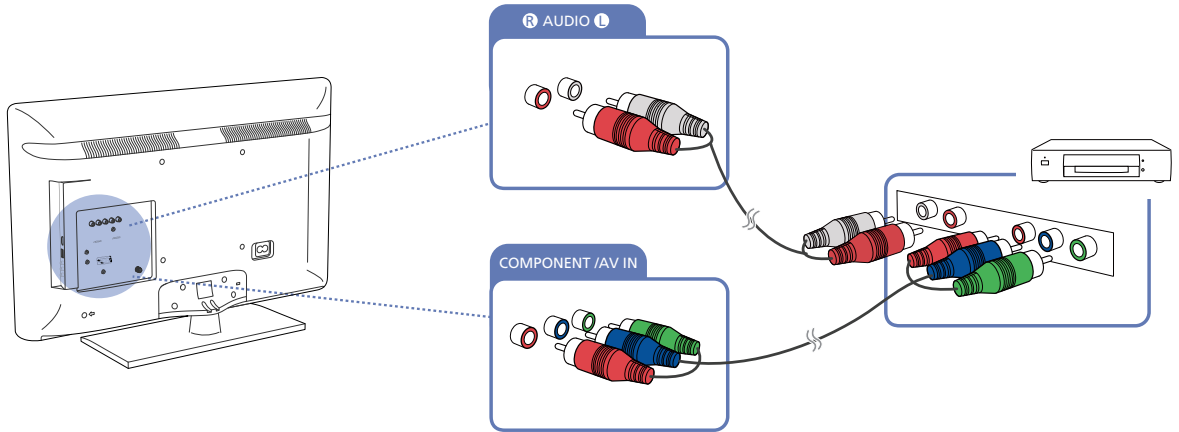


#### Side (H32B, H40B Model Only)



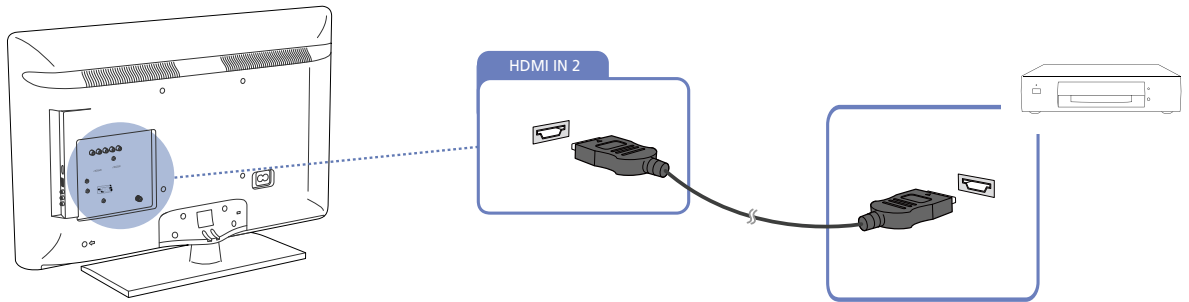


## 2.3.2 Connection Using the Component Cable

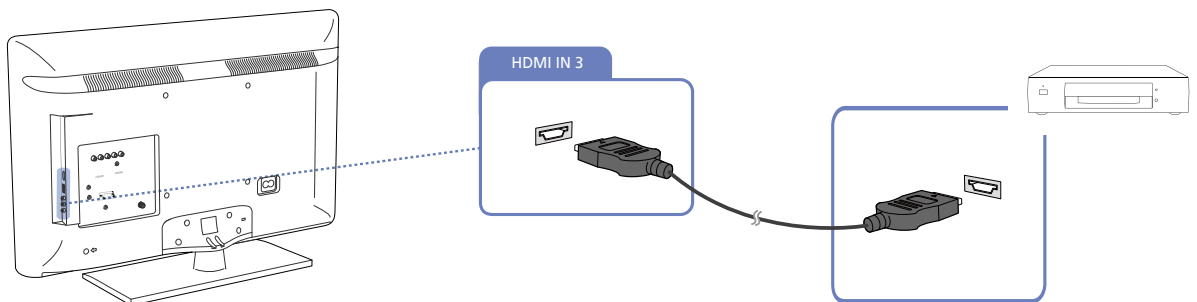


### 2.3.3 Connection Using an HDMI Cable

#### Rear



#### Side

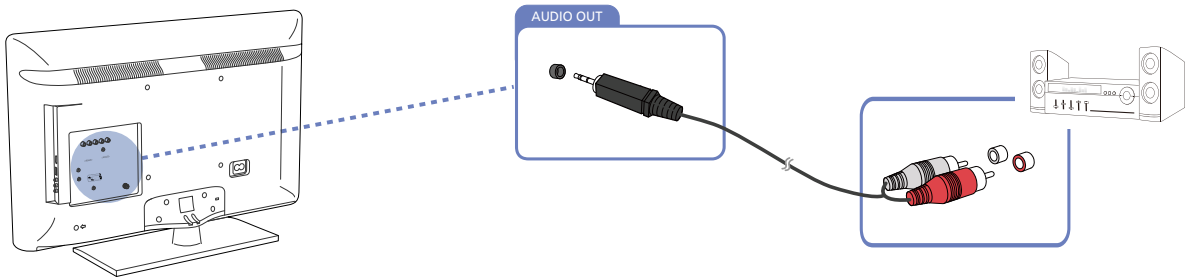


#### Using an HDMI cable or HDMI to DVI Cable (up to 1080p)

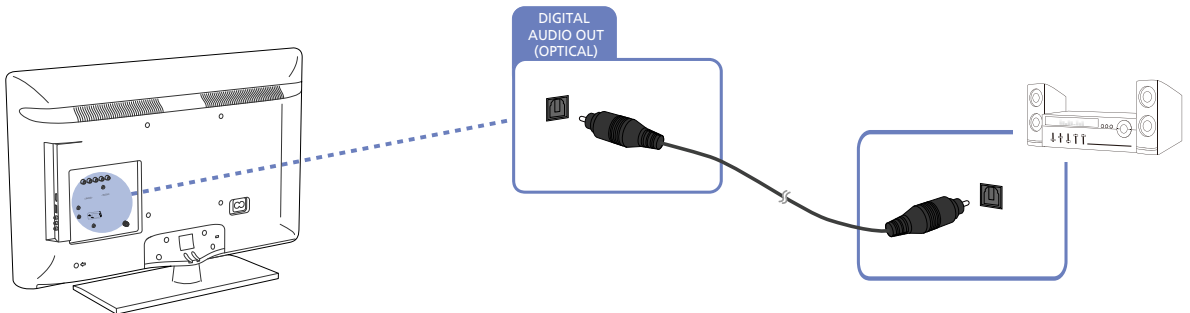
- For better picture and audio quality, connect to a digital device using an HDMI cable.
- An HDMI cable supports digital video and audio signals, and does not require an audio cable.
  - To connect the TV to a digital device that does not support HDMI output, use an HDMI/DVI and audio cables.
- The 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 TV. 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 1.4 cm 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.

### 2.3.4 Connecting to an Audio System

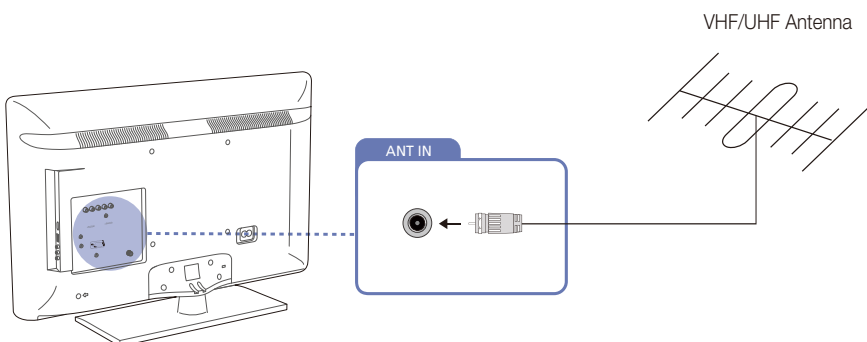
#### Using an Audio (Analog) Cable



#### Using an Optical (Digital) Cable



### 2.3.5 Connecting to an Antenna



The initial settings process runs automatically when the product is turned on for the first time after purchase.



Take extra care to ensure the wires inside the cable do not bend.

## 2.4 Changing the Input source

### 2.4.1 Source

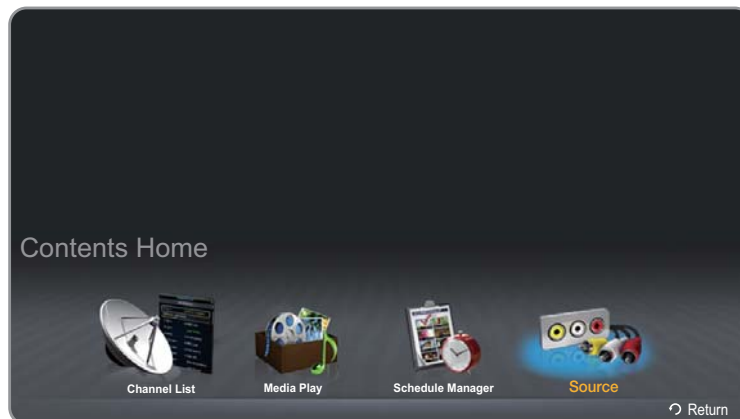
 MENU [ ] → **Support** → **Contents Home** → **Source** → ENTER [ ]

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


#### Source


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.

 Refer to page 101 product for details about the **Source** menu.



The displayed image may differ depending on the model.

 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.

## Screen Adjustment

Configure the **Picture** settings (**Brightness**, **Color Tone**, etc.).



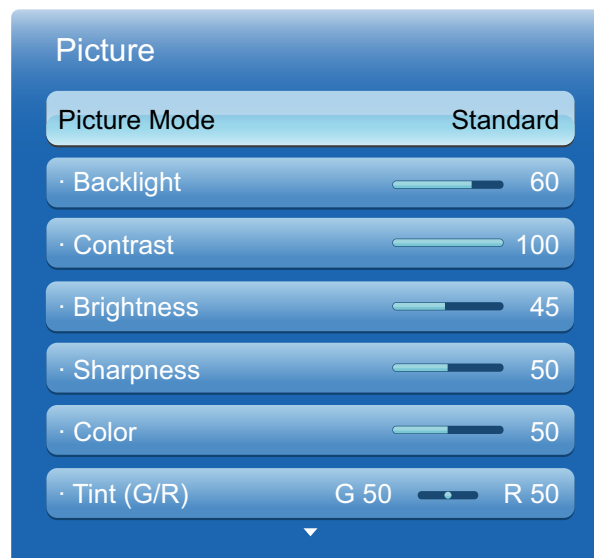
The layout of the **Picture** menu options may vary depending on the product.

### 3.1 Picture Mode



**MENU** [ ] → **Picture** → **Picture Mode** → **ENTER** [ ]

Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used. Different **Picture Mode** options are displayed depending on the current input source.



The displayed image may differ depending on the model.

#### 3.1.1 If the input source is PC

- **Entertain**: Suitable for watching movies and games.
- **Standard**: Suitable for a normal environment

#### 3.1.2 If the input source is AV, Component, HDMI or TV

- **Dynamic**: This mode is suitable when the ambient light is bright.
- **Standard**: This mode is generally suitable for any environment.
- **Natural**: Suitable for reducing eye strain. (H40B, H46B Model Only)
- **Movie**: This mode reduces eye fatigue.

## 3.2 Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)

 MENU [⏏] → **Picture** → ENTER [↵]

Your monitor has several options for adjusting picture quality. Select an option using the ▲ and ▼ arrow keys, and then press [↵]. Use the arrow keys to adjust the option value or select an option setting.

When done, press [↵].



- When you make changes to **Backlight, Contrast, Brightness, Sharpness, Color** or **Tint (G/R)**, the OSD will be adjusted accordingly.
- When connecting a **PC**, you can only make changes to **Backlight, Contrast, Brightness**, and **Sharpness**.
- You can adjust and store Settings for each external device connected to the product.
- Lowering picture brightness reduces power consumption.

### 3.3 Screen Adjustment

 MENU [MENU] → Picture → Screen Adjustment → ENTER [ENTER]

**Screen Adjustment** provides various picture size and aspect ratio options. Select an option using the ▲ and ▼ arrow keys, and then press [ENTER]. Use the arrow keys to select an option in the sub-menu, and then press [ENTER].



Different **Screen Adjustment** options are displayed depending on the current input source.



The displayed image may differ depending on the model.

#### 3.3.1 Picture Size

If you have a cable box or satellite receiver, it may have its own set of screen sizes as well. However, we highly recommend you use your product's **16:9** mode most of the time.

- **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 1** is enabled only in **HDMI** mode.
  - The picture size can vary depending on the input resolution when you play content from **Videos** in **Media**.
- **Smart View 2**: Reduces the 16:9 picture by 25%.
  -  **Smart View 2** is enabled only in **HDMI** mode.
  - The picture size can vary depending on the input resolution when you play content from **Videos** in **Media**.
- **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) or Component (1080i / 1080p) signals are inputted.
- **Custom:** Changes the resolution to suit the user's preferences.



You can adjust and store settings for each external device you have connected to an input on the product.

### Picture Sizes available by Input Source.

Input Source	Picture Size
ATV, AV, Component (480i, 480p)	<b>16:9, Zoom1, Zoom2, 4:3</b>
DTV (1080i)	<b>16:9, 4:3, Smart View 2, Wide Fit, Screen Fit</b>
Component (1080i, 1080p)	<b>16:9, 4:3, Wide Fit, Screen Fit</b>
HDMI (720p, 1080i, 1080p)	<b>16:9, 4:3, Wide Fit, Screen Fit, Smart View 1, Smart View 2</b>
PC, HDMI (when a PC is connected)	<b>16:9, 4:3</b>



### 3.3.2 Position

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

- To use the **Position** function after selecting **Zoom1**, **Zoom2**, **Wide Fit** or **Screen fit** follow these steps.
  - 1 Press the ▼ button to select **Position**.
  - 2 Press the [↔] button.
  - 3 Press the ▲ or ▼ button to move the picture up or down.
  - 4 Press the [↔] button.
  - 5 Select **Close** by pressing the ▲ and ▼ buttons sequentially. To reset the picture position, press **Reset**.
- To use the **Position** function after selecting **Screen Fit** in **HDMI** (1080i/1080p) or **Component** (1080i/1080p) or **Custom**, follow these steps.
  - 1 Press the ▼ button to select **Position**.
  - 2 Press the [↔] button.
  - 3 Press the ▲/▼/◀/▶ button to move the picture.
  - 4 Press the [↔] button.
  - 5 Select **Close** by pressing the ▲ and ▼ buttons sequentially.



If you want to reset the picture to its original position, select **Reset** in the **Position** screen. The picture will be set to its default position.

### 3.3.3 PC Screen Adjustment



Available in **PC** mode only.

**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 center of screen.


**Position**: To adjust the PC's screen position if it is not centered 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.

### 3.4 Auto Adjustment

 MENU [ ] → Picture → Auto Adjustment → ENTER [ ]

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

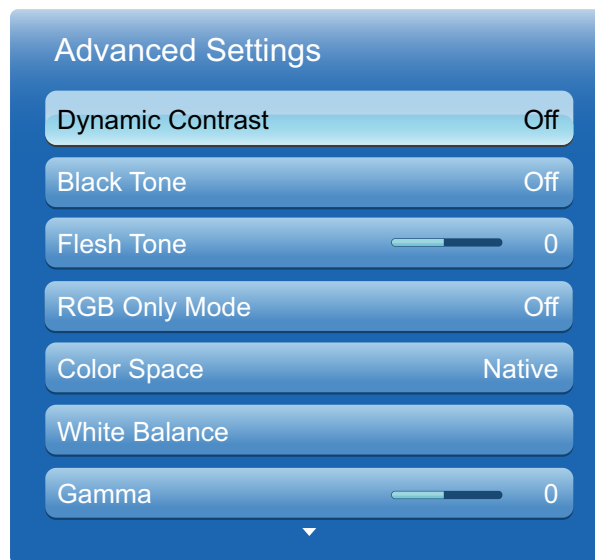
 This option is available when the input source is **PC**.

## 3.5 Advanced Settings

 MENU [ ] → **Picture** → **Advanced Settings** → ENTER [↵]

All **Advanced Settings** are available in the **Standard** and **Movie** modes. To use, select an option using the up and down arrow keys, and then press [↵]. Use the arrow keys to change the value or setting, and then press [↵].

 In **PC** mode, you can only make changes to **Gamma** and **White Balance**.



The displayed image may differ depending on the model.

### 3.5.1 Dynamic Contrast

Adjust the screen contrast.

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

### 3.5.2 Black Tone

Select the black level to adjust the screen depth.

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

### 3.5.3 Flesh Tone

Emphasize pink Flesh Tone.

## 3.5.4 RGB Only Mode

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

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

## 3.5.5 Color Space

Adjusts the range and variety of colors (the color space) available to create images.

- **Auto / Native**

## 3.5.6 White Balance

Adjust the color temperature for a more natural picture.

- **R-Offset / G-Offset / B-Offset**: Adjust each color's (red, green, blue) darkness.
- **R-Gain / G-Gain / B-Gain**: Adjust each color's (red, green, blue) brightness.
- **Reset**: Resets the **White Balance** to its default settings.

## 3.5.7 Gamma

Adjust the primary color intensity.


## 3.5.8 Motion Lighting (Off / On)

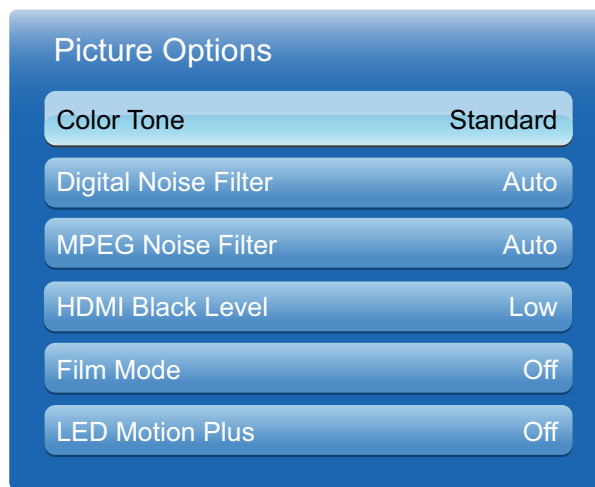
Reduces power consumption by reducing screen brightness when the picture on the screen is in motion.

## 3.6 Picture Options

 **MENU** [MENU] → **Picture** → **Picture Options** → **ENTER** [ENTER]

Select an option using the ▲ and ▼ arrow keys, and the press [ENTER]. Use the arrow keys to change the setting, and then press [ENTER].

 In **PC** mode, you can only make changes to the **Color Tone**.



The displayed image may differ depending on the model.

### 3.6.1 Color Tone

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



- **Warm1** or **Warm2** will be deactivated when the **Picture Mode** is **Dynamic**.
- Settings can be adjusted and stored for each external device connected to an input on the product.

### 3.6.2 Digital Noise Filter

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

- **Off / Low / Medium / High / Auto / Auto Visualization**
- **Auto Visualization:** When changing analog channels, displays signal strength.
  - Only available for analog channels.
  - When bar is green, is that the best possible signal.



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

### 3.6.3 MPEG Noise Filter

Reduces MPEG noise to provide improved picture quality.

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

### 3.6.4 HDMI Black Level

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

- **Normal / Low**



Available only in **HDMI** mode.

### 3.6.5 Film Mode

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, COMPONENT** (480i / 1080i) and **HDMI** (480i / 1080i).

### 3.6.6 LED Motion Plus (Off / On)- (H40B, H46B Model Only)

Removes blur and judder from scenes with large amounts of rapid movement to provide a clearer picture.

## 3.7 Reset Picture



**MENU** [ ] → **Picture** → **Reset Picture** → **ENTER** [ ]


Resets your current picture mode to its default settings.

# 4

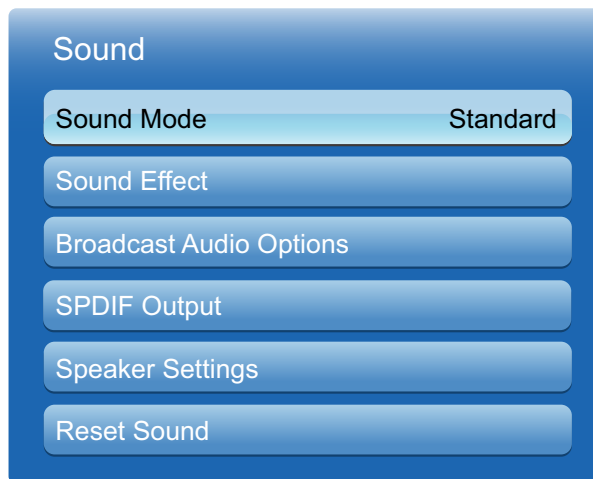
## Sound Adjustment

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

### 4.1 Sound Mode

 MENU [M] → **Sound** → **Sound Mode** → ENTER [↵]

Use the up and down arrow keys to select an option, and then press [↵].




The displayed image may differ depending on the model.

- **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 Select** is set to **External**, **Sound Mode** is disabled.

## 4.2 Sound Effect

 MENU [M] → Sound → Sound Effect → ENTER [↵]



- If **Speaker Select** is set to **External**, **Sound Effect** is disabled.
- Available only when **Sound Mode** is set to **Standard**.

- **SRS TruSurround HD (Off / On)**

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

- **SRS TruDialog (Off / On)**

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.

- **Equalizer**

The Equalizer displays a series of sliders. Use the up and down arrow keys to select a slider. Use the left and right arrow keys to change the slider's value. To **Reset** the **Equalizer**, select **Reset** and press [↵], then select **Yes** and press [↵]. To exit, select **Close**, and then press [↵].



**Equalizer** is available in the **standard** sound mode only.

- **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.



## 4.3 Broadcast Audio Options

 MENU [MENU] → **Sound** → **Broadcast Audio Options** → ENTER [ENTER]

- **Preferred Language**

(digital channels only)

Use the up and down arrow keys to select a language, and then press [ENTER].

Digital-TV broadcasts can simultaneously transmit many audio tracks (for example, simultaneous translations of the program into foreign languages).



You can only select a language from among the ones being broadcasted.

- **Multi-Track Sound**

(analog channels only)

Select an option using the up and down arrow keys, and then press [ENTER].

- **Mono:** Choose for channels that are broadcasting in mono or if you are having difficulty receiving a stereo signal.
- **Stereo:** Choose for channels that are broadcasting in stereo.
- **SAP:** Choose to listen to the Separate Audio Program, which is usually a foreign-language translation.



Depending on the program being broadcast, you can listen to **Mono**, **Stereo**, or **SAP**.

## 4.4 SPDIF Output

 MENU [MENU] → **Sound** → **SPDIF Output** → ENTER [ENTER]

SPDIF (Sony Philips Digital InterFace) is used to provide digital sound, reducing interference going to speakers and various digital devices such as a DVD player.

- **Audio Format:** You can select the Digital Audio output (SPDIF) format.



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

- **Audio Delay:** Correct audio-video sync problems, when watching TV or video, and when listening to digital audio output using an external device such as an AV receiver (0ms ~ 250ms).

## 4.5 Speaker Settings

 MENU [M] → Sound → Speaker Settings → ENTER [↵]

- **Speaker Select (External Speaker / TV Speaker)**

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 TV's speakers and the speakers attached to your audio receiver. If this occurs, set the TV to **External Speaker**.



- When you set **Speaker Select** to **External Speaker**, the TV's speakers are turned off. You will hear sound through the external speakers only. When the **Speaker Select** is set to **TV Speaker**, both the product speakers and the external speakers are on. You will hear sound through both.
- If there is no video signal, both the TV's speakers and the external speakers will be mute.

- **Auto Volume (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**.

## 4.6 Reset Sound

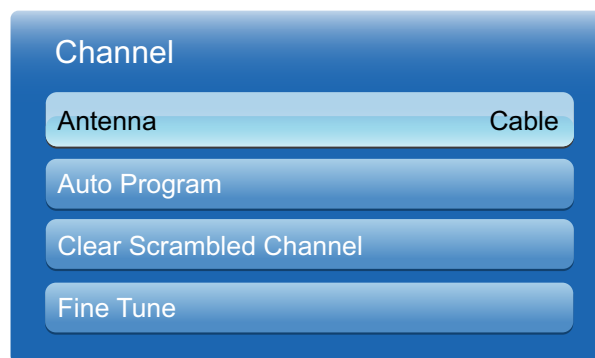
 MENU [M] → Sound → Reset Sound → ENTER [↵]

Reset all sound settings to the factory defaults. Select **Reset Sound**, press [↵], select **Yes** in the pop-up, and then press [↵] again.

## 5.1 Channel

 MENU [MENU] → Channel → ENTER [ENTER]

This option is available when the input source is **TV**.



The displayed image may differ depending on the model.

### 5.1.1 Antenna (Air/Cable)

 MENU [MENU] → Channel → Antenna → ENTER [ENTER]



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

- **Air / Cable**

### 5.1.2 Auto Program

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

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

- 1 Push  MENU [MENU] → Channel → Auto Program → ENTER [ENTER] on your remote. The Antenna Source screen appears.
- 2 On the Antenna Source screen, select the source of your product signal.
  -  **Air**: If your product is connected to an antenna choose **Air**, and then press ENTER [ENTER]. The product will automatically start memorizing channels.
  - **Cable**: If your product is connected to a cable outlet, choose **Cable**, and then press ENTER [ENTER]. Go to Step 3.

- 3 On the Cable Type screen, use the ▲/▼/◀/▶ buttons to select the type of digital and analog cable systems you have: STD, HRC, or IRC. Most systems are STD (Standard). When done, select **Start**, 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 Channels list. These are the channels you will see when you use the Channel buttons on your remote.


### 5.1.3 Clear Scrambled Channel

 MENU [MENU] → Media → Channel → Clear Scrambled Channel → ENTER [ENTER]

This function filters out scrambled channels after **Auto Program** is completed. This process may take up to 20~30 minutes.

How to Stop the Clear Scrambled Channels function

- 1 Press the [ENTER] button to select **Stop**.
- 2 Press the [▲] button to select **Yes**.
- 3 Press the [ENTER] button.


 This function is only available in **Cable** mode.

### 5.1.4 Fine Tune

 MENU [MENU] → Channel → Fine Tune → ENTER [ENTER]

(analog channels only)

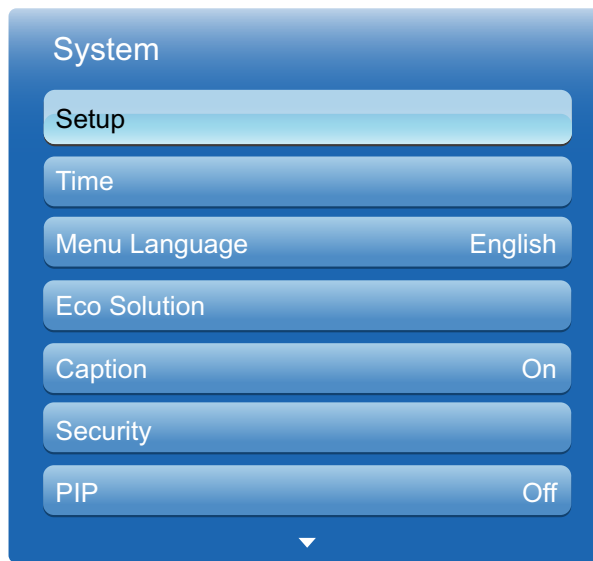
If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, fine tune the channel manually. Scroll to the left or right until the image is clear.

- 
  - 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**.

## 6.1 Setup

 MENU [MENU] → System → Setup → ENTER [ENTER]

Configure the channels and the time when setting up the product for the first time or when resetting the unit.



The displayed image may differ depending on the model.

## 6.2 Time

 MENU [M] → System → Time → ENTER [↵]

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.

### 6.2.1 Clock

Set the clock to use the various timer features of the product.

#### Changing the Setting for Clock

##### Clock Mode

- If you selected **Auto**: The product will automatically download the correct time from a digital channel.
  - Select **Time Zone**, and then press the **ENTER** [↵] button. Use the ▲/▼ buttons to select your **Time Zone**, and then press **ENTER** [↵].
  - Select **DST** (Daylight Savings Time), and then press **ENTER** [↵]. Select **On** if you want to turn the DST adjustment on and off manually. Select **Off** to turn off the DST adjustment. Select **Auto** if you want the product to adjust to DST automatically. Press **ENTER** [↵] when done.



**DST** and **Time Zone** function are only available when the **Clock Mode** is set to **Auto**.

- If you selected **Manual**: The **Clock Set** screen appears. Use the ▲/▼ buttons to change the values in each field or use the number buttons to enter the values directly. Use the ◀/▶ buttons to move from field to field. When done with all the fields, press **ENTER** [↵].



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

##### Clock Set

Set the **Date** and **Time**.

- 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. To exit **Clock Set**, select **Close**, and then press [↵].



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.

### 6.2.2 Sleep Timer

Automatically shuts off the product after a preset period of time. (**Off**, **30 min.**, **60 min.**, **90 min.**, **120 min.**, **150 min.** and **180 min.**)



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

### 6.2.3 On Timer

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

- **On Timer**: You can set up three separate **On Timer** configurations. (**On Timer 1**, **On Timer 2**, **On Timer 3**)



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

- **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.
  - **Antenna** (when the **Source** is set to **TV**): Select **Air** or **Cable**.
  - **Channel** (when the **Source** is set to **TV**): Select the desired channel.
- 
- 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.



### 6.2.4 Off Timer

You can set up three separate **Off Timer** configurations. (**Off Timer 1**, **Off Timer 2**, **Off Timer 3**)



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

- **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.

## 6.3 Menu Language

 MENU [MENU] → System → Menu Language → ENTER [ENTER]

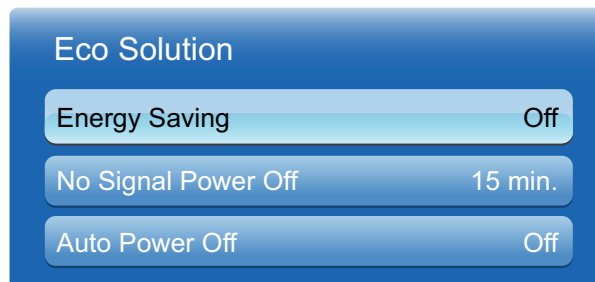
Set the menu language.



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.

## 6.4 Eco Solution

 MENU [MENU] → System → Eco Solution → ENTER [ENTER]



The displayed image may differ depending on the model.

### 6.4.1 Energy Saving

Save power with the **Energy Saving** feature.

While Energy Saving mode is active, the product power consumption will be controlled to save power.

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

### 6.4.2 No Signal Power Off

To avoid unnecessary energy consumption, you can set how long you want the product to remain on if it's not receiving a signal.

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



- Disabled when an attached PC is in power saving mode.
- The default setting is 15 min. for this product.
- The product will automatically power off at a specified time. The time can be changed as required.

### 6.4.3 Auto Power Off (Off / On)

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 4 hours to prevent overheating.

## 6.5 Caption


 MENU [ ] → **System** → **Caption** → ENTER [ ]

(On-Screen Text Messages)

### 6.5.1 Caption

You can switch the caption function on or off. If captions are not available, they will not be displayed on the screen.

- **Off / On**

 The **Caption** feature does not work with devices connected to the product through the **Component**, **HDMI** or **PC** input jacks.

### 6.5.2 Caption Mode

You can select the desired caption mode.


 The availability of captions depends on the program being Broadcasted.

- **Default / CC1~CC4 / Text1~Text4:** (analog channels only) The Analog Caption function operates in either analog product channel mode or when a signal is supplied from an external device to the product. (Depending on the broadcasting signal, the Analog Caption function may or may not work with digital channels.)
- **Default / Service1~Service6 / CC1~CC4 / Text1~Text4:** (digital channels only) The Digital Captions function works with digital channels.


 **Service1~6** may not be available in digital caption mode depending on the broadcast.

### 6.5.3 Digital Caption Options

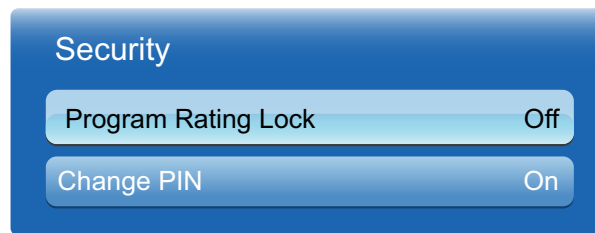
(digital channels only) Adjusts the each option. When done, select **Close**.

- **Size:** Options include Default, Small, Standard and Large. The default is Standard.
- **Font Style:** Options include Default and Styles 0 to 7. The default is Style 0.
- **Font Color:** You can change the color of the letters. Options include Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan. The default is White.
- **Background Color:** You can change the background color of the caption. Options include Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan. The default is Black.
- **Font Opacity:** This adjusts the opacity of text. Options include Default, Transparent, Translucent, Solid and Flashing.
- **Background Opacity:** This adjusts the opacity of the caption background. Options include Default, Transparent, Translucent, Solid and Flashing.
- **Return to Default:** This option sets each **Size**, **Font Style**, **Font Color**, **Background Color**, **Font Opacity** and **Background Opacity** to their default.
  -  **Digital Caption Options** are available only when you can select **Return to Default** and **Service1 ~ Service 6** in Caption mode.
  - The availability of captions depends on the program being Broadcasted.
  - The **Return to Default** setting follows the standards set by the broadcaster.
  - You cannot set both the **Font Opacity** and the **Background Opacity** to the same color.

## 6.6 Security

 MENU [ ] → System → Security → ENTER [ ]

Every time you access the Security functions, the PIN screen will appear and the default PIN number is "0-0-0-0". The PIN screen closes and the **Security** menu appears.



The displayed image may differ depending on the model.

### 6.6.1 Program Rating Lock (Off / On)







When turned on, the **Program Rating Lock** feature can automatically block programs that you deem inappropriate for your children. You must enter a PIN (personal identification number) before you can set or change any of the **Program Rating Lock** restrictions.




- **Program Rating Lock** is not available in **HDMI**, **Component** or **PC** mode.
- The default PIN number for a new product set is "0-0-0-0".
- **TV Rating**: You can block TV programs based on their ratings. This function allows you to control what your children can watch. TV Rating displays a grid with locks. The following categories are on the left side.  
**TV-Y**: Young children / **TV-Y7**: Children 7 and over / **TV-G**: General audience / **TV-PG**: Parental guidance / **TV-14**: Viewers 14 and over / **TV-MA**: Mature audience

#### The following categories are on top

- **ALL**: Lock all TV ratings. / **FV**: Fantasy violence / **V**: Violence / **S**: Sexual situation / **L**: Adult Language / **D**: Sexually Suggestive Dialog
- To block certain content, you select a lock, and press [ ] (That is, you "click it"). For example, click the lock at the intersection of **V** and **TV-MA**, and you block all programs that are rated violent and for mature adults. The locks are also assigned to related groups. For example, if you click **TV-Y** under All, then **TV-Y7** will also automatically be blocked. Similarly, if you click **TV-G** under **ALL**, then all the categories in the young adult group will be blocked (**TV-G**, **TV-PG**, **TV-14** and **TV-MA**). The sub-ratings (**D**, **L**, **S**, **V**) work similarly. So, if you block the L sub-rating in **TV-PG**, then the L sub-ratings in **TV-14** and **TV-MA** will automatically be blocked.
- To unblock a category, click the lock. To unblock all the categories in a row, click the lock under **ALL**.

- To watch a blocked program, you must enter the Security code when requested.
- **Movie Rating (MPAA):** You can block movies based on their MPAA rating. The Motion Picture Association of America (MPAA) has implemented a rating system that provides parents or guardians with advanced information on which films are appropriate for children.  
**Movie Rating** displays a column with locks and the following ratings categories.  
**G:** General audience (no restrictions). / **PG:** Parental guidance suggested. / **PG-13:** Parents strongly cautioned. / **R:** Restricted. Children under 17 should be accompanied by an adult. / **NC-17:** No children under age 17. / **X:** Adults only. / **NR:** Not rated.
  -  To block certain content, you select a lock, and press [] (That is, you “click it”). For example, click the **X** lock and you block all **X**-rated movies. The rating categories are also grouped so that clicking one category blocks all the categories a parent would block along with it. For example, if you block the **PG-13** category, then **R**, **NC-17** and **X** will automatically be blocked also.
  - To unblock a category, click the lock.
- **Canadian English Rating:** You can block TV programs based on their Anglophone Canadian rating.  
**Canadian English Rating** displays a column with locks and the following ratings categories.  
**C:** Programming intended for children under age 8. / **C8+:** Programming generally considered acceptable for children 8 years and over to watch on their own. / **G:** General programming, suitable for all audiences. / **PG:** Parental Guidance. / **14+:** Programming contains themes or content which may not be suitable for viewers under the age of 14. / **18+:** Adult programming.
  -  To block certain content, you select a lock, and press [] (That is, you “click it”). For example, click the **18+** lock and you block all TV programs rated **18+**. The rating categories are also grouped so that clicking one category blocks all the categories a parent would block along with it. For example, if you block the **G** category, then **PG**, **14+** and **18+** will automatically be blocked.
  - To unblock a category, click the lock.
- **Canadian French Rating:** You can block TV programs based on their French Canadian rating.  
**Canadian French Rating** displays a column with locks and the following ratings categories.  
**G:** General / **8 ans+:** Programming generally considered acceptable for children 8 years and over to watch on their own. / **13 ans+:** Programming may not be suitable for children under the age of 13. / **16 ans+:** Programming is not suitable for children under the age of 16. / **18 ans+:** Programming restricted to adults.
  -  To block certain content, you select a lock, and press [] (That is, you “click it”). For example, click the **18 ans+** lock and you block all TV programs rated **18 ans+**. The rating categories are also grouped so that clicking one category blocks all the categories a parent would block along with it. For example, if you block the 8 ans+ category, then **13 ans+**, **16 ans+** and **18 ans+** will automatically be blocked also.
  - To unblock a category, click the lock.
- **Downloadable U.S. Rating:** Parental restriction information you can use while watching DTV channels.


- 
  - If information is not downloaded from the broadcasting station, **Downloadable U.S. Rating** menu is deactivated.
  - Parental restriction information is automatically downloaded while you watch DTV channels. It may take several seconds.
  - The **Downloadable U.S. Rating** menu is available for use after information is downloaded from the broadcasting station. However, depending on the information from the broadcasting station, it may not be available for use.
  - Parental restriction levels differ depending on the broadcasting station. The default menu name and **Downloadable U.S. Ratings** change depending on the downloaded information.
  - Even if you set the on-screen display to another language, the **Downloadable U.S. Rating** menu will appear in English only.
  - Blocking one rating level will automatically block other categories that deal with more sensitive material.
  - The rating titles (For example: Humor Level..etc) and TV ratings (For example: DH, MH, H..etc) may differ depending on the broadcasting station.

### 6.6.2 Change PIN

The **Change PIN** screen will appear. Choose any 4 digits for your PIN and enter it in **Enter New PIN**. Re-enter the same 4 digits in **Confirm New PIN**. When the Confirm screen disappears, press the **Close** button. The product has memorized your new PIN.

## 6.7 PIP

 **MENU** [MENU] → **System** → **PIP** → **ENTER** [ENTER]








- 
  - For PIP sound, refer to the **Sound Select** instructions.
  - If you turn the product off while watching in the PIP mode, the PIP function is reset to off. When you turn your product on, you must turn PIP on again to watch in the PIP mode.
  - 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.
  - While **Program Rating Lock** is on, you cannot use PIP.
- PIP Settings

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

Main picture	Sub picture
PC, Component, HDMI	TV

- **PIP (Off / On)**: Activate or deactivate the PIP function.



- **Channel:** Select the channel for the sub-screen.
  -  This option is enabled if the secondary display is set to **TV**.
- **Size** (, ): Select a size for the subpicture.
- **Position** (, , , ): Select a position for the sub-picture.
- **Sound Select (Main / Sub):** You can choose to listen to the sound from the **Main** picture or the **Sub** picture.

## 6.8 Auto Protection Time

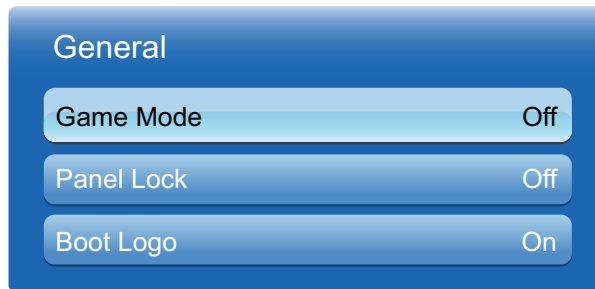
 MENU [III] → **System** → **Auto Protection Time** → ENTER [↵]

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**

## 6.9 General

 MENU [ ] → **System** → **General** → ENTER [ ]



The displayed image may differ depending on the model.

### 6.9.1 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.



- 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.
  - If you display the TV menu in **Game Mode**, the screen shakes slightly.
- **Game Mode** is not available when the input source is set to **TV** or **PC**.
- After connecting the game console, set **Game Mode** to **On**. Unfortunately, you may notice reduced picture quality.
- If **Game Mode** is **On**
  - **Picture** mode is set to **Standard** and **Sound** mode is set to **Movie**.

### 6.9.2 Penel Lock

Lock or unlock all the keys on the panel.

### 6.9.3 Boot Logo

Display Samsung logo when the Product is turned on.

## 6.10 Anynet+(HDMI-CEC)

 MENU [ ] → System → Anynet+(HDMI-CEC) → ENTER [ ]

### 6.10.1 Anynet+(HDMI-CEC)

What is Anynet+?



**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.
- The Anynet+ functions do not operate with other manufacturers' products.
- For instructions explaining how to connect Anynet+ external devices, refer to the device's user manual. You must connect an Anynet+ device using an HDMI cable. Some HDMI cables may not support Anynet+ functions.
- 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.
- However, you can connect only one Anynet+ Home Theater. To connect an Anynet+ Home Theater, connect the Home Theater to the product using an HDMI cable then.

### Anynet+ Menu

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

Anynet+ Menu	Description
<b>View PC</b>	Changes Anynet+ mode to PC mode.
<b>Device List</b>	Shows the Anynet+ device list.
(device_name) <b>MENU</b>	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) <b>Tools</b>	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) <b>Title Menu</b>	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.
<b>Receiver</b>	Sound is played through the <b>Receiver</b> .



#### 6.10.2 Auto Turn Off (No / Yes)

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



- 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.

#### Switching between Anynet+ Devices

- 1 Press the **TOOLS** button, select **Anynet+ (HDMI-CEC)**, and then press [].
- 2 Select **Device List**, 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 **Device List** 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 **Device List**.

### 6.10.3 Receiver

You can listen to sound through a **Receiver** (i.e. Home Theater) instead of the product Speaker.

To listen to sound through a receiver, go to **Receiver** screen (**System** → **Anynet+ (HDMI-CEC)** → **Receiver**). Then select **Receiver** and set to **On**.



If your **Receiver** supports audio only, it may not appear in the device list.

### Troubleshooting for Anynet+

Problem	Possible Solution
Anynet+ does not work.	<ul style="list-style-type: none"> <li>• Check if the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.</li> <li>• You can connect only one receiver (home theater).</li> <li>• Check if the Anynet+ device power cord is properly connected.</li> <li>• Check the Anynet+ device's Video/Audio/HDMI cable connections.</li> <li>• Check whether <b>Anynet+ (HDMI-CEC)</b> is set to <b>On</b> in the Anynet+ setup menu.</li> <li>• Check whether the remote control is Anynet+ compatible.</li> <li>• Anynet+ doesn't work in certain situations. (Searching channels, operating <b>Plug &amp; Play</b> (initial setup), etc.)</li> <li>• 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.</li> <li>• Check if the Anynet+ function of the Anynet device is set on.</li> </ul>
I want to start Anynet+.	<ul style="list-style-type: none"> <li>• Check if the Anynet+ device is properly connected to the product and check if the <b>Anynet+ (HDMI-CEC)</b> is set to <b>On</b> in the Anynet+ Setup menu.</li> <li>• Press the <b>TOOLS</b> button to display the Anynet+ menu and select a menu you want.</li> </ul>
I want to exit Anynet+.	<ul style="list-style-type: none"> <li>• Select <b>View PC</b> in the Anynet+ menu.</li> <li>• Press the <b>SOURCE</b> button on the product remote control and select a non- Anynet+ device.</li> </ul>

Problem	Possible Solution
The message “Connecting to Anynet+ device...” appears on the screen.	<ul style="list-style-type: none"> <li>You cannot use the remote control when you are configuring Anynet+ or switching to a view mode.</li> <li>Use the remote control after the product has completed Anynet+ configuration or has finished switching to Anynet+.</li> </ul>
The Anynet+ device does not play.	<ul style="list-style-type: none"> <li>You cannot use the play function when <b>Plug &amp; Play</b> (initial setup) is in progress.</li> </ul>
The connected device is not displayed.	<ul style="list-style-type: none"> <li>Check whether or not the device supports Anynet+ functions.</li> <li>Check whether or not the HDMI cable is properly connected.</li> <li>Check whether <b>Anynet+ (HDMI-CEC)</b> is set to <b>On</b> in the Anynet+ setup menu.</li> <li>Search Anynet+ devices again.</li> <li>Anynet+ requires an HDMI connection. Make sure the device is connected to your product with an HDMI cable.</li> <li>Some HDMI cables may not support Anynet+ functions.</li> <li>If the connection is terminated because there has been a power failure or the HDMI cable has been disconnected, please repeat the device scan.</li> </ul>

## 6.11 DivX® Video On Demand



**MENU** [ ] → **System** → **DivX® Video On Demand** → **ENTER** [ ]

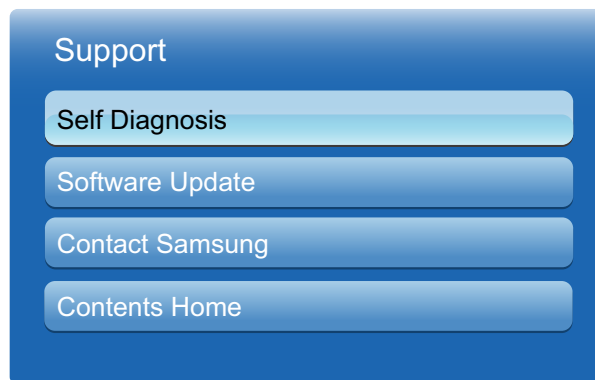
Shows the registration code authorized for the product. If you connect to the DivX web site and register using that code, you can download the VOD registration file.



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

## 7.1 Self Diagnosis

**Self Diagnosis** might take few seconds, this is part of the normal operation of the LED display



The displayed image may differ depending on the model.

### 7.1.1 Picture Test (Yes / No)

**Picture Test:** Use to check for picture problems.

- **Yes:** If the test pattern does not appear or there is noise in the test pattern, select **Yes**. There may be a problem with the LED display. Contact Samsung's Call Center for assistance.
- **No:** If the test pattern is properly displayed, select **No**. There may be a problem with your external equipment. Please check your connections. If the problem persists, refer to the external device's user manual.

### 7.1.2 Sound Test (Yes / No)

**Sound Test:** Use the built-in melody sound to check for sound problems.

- **Yes:** If you can hear sound only from one speaker or not at all during the sound test, select **Yes**. There may be a problem with the LED display. Contact Samsung's Call Center for assistance.
- **No:** If you can hear sound from the speakers, select **No**. There may be a problem with your external equipment. Please check your connections. If the problem persists, refer to the external device's user manual.

### 7.1.3 Signal Information

**Signal Information:** (digital channels only) An HD channel's reception quality is either perfect or the channels are unavailable. Adjust your antenna to increase signal strength.

## 7.1.4 Reset

**Reset:** Restores all settings to factory defaults except network settings.

## 7.2 Software Update

 **MENU** [ ] → **Support** → **Software Update** → **ENTER** [ ]

The **Software Update** menu lets you upgrade your TV's software to the latest version.

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



Be careful not to turn off the power until the upgrade is complete. The TV 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.

### 7.2.1 By USB

To upgrade by USB, follow these steps.

- 1 Visit [www.samsung.com](http://www.samsung.com).
- 2 Download the latest USB software upgrade exe archive to your computer.
- 3 Extracts the exe archive to your computer. You should have a single folder with the same name as the exe file.
- 4 Copy the folder to a USB flash drive.
- 5 Turn on the TV, and then insert the USB flash drive into the USB port of the TV.
- 6 In the TV's menu, go to **Support** → **Software Update**.
- 7 Select **By USB**.



Please be careful not to remove the USB drive until the upgrade is complete.



## 7.2.2 Alternative Software

- **Alternative Software**

The **Alternative Software** option lets you upgrade using a file the TV downloaded earlier, but you decided not to install immediately, or a file downloaded by the TV in Standby Mode.

To upgrade By **Alternative Software**, follow these steps.


- 1 If upgrade software has been downloaded, you will see the software version number to the right of **Alternative Software**.
- 2 Select **Alternative Software**, and then press the [↩] button.
- 3 The TV displays a message asking if you want to upgrade. Select **Yes**. The TV begins the upgrade.
- 4 When the upgrade is complete, the TV turns off automatically, and then turns on.

## 7.3 Contact Samsung

 MENU [≡] → **Support** → **Contact Samsung** → ENTER [↩]

View this information when your TV does not work properly or when you want to upgrade the software. You can find information regarding our call centers and how to download products and software.

## 7.4 Contents Home

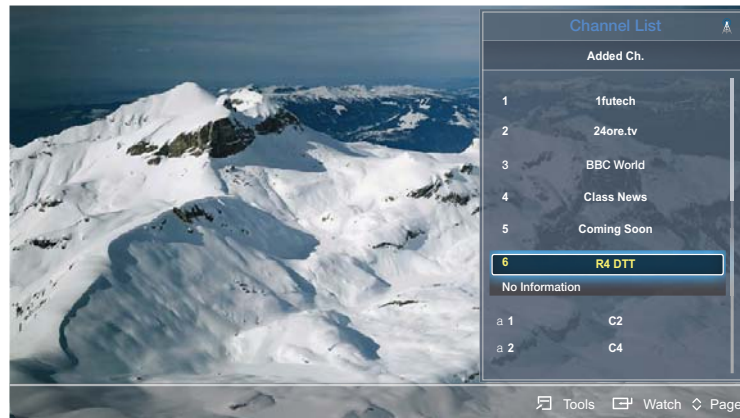
 MENU [≡] → **Support** → **Contents Home** → ENTER [↩]

You can enjoy useful and various contents.

### 7.4.1 Channel List

You can view all the channel searched.

When you press the **CH LIST** button on the remote control, **Channel List** screen will be displayed at once.







The displayed image may differ depending on the model.

Using the operation buttons with the Channel List.

## Tools

Press **Tools** button to check the following functions.

- **Program View:** Press the ▲/▼ buttons to select the desired Program, then press the **ENTER** [] button. (Only for DIGITAL Channel)
- **Edit Favorites:** Set channels you watch frequently as Favorites.
  -  Select the **Edit Favorites**, then press the **ENTER** [] button.  
If the channel is already added to Favorite channel, **Edit Favorites** will be shown.
- **Channel Name Edit** (Only for Analog channels): Assign your own channel name.
  -  This function may not support depending on the region.
- **Delete:** You can delete a channel to display the channels you want.
- **Information:** Display the channel name, resolution, picture mode, language and so on. (Some just available for DTV)
- **Change Antenna:** Switches to **Air** or **Cable**.
- **Edit Mode:** You can select desired channels and edit it.

## Watch

Watches the channel you select. / Displays details of the selected Program.

### 7.4.2 Media Play

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



The displayed image may differ depending on the model.

## Connecting a USB Device

- 1 Turn on your Product.
- 2 Connect a USB device containing photo and music files to the USB jack on the side of the Product.
- 3 When USB is connected to the Product, popup window appears. Then you can select **New Device connected..**



- It might not work properly with unlicensed multimedia files.
- Need-to-Know List before using **Media Play**.
- MTP (Media Transfer Protocol) is not supported.
- The file system supports FAT16, FAT32 and NTFS.
- Certain types of USB Digital camera and audio devices may not be compatible with this product.
- **Media Play** only supports USB Mass Storage Class (MSC) devices. MSC is a Mass Storage Class Bulk-Only Transport device. Examples of MSC are Thumb drives, Flash Card Readers and USB HDD (USB HUB are not supported). Devices should be connected directly to the Product USB port.
- USB (HDD) is not supported.
- Before connecting your device to the product, please back up your files to prevent them from damage or loss of data. SAMSUNG is not responsible for any data file damage or data loss.
- Do not disconnect the USB device while it is loading.
- The higher the resolution of the image, the longer it takes to display on the screen.
- The maximum supported JPEG resolution is 15360 x 8640 pixels.
- For unsupported or corrupted files, the "Not Supported File Format" message is displayed.
- MP3 files with DRM that have been downloaded from a non-free site cannot be played. Digital Rights Management (DRM) is a technology that supports the creation, distribution and management of the content in an integrated and comprehensive way, including the protection

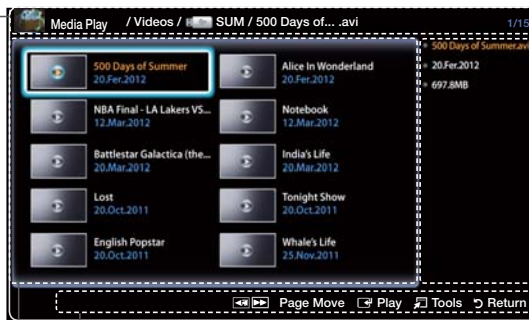
of the rights and interests of the content providers, the prevention of the illegal copying of contents, as well as managing billings and settlements.

- A USB device that requires high power (more than 500mA or 5V) may not be supported.
- If an over-power warning message is displayed while you are connecting or using a USB device, the device may not be recognized or may malfunction.
- If the product has been no input during time set in **Auto Protection Time**, the Screensaver will run.
- The power-saving mode of some external hard disk drives may be released automatically when connected to the product.
- If a USB extension cable is used, the USB device may not be recognized or the files on the device may not be read.
- If a USB device connected to the product is not recognized, the list of files on the device is corrupted or a file in the list is not played, connect the USB device to the PC, format the device and check the connection.
- **Media Play** only supports sequential jpeg format.

## Screen Display

Move to the desired file using the ▲/▼/◀/▶ buttons and then press the **ENTER** [↵] button. The file is played. **Media Play** screen may differ depending on the way to enter the screen.

**Information:**  
You can ascertain the selected device name, contents mode, folder/file name, page.



**Information:**  
You can ascertain the name, size and created date of the selected file.

**File List Section:**  
You can confirm the files and groups that are sorted by category.

### Operation Buttons:

- **Play**: Plays the selected file.
- **Tools**: Displays the option menu.
- **Return**: Move to the previous step.
- **Page Move**: Move to up or down page.

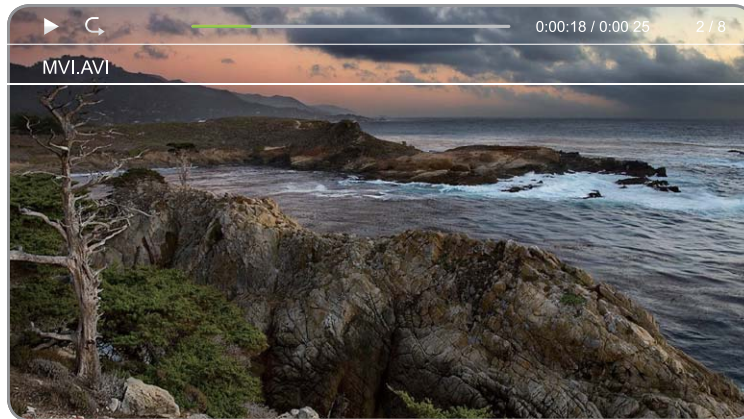
## Videos

### Playing Video

- 1 Press the ▲/▼/◀/▶ button to select the desired video in the file list.
- 2 Press the **ENTER** [↵] button or [▶] (Play) button.
  - The selected file name is displayed on the top with its playing time.
  - If video time information is unknown, play time and progress bar are not displayed.
  - During video playback, you can search using ◀ and ▶ button.
  - You can use ◀◀ (REW) and ▶▶ (FF) buttons during playback.



In this mode, you can enjoy movie clips contained on a Game, but you cannot play the Game itself.



The displayed image may differ depending on the model.

## Supported Subtitle Formats

### External

Name	File extension
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

Name	Container	Format
Xsub	AVI	Picture Format
SubStation Alpha	MKV	Text Format
Advanced SubStation Alpha	MKV	Text Format
SubRip	MKV	Text Format
MPEG-4 Timed text	MP4	Text Format

## Supported Video Formats

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

## Other Restrictions



- 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 bit rate/frame rate above the compatible Frame/sec listed in the table.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- The menu can be displayed late if the video is over 10Mbps(bit rate).
- Some USB/digital camera devices may not be compatible with the player.

Video Decoder	Audio Decoder
<ul style="list-style-type: none"><li>• Supports up to H.264, Level 4.1</li><li>• H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.</li><li>• GMC is not supported.</li></ul>	<ul style="list-style-type: none"><li>• WMA 10 Pro supports up to 5.1 channel and M2 profile. (LBR mode of M0 is not supported)</li><li>• WMA lossless audio is not supported.</li></ul>



## Photos

### Viewing a Photo (or Slide Show)

- 1 Press the ▲/▼/◀/▶ button to select the desired photo in the file list.
- 2 Press the **ENTER** [↵] button.
  - During the slide show, all files in the file list will be displayed in order.
  - When you press the [▶] (Play) button in the file list, slide show will be started immediately.
  - During the slide show, you can adjust the slide show speed using ◀◀ (REW) or ▶▶ (FF) button.
  - You can move to other file using ◀ or ▶ button.



Music files can be automatically played during the slide show if the **Background Music On** is set.



The displayed image may differ depending on the model.

### Supported Picture Formats

File Extension	Format	Resolution
*.jpg	JPEG	15360 x 8640
*.bmp	BMP	1920 x 1080
*.mpo	MPO	15360 x 8640

## Music

### Playing Music

- 1 Press the ▲/▼/◀/▶ button to select the desired **Music** in the file list.
- 2 Press the **ENTER** [↵] button.





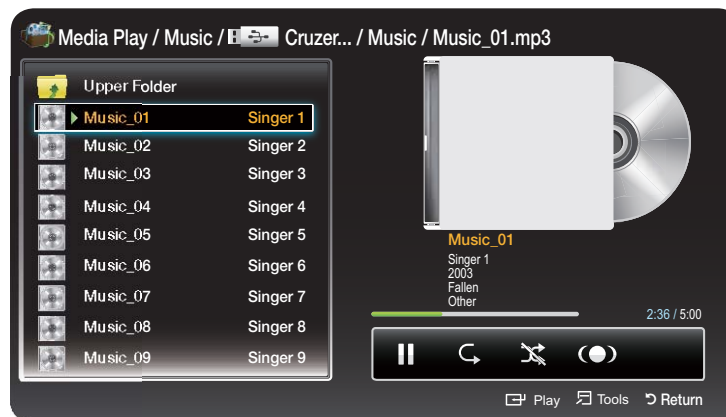
- Only displays the files with the file extension in following supported music formats list. Other file extensions are not displayed, even if they are saved on the same USB device.
- If the sound is abnormal when playing MP3 files, adjust the **Equaliser** in the **Sound** menu. (An over-modulated MP3 file may cause a sound problem.)



Using the playback menu

- Press the ◀/▶ button to select the desired menu.

- **Play / Pause**: You can start or stop a music. Alternatively, the  or  button on the remote.
- **Repeat Mode (Off / One Song / All)**: You can play music files repeatedly.
- **Shuffle Mode (Off / On)**: You can play the music randomly.
- **Sound Mode (Standard / Music / Movie / Clear Voice / Amplify)**: You can adjust the sound setting.



The displayed image may differ depending on the model.

### Playing selected music

- 1 Press the **TOOLS** [⌘] button and select **Selection Play**.
- 2 Select the desired music.



The ✓ mark appears to the left of the selected files.

- 3 Press the **TOOLS** [⌘] button and select **Selection Play**.




You can select or deselect all music pressing the **Select All / Deselect All**.


## Supported Music Formats

File Extension	Type	Codec	Remark
*.mp3	MPEG	MPEG1 Audio Layer 3	
*.m4a *.mpa *.aac *.3ga	MPEG4	AAC	
*.flac	FLAC	FLAC	Seek is not supported. Supports up to 2ch.
*.ogg	OGG	Vorbis	Supports up to 2ch.
*.wma	WMA	WMA	WMA 10 Pro supports up to 5.1 channel and M2 profile. (LBR mode of M0 is not supported)

## Media Play - Additional Functions

### Videos/Photos/Music Play Option menu

Press the **TOOLS**[] button and you can make the following operations.

Category	Operations	Videos	Photos	Music
<b>Title Search</b>	You can move the other file directly.	✓		
<b>Time Search</b>	You can search the video using ◀ and ▶ button at one minute interval or entering the number directly.  It may not be supported depending on the input source.	✓		
<b>Repeat Mode</b>	You can play media files repeatedly.	✓		
<b>Picture Size</b>	You can adjust the picture size to your preference.	✓		
<b>Picture Mode</b>	You can adjust the picture setting.	✓	✓	
<b>Sound Mode</b>	You can adjust the sound setting.	✓	✓	
<b>Audio language</b>	You can change the audio language if the video has more than one language.	✓		
<b>Subtitle</b>	You can set the subtitle <b>On / Off</b> .	✓		

Category	Operations	Videos	Photos	Music
<b>Subtitle Settings</b>	You can play the video with subtitles. This function only works if the subtitles are the same file name as the video.	✓		
<b>Start Slide Show / Stop Slide Show</b>	You can start or stop a slide show.		✓	
<b>Slide Show Speed</b>	You can select the slide show speed during the slide show.		✓	
<b>Background Music On / Background Music Off</b>	You can set on/off background music when watching a slide show.		✓	
<b>Background Music Setting</b>	You can select background music when watching a Slide Show.		✓	
<b>Zoom</b>	You can zoom into images in full screen mode.		✓	
<b>Rotate</b>	You can rotate images in full screen mode.		✓	
<b>Edit playlist</b>	You can edit the playlist when playing the desired music.			✓
<b>Selection Play</b>	Select and play multiple files.			✓
<b>Information</b>	You can see detailed information about the played file.	✓	✓	✓

## 7.4.3 Schedule Manager

You can set a desired channel to be displayed automatically at the intended time. In addition, you can view, modify or delete a channel you have reserved to watch. Set the current time first to use this function.

### Using Option Menu

Set each channel using the menu options (**Cancel schedule**, **Edit Schedule**, **Manually Schedule**, **View Guide**).

- 1 Press the **TOOLS** button to select the **Schedule manually**.



You can press the **A** (**Manually Schedule**) directly on the **Schedule Manager** screen.

- 2 Press the **▲/▼/◀/▶** or number buttons to set the **Antenna**, **Channel**, **Repeat**, **Date**, **Start Time**.
  - **Antenna**: Select the desired broadcasting signal.
  - **Channel**: Select the desired channel.
  - **Repeat**: Select **Once**, **Manual**, **Sat~Sun**, **Mon~Fri** or **Everyday** to set at your convenience. If you select **Manual**, you can set the day you want.
  - **Date**: You can set the desired date.
  - **Start Time**: You can set the start time you want.



If you want to edit or cancel the schedule, select the reserved schedule on the **Booking List**. Press the **TOOLS** button, then select the **Edit Schedule** or **Cancel schedule**.

## 7.4.4 Source

**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.

## Edit Name

 MENU [ ] → **Support** → **Contents Home** → **Source** → **TOOLS** → **Edit Name**  
→ **ENTER** [↵]

You can rename a connected source device.

- Sometimes the screen will not display properly unless the name of a source device is specified in **Edit Name**. In addition, it is best to rename the source device in **Edit Name** to obtain optimal picture quality.



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

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



Available settings in the **Picture** menu depend on the current source and settings made in **Edit Name**.

- When connecting a PC to the **HDMI IN1 (DVI)** port with HDMI cable, you should set the product to **PC** mode under **Edit Name**.
- When connecting a PC to the **HDMI IN1 (DVI)** port with HDMI to DVI cable, you should set the product to **DVI PC** mode under **Edit Name**.
- When connecting an AV devices to the **HDMI IN1 (DVI)** port with HDMI to DVI cable, you should set the product to **DVI Devices** mode under **Edit Name**.

## Information

 MENU [ ] → **Support** → **Contents Home** → **Source** → **TOOLS** → **Information**  
→ **ENTER** [↵]

You can see detailed information about the selected external device.

## Refresh

 MENU [ ] → **Support** → **Contents Home** → **Source** → **TOOLS** → **Refresh** → **ENTER** [↵]

In the **Source**, If the external devices are not displayed, press the **TOOLS** button to select **Refresh**. Search for connected devices.

## 8.1 Requirements Before Contacting Samsung Customer Service Center

### 8.1.1 Testing the Product



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

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.



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

### 8.1.2 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).

## 8.1.3 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. (product)
Blank spaces are found at the top and bottom of the screen when an HDMI or HDMI-DVI cable is connected to the product and PC.	Blank spaces on the screen are not caused by the product.  The cause of the problem is the PC or graphics card, and can be fixed by adjusting the screen size in the HDMI or DVI option of the graphics card settings menu.  If the graphics card settings menu has no option to adjust the screen size, update the graphics card driver to the latest version.  (Please contact the graphics card or computer manufacturer for details on how to adjust the screen settings.)
Screen issue	
The power LED is off. The screen will not switch on.	Make sure that the power cord is connected. (product)
"No Signal" is displayed on the screen (refer to "Connecting to a PC").	Check that the product is connected correctly with a cable (product)
	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 (product)



Screen issue	
The screen is not clear. The screen is blurry.	Adjust <b>Coarse</b> and <b>Fine</b> .
	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 <b>Brightness</b> and <b>Contrast</b> .
Screen color is inconsistent.	Go to <b>Picture</b> and adjust the <b>Color Space</b> settings.
White does not really look white.	Go to <b>Picture</b> and adjust the <b>White Balance</b> 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.

Sound issue	
There is no sound.	Check the connection of the audio cable or adjust the volume (product)
	Check the volume.
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 program.

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.

## 8.2 Q &amp; A

Question	Answer
How can I change the frequency?	<p>Set the frequency on your graphics card.</p> <ul style="list-style-type: none"><li>• "Windows XP": Go to <b>Control Panel</b> → <b>Appearance and Themes</b> → <b>Display</b> → <b>Settings</b> → <b>Advanced</b> → <b>Monitor</b> and adjust the frequency in <b>Monitor Settings</b>.</li><li>• "Windows ME/2000": Go to <b>Control Panel</b> → <b>Display</b> → <b>Settings</b> → <b>Advanced</b> → <b>Monitor</b> and adjust the frequency in <b>Monitor Settings</b>.</li><li>• "Windows Vista": Go to <b>Control Panel</b> → <b>Appearance and Personalization</b> → <b>Personalize</b> → <b>Display Settings</b> → <b>Advanced Settings</b> → <b>Monitor</b> and adjust the frequency in <b>Monitor Settings</b>.</li><li>• "Windows 7": Go to <b>Control Panel</b> → <b>Appearance and Personalization</b> → <b>Display</b> → <b>Adjust resolution</b> → <b>Advanced Settings</b> → <b>Monitor</b> and adjust the frequency in <b>Monitor Settings</b>.</li></ul>

Question	Answer
How can I change the resolution?	<ul style="list-style-type: none"> <li>• "Windows XP": Go to <b>Control Panel</b> → <b>Appearance and Themes</b> → <b>Display</b> → <b>Settings</b> and adjust the resolution.</li> <li>• "Windows ME/2000": Go to <b>Control Panel</b> → <b>Display</b> → <b>Settings</b> and adjust the resolution.</li> <li>• "Windows Vista": Go to <b>Control Panel</b> → <b>Appearance and Personalization</b> → <b>Personalize</b> → <b>Display Settings</b> and adjust the resolution.</li> <li>• "Windows 7": Go to <b>Control Panel</b> → <b>Appearance and Personalization</b> → <b>Display</b> → <b>Adjust Resolution</b> and adjust the resolution.</li> </ul>
How do I set power-saving mode?	<ul style="list-style-type: none"> <li>• Windows XP: Set power-saving mode in <b>Control Panel</b> → <b>Appearance and Themes</b> → <b>Display</b> → <b>Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows ME/2000: Set power-saving mode in <b>Control Panel</b> → <b>Display</b> → <b>Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows Vista: Set power-saving mode in <b>Control Panel</b> → <b>Appearance and Personalization</b> → <b>Personalize</b> → <b>Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows 7: Set power-saving mode in <b>Control Panel</b> → <b>Appearance and Personalization</b> → <b>Personalize</b> → <b>Screen Saver Settings</b> or BIOS SETUP on the PC.</li> </ul>







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

## 9.1 General

Model Name		H32B	H40B
Panel	Size	32 inches (80 cm)	40 inches (101 cm)
Dimensions (W x H x D) (Without Stand)		29.1 x 17.2 x 3.7 inches / 73.88 x 43.67 x 9.33 cm	36.5 x 21.7 x 3.7 inches / 92.76 x 55.10 x 9.30 cm
Dimensions (W x H x D) (With Stand)		29.1 x 19.4 x 7.5 inches / 73.88 x 49.33 x 19.17 cm	36.5 x 23.9 x 9.0 inches / 92.76 x 60.65 x 22.76 cm
Weight (Without Stand)		5.8 kg / 12.8 lbs	8.9 kg / 19.6 lbs
Weight (With Stand)		6.4 kg / 14.1 lbs	10.9 kg / 24.0 lbs
Optimum resolution		1366 x 768 @ 60Hz	1920 x 1080 @ 60Hz

Model Name		H46B
Panel	Size	46 inches (116 cm)
Dimensions (W x H x D) (Without Stand)		41.7 x 24.6 x 3.7 inches / 105.98 x 62.56 x 9.43 cm
Dimensions (W x H x D) (With Stand)		41.7 x 26.8 x 9.0 inches / 105.98 x 68.07 x 22.76 cm
Weight (Without Stand)		12.0 kg / 26.5 lbs
Weight (With Stand)		14.0 kg / 30.9 lbs
Optimum resolution		1920 x 1080 @ 60Hz

Model Name		H32B / H40B / H46B
Audio Output		10 W + 10 W
Environmental considerations	Operating	Temperature: 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80%, non-condensing
	Storage	Temperature: -4°F ~ 113°F (-20°C ~ 60°C) Humidity : 5% ~95 %, non-condensing

-  Power Supply : Refer to the label at the back of the product as the standard voltage can vary in different countries.
-  Plug-and-Play : This product can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the product and PC system optimizes the product settings. Product 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 (1ppm) may appear brighter or darker on the panel. This does not affect product performance.
-  This device is a Class B digital apparatus.

(USA only)

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website:

[www.samsung.com/recyclingdirect](http://www.samsung.com/recyclingdirect) or call, (877) 278 - 0799

## 9.2 PowerSaver

The power-saving function of this product reduces power consumption by switching off the screen and changing the color of the power LED if the product is not used for a specified period of time. The power is not turned off in power-saving mode. To switch the screen back on, press any key on the keyboard or move the mouse. Power-savign mode only functions when the product is connected to a PC with a power-saving function.

USA / CANADA

State		Normal Operation		Power saving mode (In PC mode)	Power off (Power Button)
		Rating	Typical		
Power Indicator		Off		Blinking	On
Power Consumption	H32B	52 W	27 W	less than 0.2 W	less than 0.2 W
	H40B	86 W	30 W		
	H46B	94 W	39 W		
Power Supply		110 ~ 120V			

MEXICO

State		Normal Operation		Power saving mode (In PC mode)	Power off (Power Button)
		Rating	Typical		
Power Indicator		Off		Blinking	On
Power Consumption	H32B	54 W	27 W	less than 0.2 W	less than 0.2 W
	H40B	87 W	30 W		
	H46B	95 W	39 W		
Power Supply		100 ~ 240V			



- 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, turn off 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.).
- Power Supply:

### 9.3 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 monitor.
- Check the frequency when you exchange a CDT monitor (connected to a PC) for an LCD monitor. If the LCD monitor does not support 85Hz, change the vertical frequency to 60Hz using the CDT monitor before you exchange it with the LCD monitor.

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.

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)	H32B	H40B H46B
IBM, 640 x 350	31.469	70.086	25.175	+/-	✓	✓
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	-/-	✓	✓
VESA, 640 x 480	37.500	75.000	31.500	-/-	✓	✓
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	+/+	✓	✓



Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)	H32B	H40B H46B
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	+/+		✓



#### 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.

## 9.4 License



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## 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 program.
- 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-authorized 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.

## Optimum Picture Quality and Afterimage Burn-in Prevention

### Optimum Picture Quality

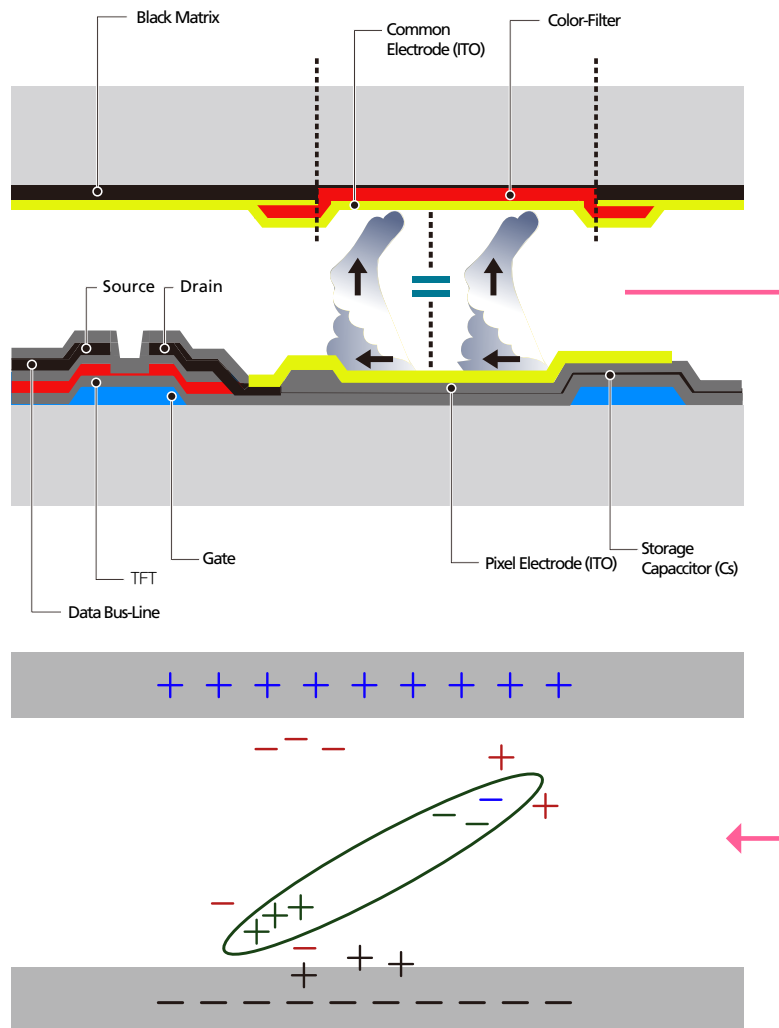
- To enjoy the optimum picture quality, go to Control Panel on your PC and adjust the resolution and refresh rate as follows. The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.
  - Resolution:
    - H32B:** 1366 x 768
    - H40B, H46B:** 1920 x 1080
  - Vertical frequency (refresh rate): 60~75 Hz
- 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:
    - H32B:** 3,147,264
    - H40B, H46B :** 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.
- Unlike CDT monitors, TFT-LCD monitors (due to the nature of the panel) can be set to only one resolution to obtain the optimum picture quality. Therefore, setting 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 monitor.

## 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.





## Terminology

### Dot Pitch

The monitor and 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 color. Dot pitch is measured in millimeters.

### Vertical Frequency

The monitor 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.

### 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.



## Component ports (green, blue and red)

The component ports, which identify, transmit and receive contrast signals, provide superior picture quality to any other video connection methods.

## Stereo

Stereo refers to a technology that outputs audio signals via two channels. It delivers 3D sound experience through separate left and right audio channels over two speakers.

## Source

Input source refers to a video source device connected to the product such as a camcorder or video or DVD player.

## 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.

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