

**SAMSUNG**

# User Manual

---

OH85F

---

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.

---

# Table of contents

## Before Using the Product

Copyright	5
Safety Precautions	6
Cleaning	6
Storage	7
Electricity and Safety	7
Installation	8
Operation	10

## Preparations

Checking the Components	13
Components	13
Parts	14
Front	14
Reverse Side	15
Remote Control	16

Before Installing the Product (Installation Guide)	18
Switching between portrait and landscape	18
Ventilation	18

Wall Mount Specifications	19
---------------------------	----

Remote Control (RS232C)	20
Cable Connection	20
Connection	23
Control Codes	24

## Connecting and Using a Source Device

Before Connecting	33
Pre-connection Checkpoints	33
Before connecting cables	34
Power cable connection guide	35

Connecting to a PC	36
Connection Using an HDMI Cable	36
Connection Using an HDMI-DVI Cable	36
Connection Using an DP Cable	36

Connecting to a Video Device	37
Connection Using an HDMI-DVI Cable	37
Connection Using an HDMI Cable	37

Connecting the HDBase-T	38
-------------------------	----

Connecting to an Audio System	39
-------------------------------	----

Changing the Input source	40
Source	40

## Using MDC

MDC Program Installation/Uninstallation	41
Installation	41
Uninstallation	41

Connecting to MDC	42
Using MDC via RS-232C (serial data communications standards)	42
Using MDC via Ethernet	43

## Home feature

Multi Screen	44
Picture Mode	45
On/Off Timer	46
On Timer	46
Off Timer	46
Holiday Management	47

Network Settings	48
------------------	----

ID Settings	49
Device ID	49
PC Connection Cable	49

Video Wall	50
Video Wall	50

More settings	52
---------------	----

## Screen Adjustment

Picture Mode	53
--------------	----

Backlight / Brightness / Contrast / Sharpness / Color / Tint (G/R)	54
--	----

Color Temperature	55
-------------------	----

White Balance	55
---------------	----

Gamma	56
-------	----

Calibrated Value	56
------------------	----

---

# Table of contents

---

<b>Picture Options</b>	<b>57</b>
Color Tone	58
Digital NR	58
HDMI Black Level	58
Film Mode	59
Smart LED	59
<hr/>	
<b>Picture Size</b>	<b>60</b>
Picture Size	60
Zoom/Position	61
<hr/>	
<b>Picture Off</b>	<b>62</b>
<hr/>	
<b>Reset Picture</b>	<b>62</b>

## OnScreen Display

---

<b>Multi Screen</b>	<b>63</b>
Multi Screen	63
<hr/>	
<b>Display Orientation</b>	<b>68</b>
Onscreen Menu Orientation	68
Source Content Orientation	68
Aspect Ratio	68
<hr/>	
<b>Screen Protection</b>	<b>69</b>
Pixel Shift	69
Timer	70
Immediate Display	71
Side Gray	71
<hr/>	
<b>Message Display</b>	<b>71</b>
Source Info	71
No Signal Message	71

---

MDC Message	71
<hr/>	
<b>Menu Language</b>	<b>72</b>
<hr/>	
<b>Reset OnScreen Display</b>	<b>72</b>

## System

---

<b>Setup</b>	<b>73</b>
Initial settings (System)	73
<hr/>	
<b>Time</b>	<b>74</b>
Clock Set	74
DST	74
Sleep Timer	74
Power On Delay	74
<hr/>	
<b>Auto Source Switching</b>	<b>75</b>
Auto Source Switching	75
Primary Source Recovery	75
Primary Source	75
Secondary Source	75
<hr/>	
<b>Power Control</b>	<b>76</b>
Auto Power On	76
Standby Control	76
Network Standby	77
Power Button	77
<hr/>	
<b>Eco Solution</b>	<b>78</b>
Brightness Limit	78
Energy Saving	78
Eco Sensor	78
Screen Lamp Schedule	79

---

No Signal Power Off	79
Auto Power Off	79

---

<b>Fan &amp; Temperature</b>	<b>80</b>
Fan Control	80
Fan Speed Setting	80
Outdoor Mode	80
Temperature Control	80

---

<b>Change PIN</b>	<b>81</b>
-------------------	-----------

---

<b>General</b>	<b>82</b>
Security	82
HDMI Hot Plug	82

---

<b>Reset System</b>	<b>83</b>
---------------------	-----------

## Support

---

<b>Software Update</b>	<b>84</b>
------------------------	-----------

---

<b>Contact Samsung</b>	<b>84</b>
------------------------	-----------

---

<b>Go to Home</b>	<b>84</b>
-------------------	-----------

---

<b>Reset All</b>	<b>84</b>
------------------	-----------

---

# Table of contents

## Troubleshooting Guide

---

Requirements Before Contacting Samsung Customer Service Center	85
Testing the Product	85
Checking the Resolution and Frequency	85
Check the followings.	86

---

Q & A	92
-------	----

## Specifications

---

General	94
---------	----

---

Preset Timing Modes	96
---------------------	----

## Appendix

---

Responsibility for the Pay Service (Cost to Customers)	99
Not a product defect	99
A Product damage caused by customer's fault	99
Others	99

---

Optimum Picture Quality and Afterimage Burn-in Prevention	100
Optimum Picture Quality	100
Prevention of Afterimage Burn-in	100

---

License	102
---------	-----

---

Terminology	103
-------------	-----

# Chapter 01

## Before Using the Product

### Copyright

The contents of this manual are subject to change without notice to improve quality.

© 2016 Samsung Electronics

Samsung Electronics owns the copyright for this manual.

Use or reproduction of this manual in parts or entirety without the authorization of Samsung Electronics is prohibited.

Microsoft, Windows are registered trademarks of Microsoft Corporation.

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

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

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

# Safety Precautions

## Warning

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

## Caution

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



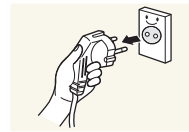
Activities marked by this symbol are prohibited.



Instructions marked by this symbol must be followed.

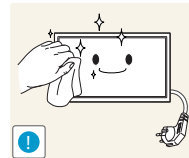
# Cleaning

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

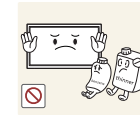


- 1 Power off the product and computer.
- 2 Disconnect the power cord from the product.

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



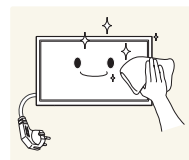
- 3 Wipe the product with a clean, soft and dry cloth.



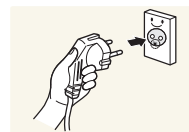
- Do not use detergents that contain alcohol, solvent or surface-active agents.



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



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



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

## Storage

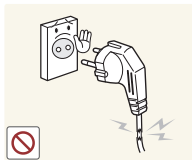
Due to the characteristics of high-glossy products, using a UV humidifier nearby may create white-colored stains on the product.

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

## Electricity and Safety

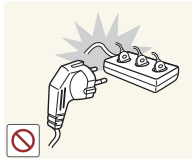
- The following images are for reference only. Real-life situations may differ from what is shown in the images.

### Warning



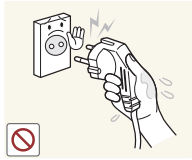
Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.

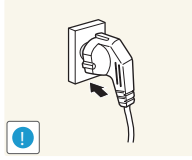


Do not use multiple products with a single power socket.

- Overheated power sockets may cause a fire.

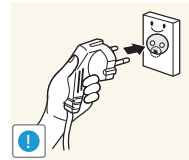


Do not touch the power plug with wet hands. Otherwise, an electric shock may result.



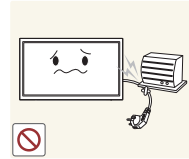
Insert the power plug all the way in so it is not loose.

- An unsecure connection may cause a fire.



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

- An electric shock or injury may result.



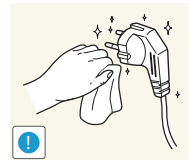
Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.

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



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

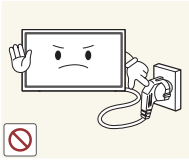
- A fire or electric shock may result.



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

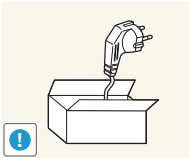
- A fire may result.

## Caution



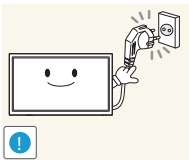
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.



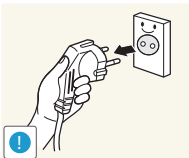
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

- A fire or electric shock may result.



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

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



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

- An electric shock or fire may result.

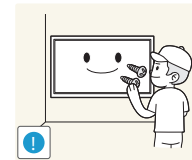
## Installation

### Warning



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

- A fire may result.



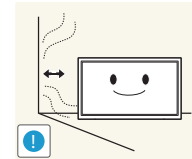
Have a technician install the wall-mount hanger.

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



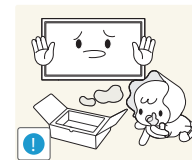
Do not install the product in poorly ventilated spaces such as a bookcase or closet.

- An increased internal temperature may cause a fire.



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

- An increased internal temperature may cause a fire.



Keep the plastic packaging out of the reach of children.

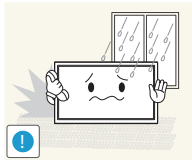
- Children may suffocate.





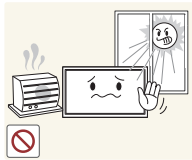
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

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



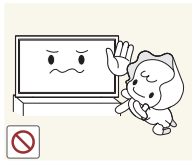
Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- A fire or electric shock may result.



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

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



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

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

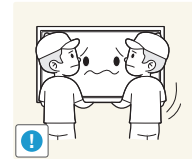


Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

#### Precautions during installation and storage

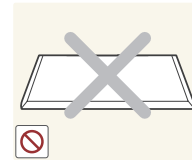
- After opening the cover, install the product within 1 hour under humidity of 60% or below. (P. 34)
- Keep the predefined humidity while opening the cover or assembling the housing (e.g. connection of external device, F/W update).
- During operation and storage of the product, be sure to attach the cover.

#### Caution



Do not drop the product while moving.

- Product failure or personal injury may result.



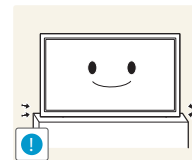
Do not set down the product on its front.

- The screen may become damaged.



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

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



Set down the product gently.

- Product failure or personal injury may result.



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

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

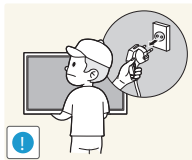
# Operation

## Warning



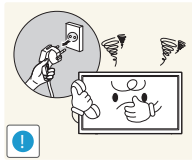
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

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



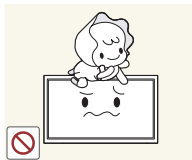
Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.

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



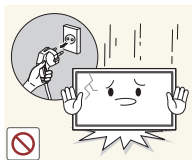
If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Center.

- An electric shock or fire may result.



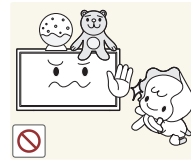
Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.



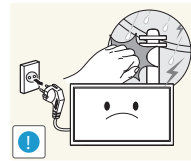
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.

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



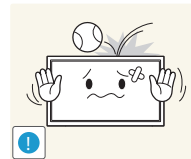
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

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



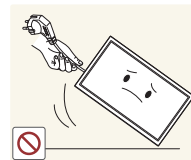
During a lightning or thunderstorm, power off the product and remove the power cable.

- A fire or electric shock may result.



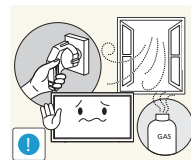
Do not drop objects on the product or apply impact.

- A fire or electric shock may result.



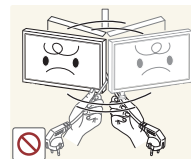
Do not move the product by pulling the power cord or any cable.

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



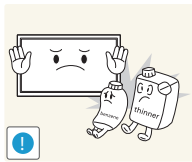
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



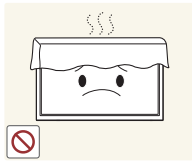
Do not lift or move the product by pulling the power cord or any cable.

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



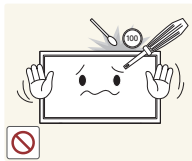
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



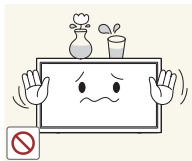
Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.



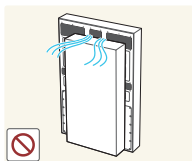
Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

- 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.

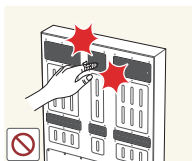


Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

- 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.



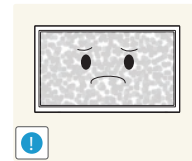
Do not block the vent on the product. The product may not function properly due to potential overheating.



Do not attempt to insert your fingers or objects into the vents.

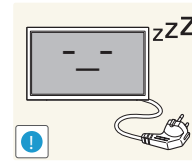
- Product failure or personal injury may result.

### Caution



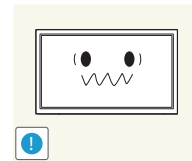
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

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



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

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



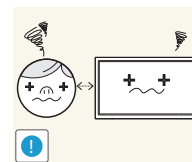
Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.



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

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

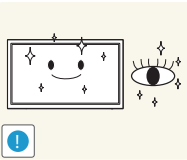


Looking at the screen too close for an extended period of time can deteriorate your eyesight.



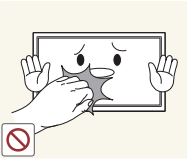
Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.

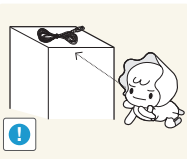


Rest your eyes for more than 5 minutes for every 1 hour of product use.

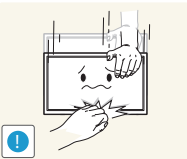
- Eye fatigue will be relieved.



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

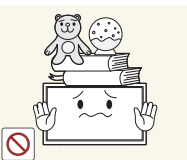


Store small accessories out of the reach of children.



Exercise caution when adjusting the product angle or stand height.

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



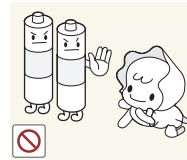
Do not place heavy objects on the product.

- Product failure or personal injury may result.



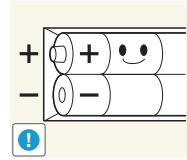
When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.



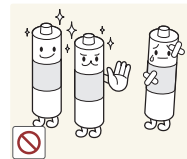
Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

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



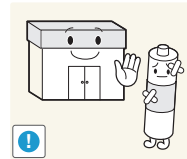
When replacing the battery, insert it with the right polarity (+, -).

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



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

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



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

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

# Chapter 02

## Preparations

### Checking the Components

#### Components

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



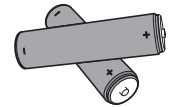
Quick setup guide



Warranty card  
(Not available in some locations)



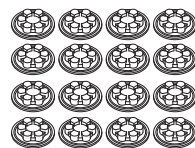
Regulatory guide



Batteries  
(Not available in some locations)



Remote Control



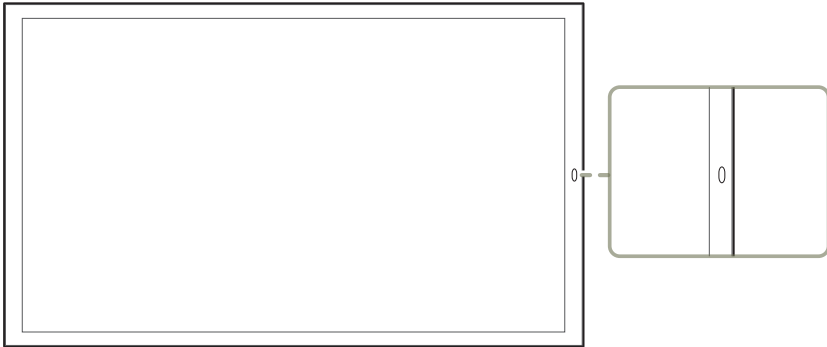
Cover-Cap (16 EA)

---

## Parts

### Front

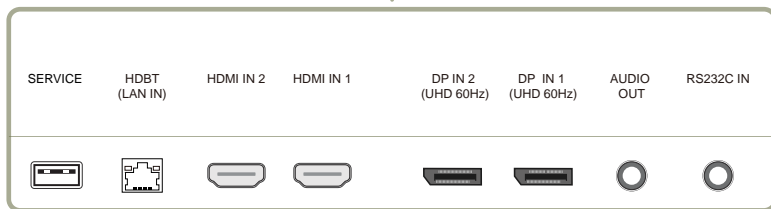
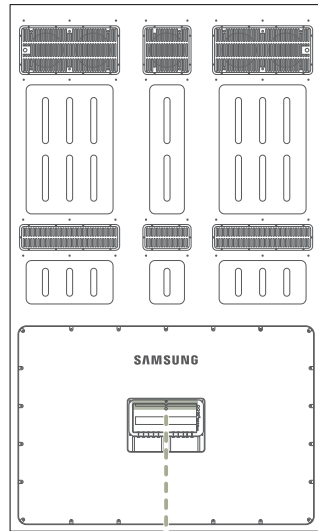
— The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



Port	Description
Remote sensor	<p>Press a button on the remote control pointing at the sensor on the front of the product to perform the corresponding function.</p> <p>— 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.</p>

## Reverse Side

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



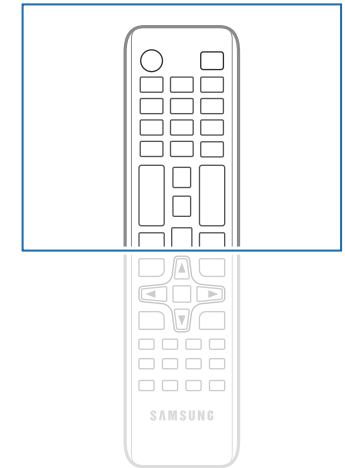
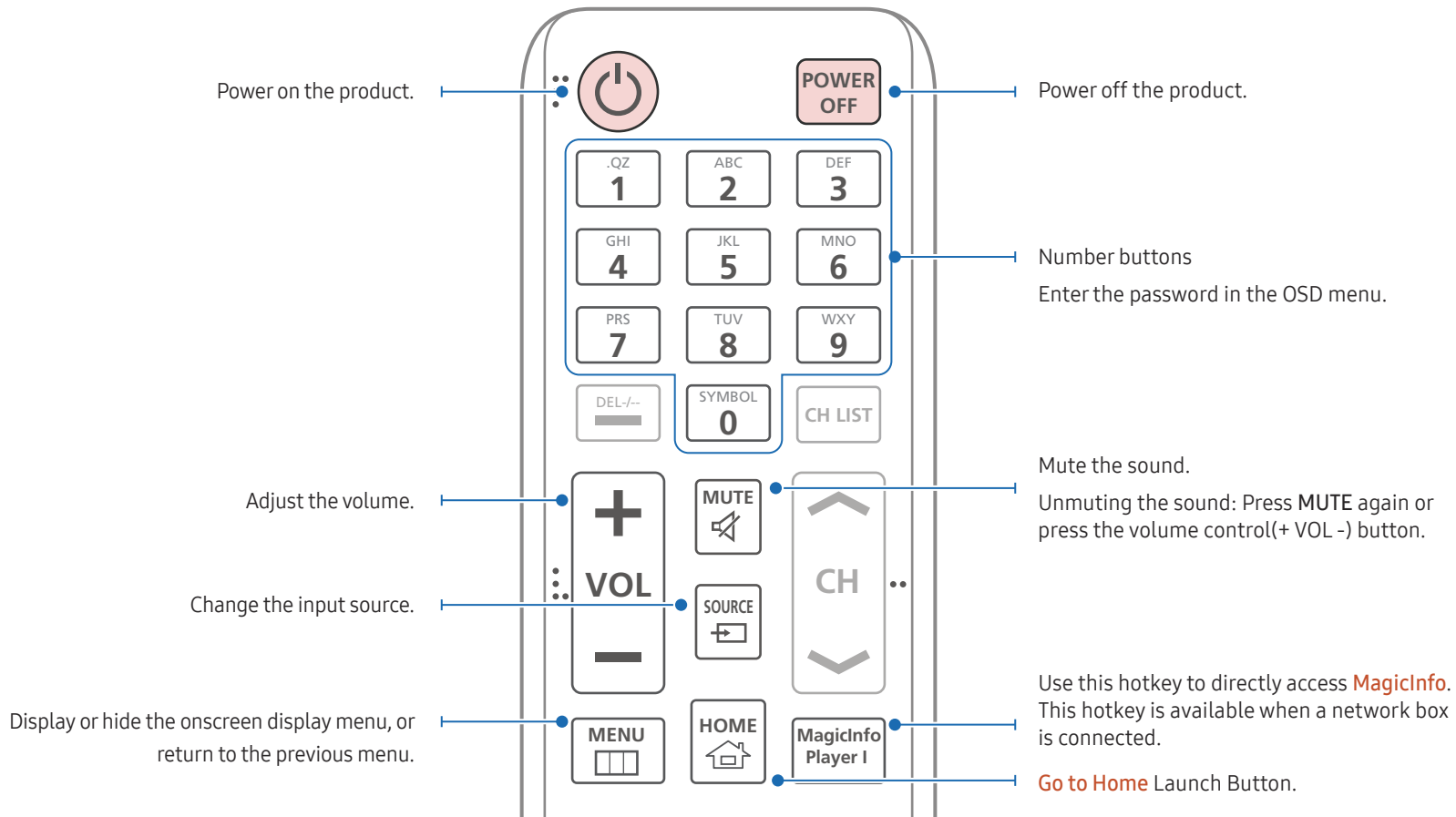
## Port

## Description

Port	Description
SERVICE	Connects to a USB device when upgrading software.
HDBT (LAN IN)	<ul style="list-style-type: none"> <li>– Sends the HDMI signal to a connected LAN cable using an HDBaseT transmitter.</li> <li>– Connects to MDC using a LAN cable.</li> </ul>
HDMI IN 1, HDMI IN 2	Connects to a source device using a HDMI cable or HDMI-DVI cable.
DP IN 1 (UHD 60Hz), DP IN 2 (UHD 60Hz)	Connects to a PC using a DP cable. <ul style="list-style-type: none"> <li>— Obtain sharp picture quality when viewing UHD content at 60Hz.</li> </ul>
AUDIO OUT	Outputs sound to an audio device via an audio cable.
RS232C IN	Connects to MDC using an RS232C adapter.

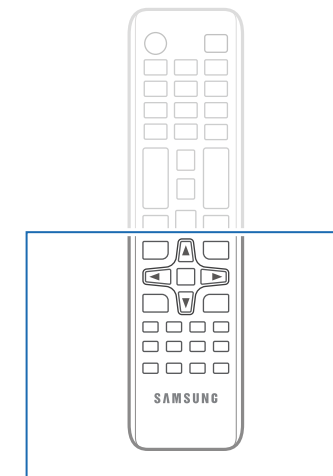
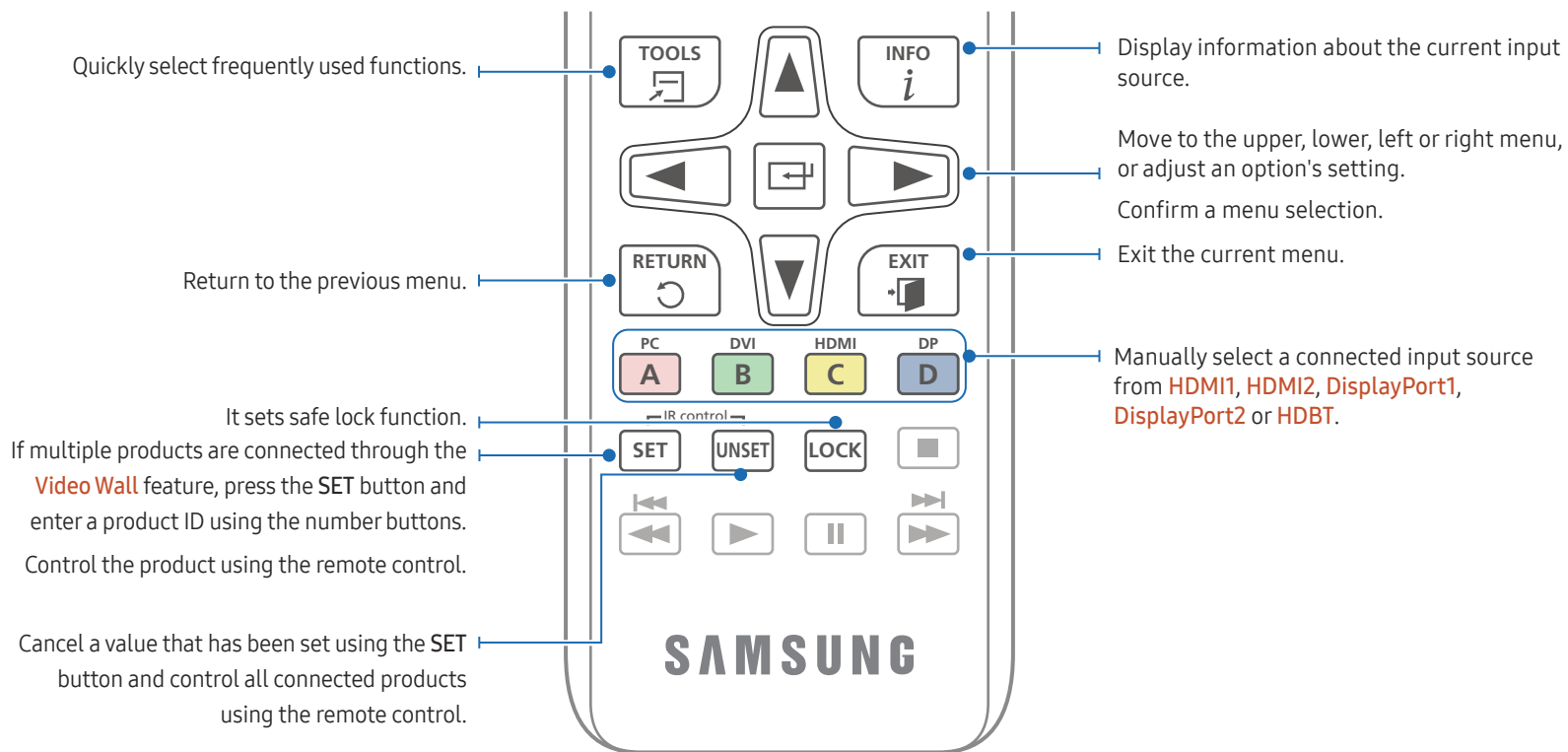
# Remote Control

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



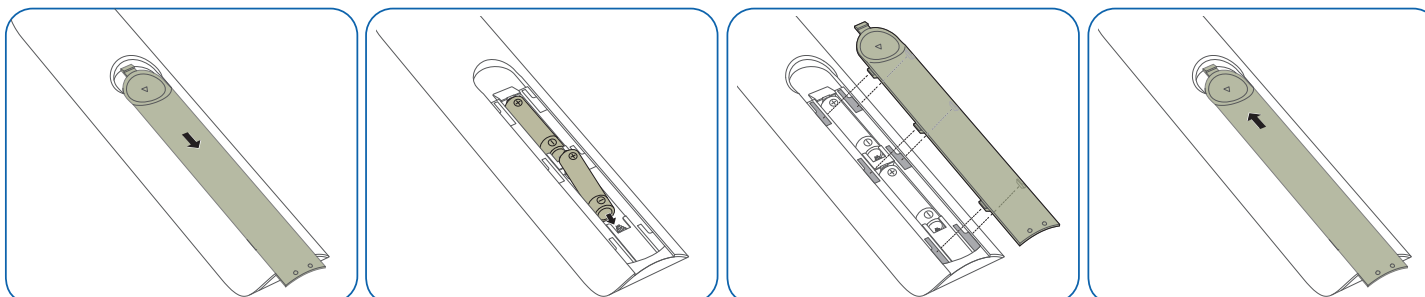
– Remote control button functions may differ for different products.



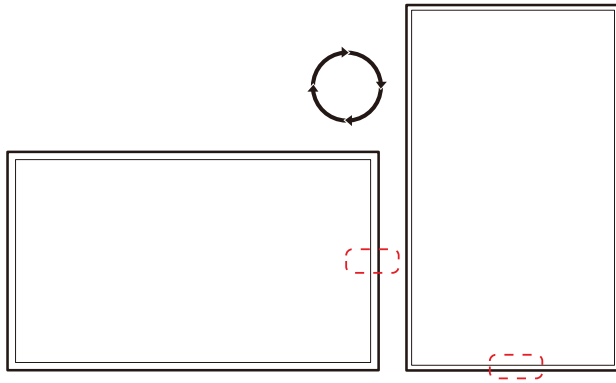


– Remote control button functions may differ for different products.

### To place batteries in the remote control



## Before Installing the Product (Installation Guide)



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

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

### Switching between portrait and landscape

— Contact Samsung Customer Service Center for further details.

- To use the product vertically (portrait), turn it clockwise so that the LED is pointing down.

### Ventilation

#### Installation on a Perpendicular Wall

A Minimum 60 mm

B Ambient temperature: Under 50°C

- When installing the product on a perpendicular wall, allow at least 60 mm of space between the product and wall surface for ventilation and ensure that the ambient A temperature is kept below 50°C.

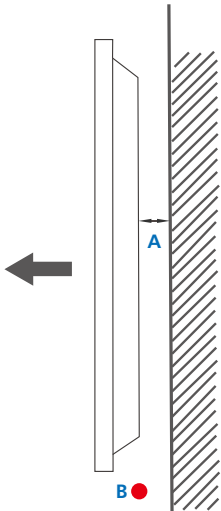
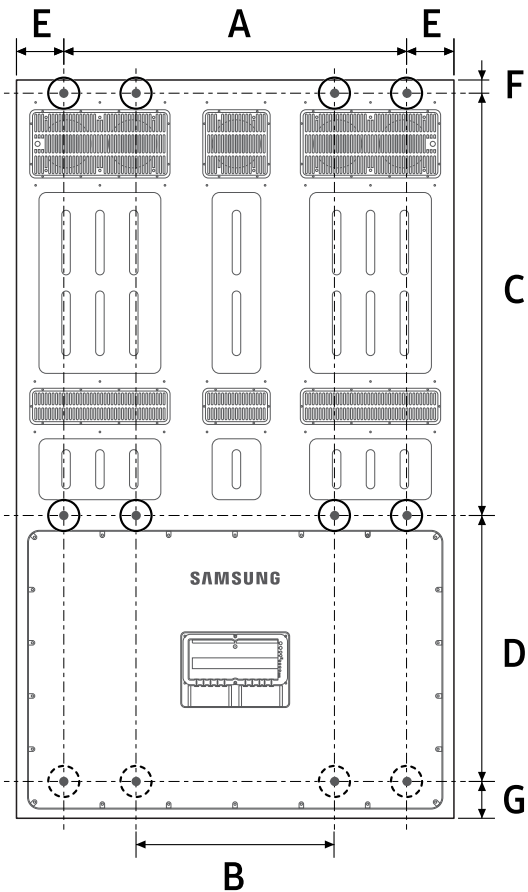


Figure 1.1 Side view

# Wall Mount Specifications

- Install the wall mount on a solid wall that is perpendicular to the floor. If you install the product on a slanted wall, it may fall and result in severe personal injury. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information.
- Do not use a wall mount that can tilt.
- 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.
- Do not keep the product turned on during the installation of the wall mount. It may result in personal injury due to electric shock.
- Do not use the guide holes for wall mounting.



Unit: mm (inches)

Screw hole specs (A * B) in millimeters	1000 X 500 (39.4 X 19.7)
Screw hole specs (C * D) in millimeters	1118.4 X 750 (44.0 X 29.5)
E	92.5 (3.6)
F	40.8 (1.6)
G	94.8 (3.7)
BOLT SIZE	M8

○: Wall Mount Holes (8 Points)

⊙: Guide Holes (4 Points) (Do not use the guide holes for wall mounting)

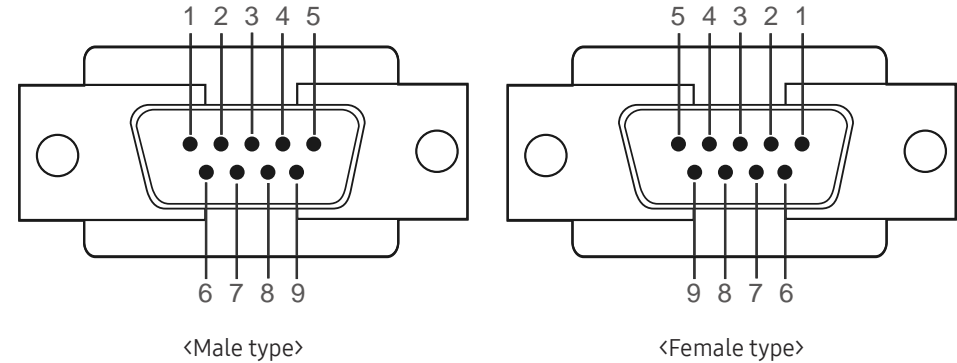
# Remote Control (RS232C)

## Cable Connection

### RS232C Cable

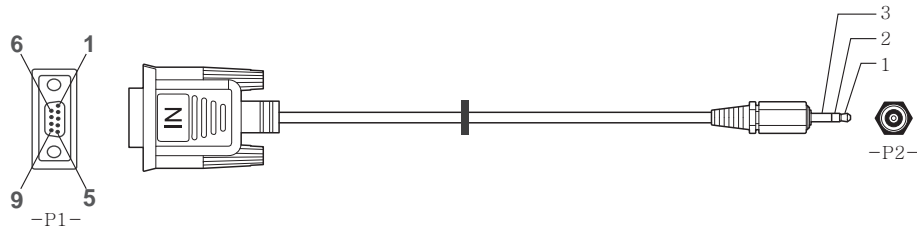
Interface	RS232C (9 pins)
Pin	TxD (No.2), RxD (No.3), GND (No.5)
Bit rate	9600 bps
Data bits	8 bit
Parity	None
Stop bit	1 bit
Flow control	None
Maximum length	15 m (only shielded type)

- 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

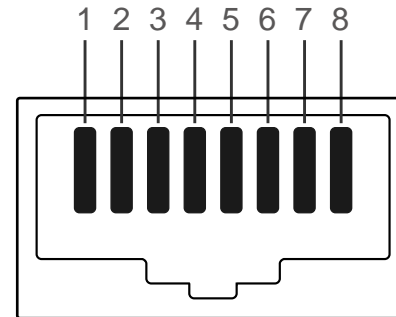
- RS232C cable  
Connector: 9-Pin D-Sub to Stereo Cable



		-P1-		-P2-		
Male type	Rx	3	-----	2	Tx	STEREO
	Tx	2	-----	1	Rx	PLUG
	Gnd	5	-----	3	Gnd	(3.5ø)

## LAN Cable

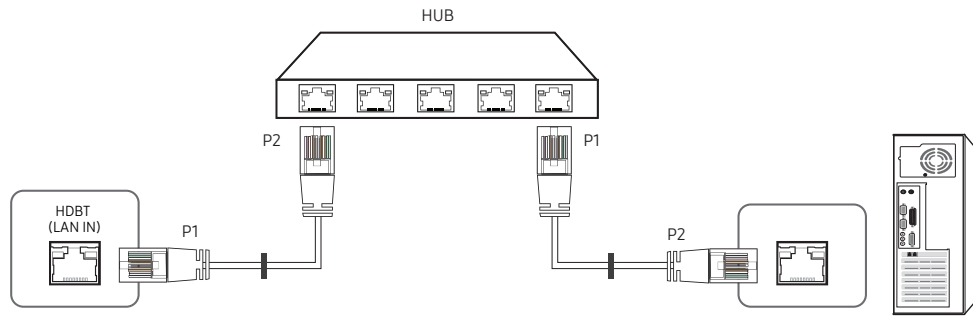
- Pin assignment



Pin No	Standard Color	Signal
1	White and orange	TX+
2	Orange	TX-
3	White and green	RX+
4	Blue	NC
5	White and blue	NC
6	Green	RX-
7	White and brown	NC
8	Brown	NC

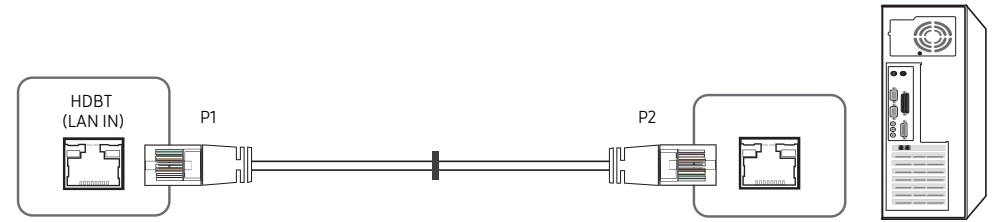
- Connector : HDBT (LAN IN)

### Direct LAN cable (PC to HUB)



Signal	P1		P2	Signal
TX+	1	<----->	1	TX+
TX-	2	<----->	2	TX-
RX+	3	<----->	3	RX+
RX-	6	<----->	6	RX-

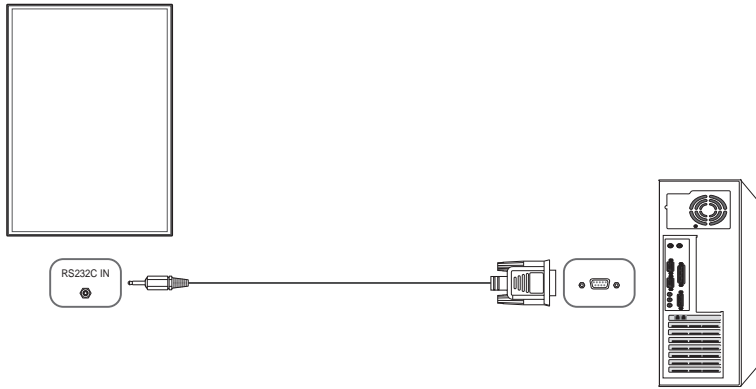
### Cross LAN cable (PC to PC)



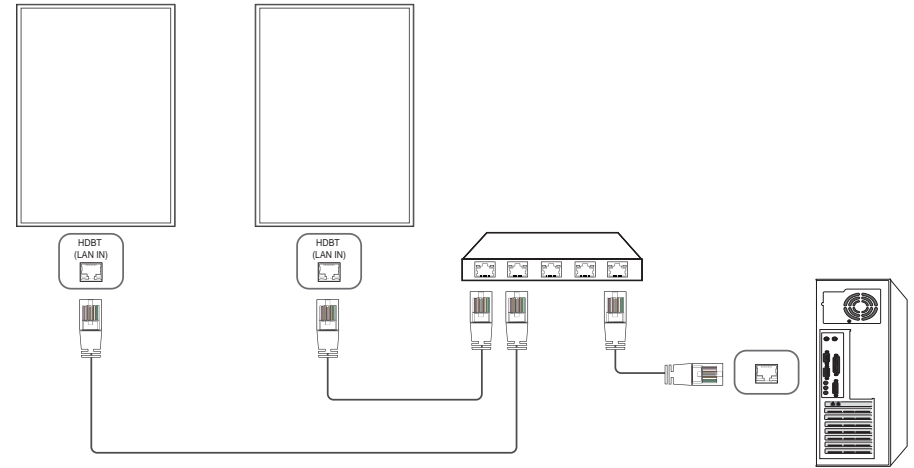
Signal	P1		P2	Signal
TX+	1	<----->	3	RX+
TX-	2	<----->	6	RX-
RX+	3	<----->	1	TX+
RX-	6	<----->	2	TX-

# Connection

- Connection 1



- Connection 2



## Control Codes

### Viewing control state (Get control command)

Header	Command	ID	Data length	Checksum
0xAA	Command type		0	

### Controlling (Set control command)

Header	Command	ID	Data length	Data	Checksum
0xAA	Command type		1	Value	

### Command

No.	Command type	Command	Value range
1	Power control	0x11	0~1
2	Volume control	0x12	0~100
3	Input source control	0x14	-
4	Screen mode control	0x18	-
5	Screen size control	0x19	0~255
6	PIP on/off control	0x3C	0~1
7	Auto adjustment control (PC and BNC only)	0x3D	0
8	Video wall mode control	0x5C	0~1

No.	Command type	Command	Value range
9	Safety Lock	0x5D	0~1
10	Video Wall On	0x84	0~1
11	Video Wall User Control	0x89	-

- 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	12

- To control all devices connected by a serial cable simultaneously irrespective of IDs, set the ID as "0xFE" and transmit commands. Commands will be executed by each device but ACK will not respond.



## 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.

## Volume control

- Function  
The volume of a product can be adjusted using a PC.
- Viewing volume state (Get Volume Status)

Header	Command	ID	Data length	Checksum
0xAA	0x12		0	

- Setting the volume (Set Volume)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x12		1	"Volume"	

"Volume": Volume 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'	0x12	"Volume"	

"Volume": Volume 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'	0x12	"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
0x18	DVI
0x0C	Input source
0x08	Component
0x20	MagicInfo
0x1F	DVI_video
0x30	RF(TV)
0x40	DTV
0x21	HDMI1
0x22	HDMI1_PC
0x23	HDMI2

0x24	HDMI2_PC
0x25	DisplayPort
0x55	HDBT

— DVI\_video, HDMI1\_PC and HDMI2\_PC cannot be used with the Set command. They only respond to "Get" commands.

— **MagicInfo** is only available with models that contain the **MagicInfo** function.

— RF(TV), DTV are only available with models that include a TV.

- 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.

## Screen mode control

- Function  
The screen mode of a product can be changed using a PC.  
Screen mode cannot be controlled when the **Video Wall** function is enabled.

— This control can only be used on models that include a TV.

- Viewing screen status (Get Screen Mode Status)

Header	Command	ID	Data length	Checksum
0xAA	0x18		0	

- Setting the picture size (Set Picture Size)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x18		1	"Screen Mode"	

"Screen Mode": A code that sets the product status

0x01	16 : 9
0x04	Zoom
0x31	Wide Zoom
0x0B	4 : 3

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x18	"Screen Mode"	

"Screen Mode": A code that sets the product status

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x18	"ERR"	

"ERR": A code showing what error has occurred

## Screen size control

- Function  
The screen size of a product can be changed using a PC.
- Viewing the screen size (Get Screen Size Status)

Header	Command	ID	Data length	Checksum
0xAA	0x19		0	

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x19	"Screen Size"	

"Screen Size": product screen size (range: 0 – 255, unit: inch)

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x19	"ERR"	

"ERR": A code showing what error has occurred

## PIP On/Off control

- Function  
The PIP mode of a product can be turned on or off using a PC.
  - ▭ Only available on models that have the PIP function.
  - ▭ The mode cannot be controlled if **Video Wall** is set to **On**.
  - ▭ This function is not available in **MagicInfo**.
- Viewing PIP on/off state (Get the PIP ON / OFF Status)

Header	Command	ID	Data length	Checksum
0xAA	0x3C		0	

- Setting PIP on/off (Set the PIP ON / OFF)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x3C		1	"PIP"	

"PIP": A code used to turn the PIP mode of a product on or off

1: PIP ON

0: PIP OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x3C	"PIP"	

"PIP": A code used to turn the PIP mode of a product on or off

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x3C	"PIP"	

"ERR": A code showing what error has occurred

## Auto adjustment control (PC and BNC only)

- Function  
Automatically adjust the PC system screen using a PC.
- Viewing auto adjustment state (Get Auto Adjustment Status)  
None
- Setting auto adjustment (Set Auto Adjustment)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x3D		1	"Auto Adjustment"	

"Auto Adjustment" : 0x00 (at all times)

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x3D	"Auto Adjustment"	

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x3D	"ERR"	

"ERR": A code showing what error has occurred

## Video Wall Mode Control

- Function  
Video Wall mode can be activated on a product using a PC.  
This control is only available on a product whose Video Wall is enabled.
- Viewing video wall mode (Get Video Wall Mode)

Header	Command	ID	Data length	Checksum
0xAA	0x5C		0	

- Setting the video wall (Set Video Wall Mode)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x5C		1	"Video Wall Mode"	

"Video Wall Mode": A code used to activate Video Wall mode on a product

1: Full

0: Natural

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x5C	"Video Wall Mode"	

"Video Wall Mode": A code used to activate Video Wall mode on a product

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x5C	"ERR"	

"ERR": A code showing what error has occurred

## Safety Lock

- Function  
PC can be used to turn the Safety Lock function on or off on a product.  
This control is available regardless of whether or not the power is turned on.
- Viewing the safety lock state (Get Safety Lock Status)

Header	Command	ID	Data length	Checksum
0xAA	0x5D		0	

- Enabling or disabling safety lock (Set Safety Lock Enable / Disable)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x5D		1	"Safety Lock"	

"Safety Lock": Safety lock code to be set on a product

1: ON

0: OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x5D	"Safety Lock"	

"Safety Lock": Safety lock code to be set on a product

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x5D	"ERR"	

"ERR": A code showing what error has occurred

## Video Wall On

- Function  
Turn Video Wall on or off on the product from your computer.
- Get Video Wall On/Off Status

Header	Command	ID	Data length	Checksum
0xAA	0x84		0	

- Set Video Wall On/Off

Header	Command	ID	Data length	Data	Checksum
0xAA	0x84		1	V.Wall_On	

- V.Wall\_On: Video Wall code to be assigned to the product

1: Video Wall ON

0: Video Wall OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x84	V.Wall_On	

V.Wall\_On : Same as above

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x84	ERR	

"ERR": A code showing what error has occurred

## Video Wall User Control

- Function  
Turn the Video Wall function on or off on the product from your computer.
- Get Video Wall Status

Header	Command	ID	Data length	Checksum
0xAA	0x89		0	

- Set Video Wall

Header	Command	ID	Data length	Val1	Val2	Checksum
0xAA	0x89		2	Wall_Div	Wall_SNo	

Wall\_Div: Video Wall Divider code assigned to the product

## 10x10 Video Wall Model

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Off</b>	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
<b>1</b>	0x11	0x12	0x13	0x14	0x15	0x16	0x17	0x18	0x19	0x1A	0x1B	0x1C	0x1D	0x1E	0x1F
<b>2</b>	0x21	0x22	0x23	0x24	0x25	0x26	0x27	0x28	0x29	0x2A	0x2B	0x2C	0x2D	0x2E	0x2F
<b>3</b>	0x31	0x32	0x33	0x34	0x35	0x36	0x37	0x38	0x39	0x3A	0x3B	0x3C	0x3D	0x3E	0x3F
<b>4</b>	0x41	0x42	0x43	0x44	0x45	0x46	0x47	0x48	0x49	0x4A	0x4B	0x4C	0x4D	0x4E	0x4F
<b>5</b>	0x51	0x52	0x53	0x54	0x55	0x56	0x57	0x58	0x59	0x5A	0x5B	0x5C	0x5D	0x5E	0x5F
<b>6</b>	0x61	0x62	0x63	0x64	0x65	0x66	0x67	0x68	0x69	0x6A	0x6B	0x6C	0x6D	0x6E	0x6F
<b>7</b>	0x71	0x72	0x73	0x74	0x75	0x76	0x77	0x78	0x79	0x7A	0x7B	0x7C	0x7D	0x7E	N/A
<b>8</b>	0x81	0x82	0x83	0x84	0x85	0x86	0x87	0x88	0x89	0x8A	0x8B	0x8C	N/A	N/A	N/A
<b>9</b>	0x91	0x92	0x93	0x94	0x95	0x96	0x97	0x98	0x99	0x9A	0x9B	N/A	N/A	N/A	N/A
<b>10</b>	0xA1	0xA2	0xA3	0xA4	0xA5	0xA6	0xA7	0xA8	0xA9	0xAA	N/A	N/A	N/A	N/A	N/A
<b>11</b>	0xB1	0xB2	0xB3	0xB4	0xB5	0xB6	0xB7	0xB8	0xB9	N/A	N/A	N/A	N/A	N/A	N/A
<b>12</b>	0xC1	0xC2	0xC3	0xC4	0xC5	0xC6	0xC7	0xC8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>13</b>	0xD1	0xD2	0xD3	0xD4	0xD5	0xD6	0xD7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>14</b>	0xE1	0xE2	0xE3	0xE4	0xE5	0xE6	0xE7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>15</b>	0xF1	0xF2	0xF3	0xF4	0xF5	0xF6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Wall\_SNo: Product Number code assigned to the product

### 10x10 Video Wall Model : ( 1 ~ 100)

Set Number	Data
1	0x01
2	0x02
...	...
99	0x63
100	0x64

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Val2	Checksum
0xAA	0xFF		4	'A'	0x89	Wall_Div	Wall_SNo	

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x89	ERR	

"ERR": A code showing what error has occurred



# Chapter 03

## Connecting and Using a Source Device

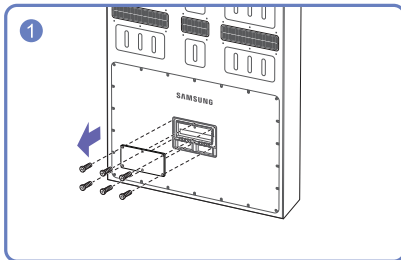
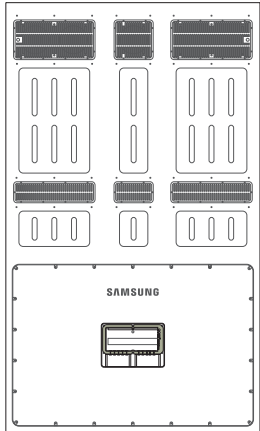
### Before Connecting

#### Pre-connection Checkpoints

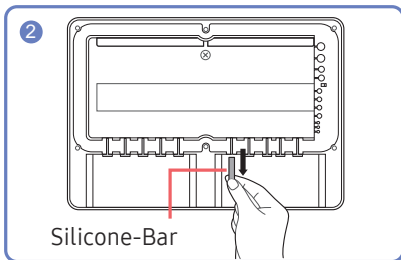
- Before connecting a source device, read the user manual provided with it.  
The number and locations of ports on source devices may differ from device to device.
- Do not connect the power cable until all connections are completed.  
Connecting the power cable during connection may damage the product.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

## Before connecting cables

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



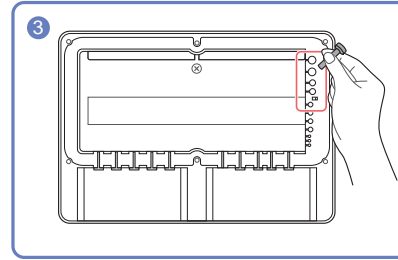
Unfasten the screws, then remove the cover.



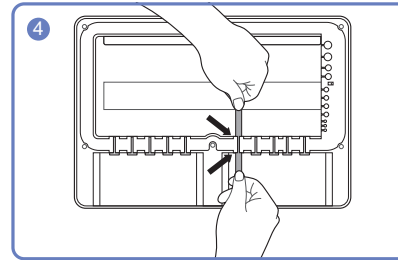
Remove the appropriate silicon bar for the thickness of the cable to connect.

Different hole sizes and corresponding cable thickness for each:

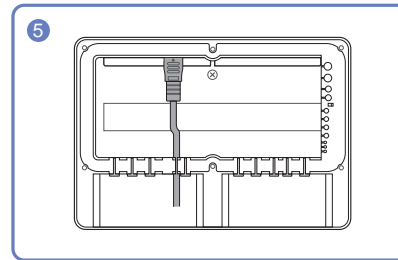
- 7 Ø hole x 1 : Insert the 7 Ø cable
- 5.5 Ø hole x 6 : Insert the 5.5 Ø cable
- 3 Ø hole x 2 : Insert the 3 Ø cable
- 8.5 Ø hole x 1 : Insert the 8.5 Ø cable



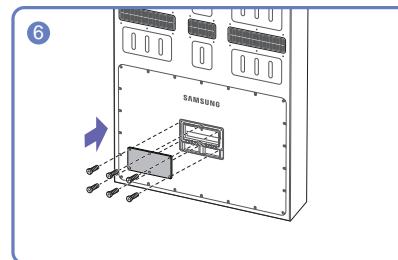
Insert and keep the removed Silicone-Bar in the marked area to ensure it is not lost.



Insert the appropriate cable into the hole from which the Silicone-Bar was removed.



The cable should be connected as shown.

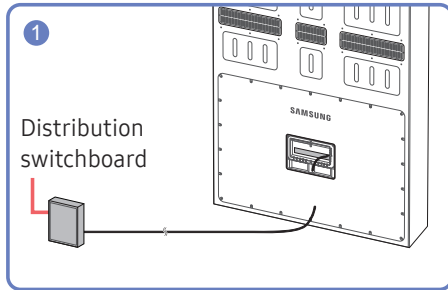


Close the cover, then fasten the screws.

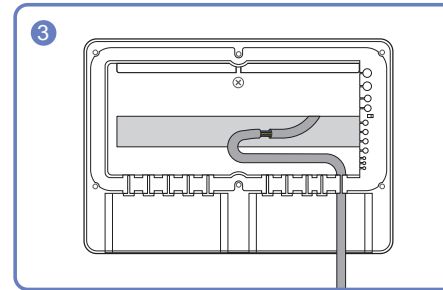
- After all the cables are connected, make sure to close the cover and fasten the screws to ensure it is water tight.
- Recommended torque : 10 - 12 kgf.cm

## Power cable connection guide

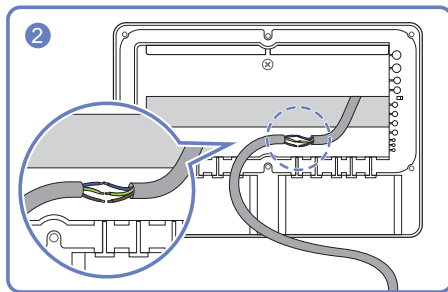
— The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



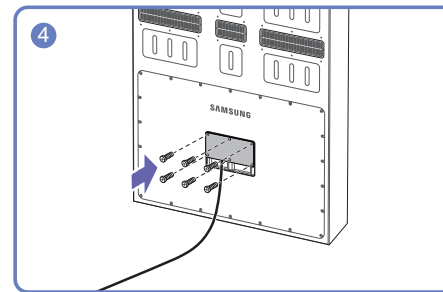
Prepare the waterproof power cable whose diameter is 8.5 mm for 20 A.



Put the soldered (connected) part of the power cables inside the product.



Connect the two power cables to each other. Solder and insulate the connected part.




















Close the rear cover and fasten the screws.

### Different power cable colors by country

When connecting an external power cable, be sure to match the colors of its wires with those of the 3 wires inside the product's power cable. The meaning (Neutral, Live or Ground) of each wire color of the external power cable may differ depending on the country.

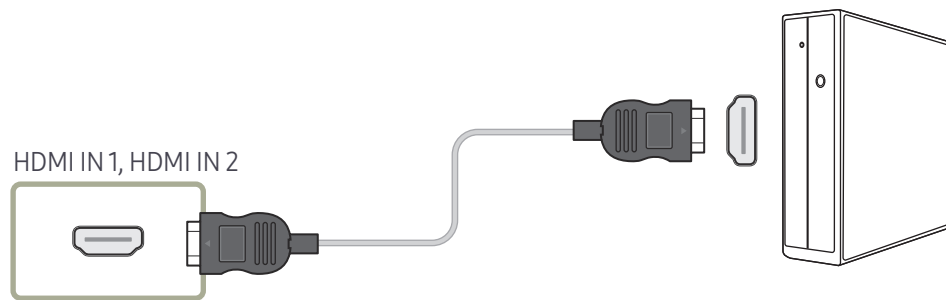
— Be sure to refer to the following table to correctly connect wires by the same meaning:

Model Name	Neutral	Live	Ground	Country
OH85F	BLUE 	BROWN 	GREEN/YELLOW 	America
	WHITE 	BLACK 	GREEN  or GREEN/YELLOW 	
	BLUE 	BROWN 	GREEN/YELLOW 	Europe
	BLACK 	RED 	GREEN/YELLOW 	India
	WHITE 	BLACK 	GREEN  or GREEN/YELLOW 	Taiwan & Japan

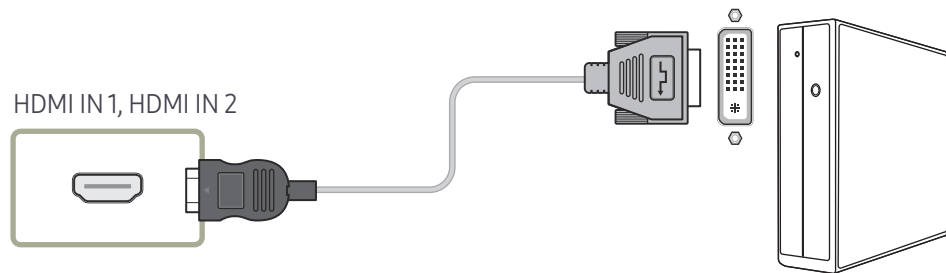
## Connecting to a PC

- 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.

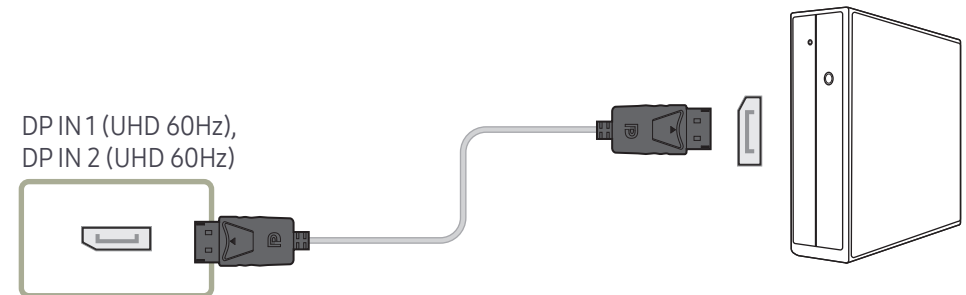
### Connection Using an HDMI Cable



### Connection Using an HDMI-DVI Cable



### Connection Using a DP Cable



- Precautions for using DP
  - Some graphics cards that are not compliant with the DP standard may prevent the Windows Booting/Bios screen from being displayed when the product is in power-saving mode. If this is the case, make sure to turn on the product first before turning on your PC.
  - The interface DP IN 1 (UHD 60Hz), DP IN 2 (UHD 60Hz) on the product and the provided DP cable are designed based on the VESA standards. Using a DP cable that is not VESA compliant may cause the product to function improperly. Samsung Electronics shall not be held responsible for any issues from using a cable that is not VESA compliant. Make sure to use a DP cable that is VESA compliant.
  - To use the optimal resolution (3840x2160 @ 60Hz) when the input source is **DisplayPort1** or **DisplayPort2**, using a DP cable shorter than 5m is recommended.
  - Disabling power-saving mode when the input source is **DisplayPort1** or **DisplayPort2** may import new resolution information and reset the task window size or location.

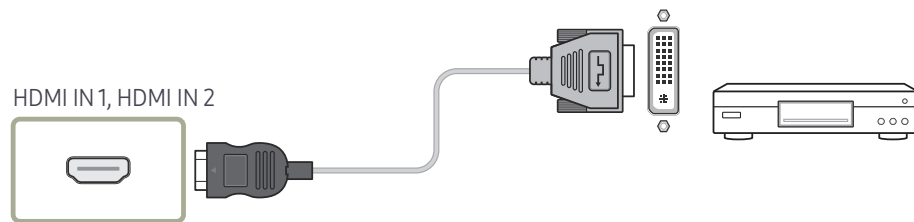
## Connecting to a Video Device

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

## Connection Using an HDMI-DVI Cable

Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.

- The appearance may differ depending on the product.
- Connecting parts may differ in different products.

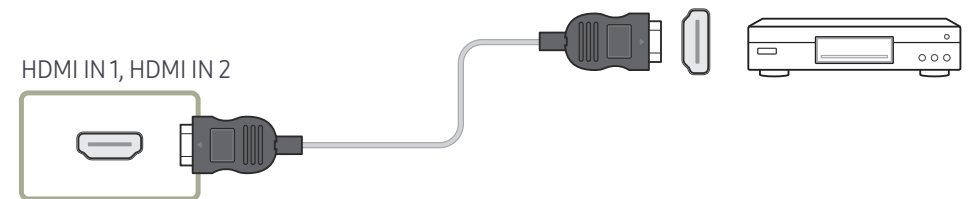


## Connection Using an HDMI Cable

- The appearance may differ depending on the product.
- Connecting parts may differ in different products.

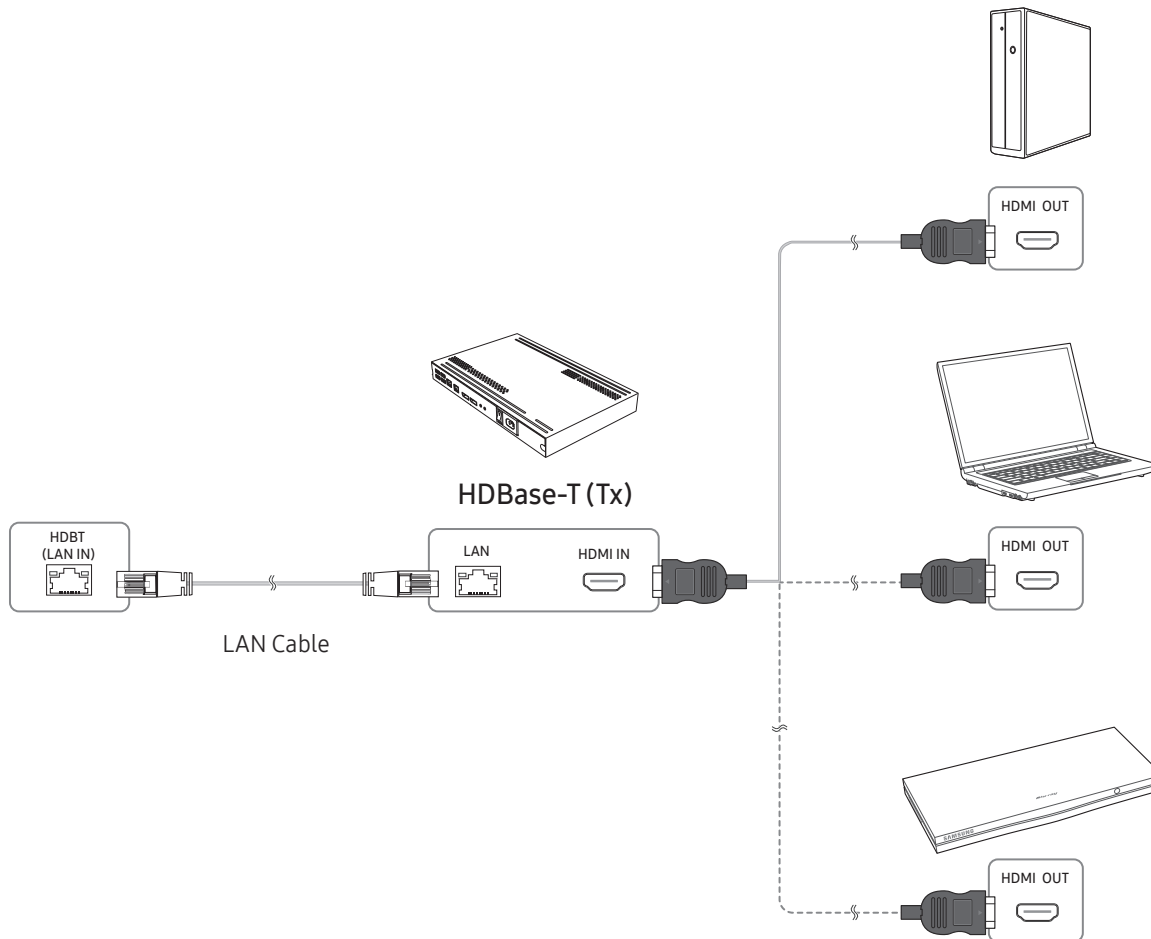
### Using an HDMI cable or HDMI to DVI Cable (up to 1080p)

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



## Connecting the HDBase-T

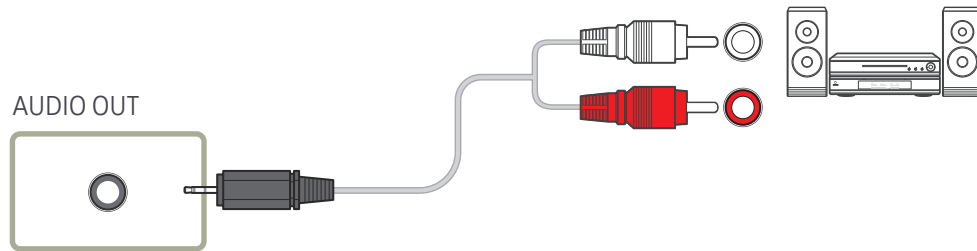
- The appearance may differ depending on the product.
- Connecting parts may differ in different products.
- HDBase-T (Tx) transmits data from an external device to HDBase-T (Rx). Make sure to connect them directly using a LAN cable.
- Data transmission is not available if HDBase-T (Rx) is connected to HDBase-T (Tx) through a hub.
- HDBase-T works with unshielded twisted pair (UTP) or shielded twisted pair (STP) cables; but, to ensure CE compliance, STP cables and STP Connectors are required. Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise which may impact performance. It is recommended to use an STP cable to maximize performance. Using a UTP cable or patch may decrease performance.



---

## Connecting to an Audio System

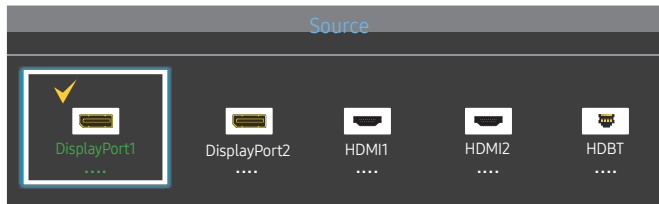
— Connecting parts may differ in different products.



# Changing the Input source

## Source

SOURCE → Source



– The displayed image may differ depending on the model.

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

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

- The input source can also be changed by using the **SOURCE** button on the remote control.
- The screen may not display correctly if an incorrect source is selected for the source device you want to convert to.

## Edit Name

SOURCE → Source → TOOLS → Edit Name → ENTER

Customize the name of a connected external device.

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

VCR / DVD / Cable STB / Satellite STB / HD STB / AV Receiver / DVD Receiver / Game / Camcorder / DVD Combo / DHR / PC / DVI PC / DVI Devices



# Chapter 04

## Using MDC

Multiple display control "MDC" is an application that allows you to easily control multiple display devices simultaneously using a PC. For details on how to use the MDC program, refer to Help after installing the program. The MDC program is available on the website.

After you press the **On** button following the **Off** button, the product checks its status for about a minute. To run a command, try it after a minute.

## MDC Program Installation/Uninstallation

### Installation

— MDC installation can be affected by the graphics card, mother board and network conditions.

- 1 Click the **MDC Unified** installation program.
- 2 Select a language for installation. Next, click **"OK"**.
- 3 When the **"Welcome to the InstallShield Wizard for MDC\_Unified"** screen appears, click **"Next"**.
- 4 In the **"License Agreement"** window displayed, select **"I accept the terms in the license agreement"** and click **"Next"**.
- 5 In the displayed **"Customer Information"** window, fill out all the information fields and click **"Next"**.

- 6 In the displayed **"Destination Folder"** window, select the directory path you want to install the program in and click **"Next"**.
  - If the directory path is not specified, the program will be installed in the default directory path.
- 7 In the displayed **"Ready to Install the Program"** window, check the directory path to install the program in and click **"Install"**.
- 8 Installation progress will be displayed.
- 9 Click **"Finish"** in the displayed **"InstallShield Wizard Complete"** window.
  - Select **"Launch MDC Unified"** and click **"Finish"** to run the MDC program immediately.
- 10 The **MDC Unified** shortcut icon will be created on the desktop after installation.
  - The MDC execution icon may not be displayed depending on the PC system or product specifications.
  - Press F5 if the execution icon is not displayed.

### Uninstallation

- 1 Select **Settings > Control Panel** on the **Start** menu and double-click **Add/Delete Program**.
- 2 Select **MDC Unified** from the list and click **Change/Remove**.

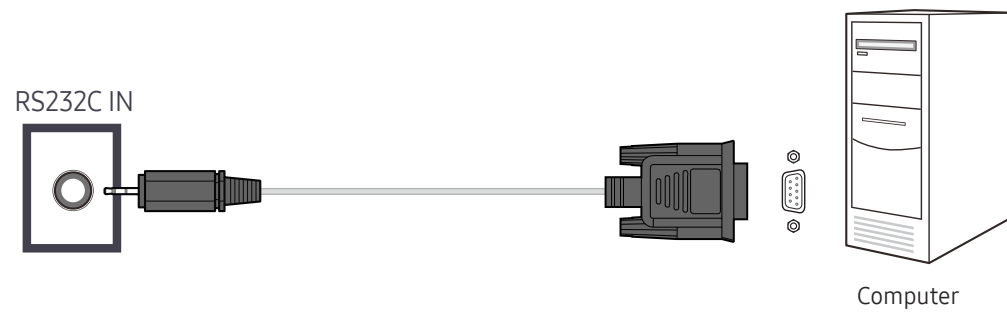
---

## Connecting to MDC

### Using MDC via RS-232C (serial data communications standards)

An RS-232C serial cable must be connected to the serial ports on the PC and monitor.

— The appearance may differ depending on the product.

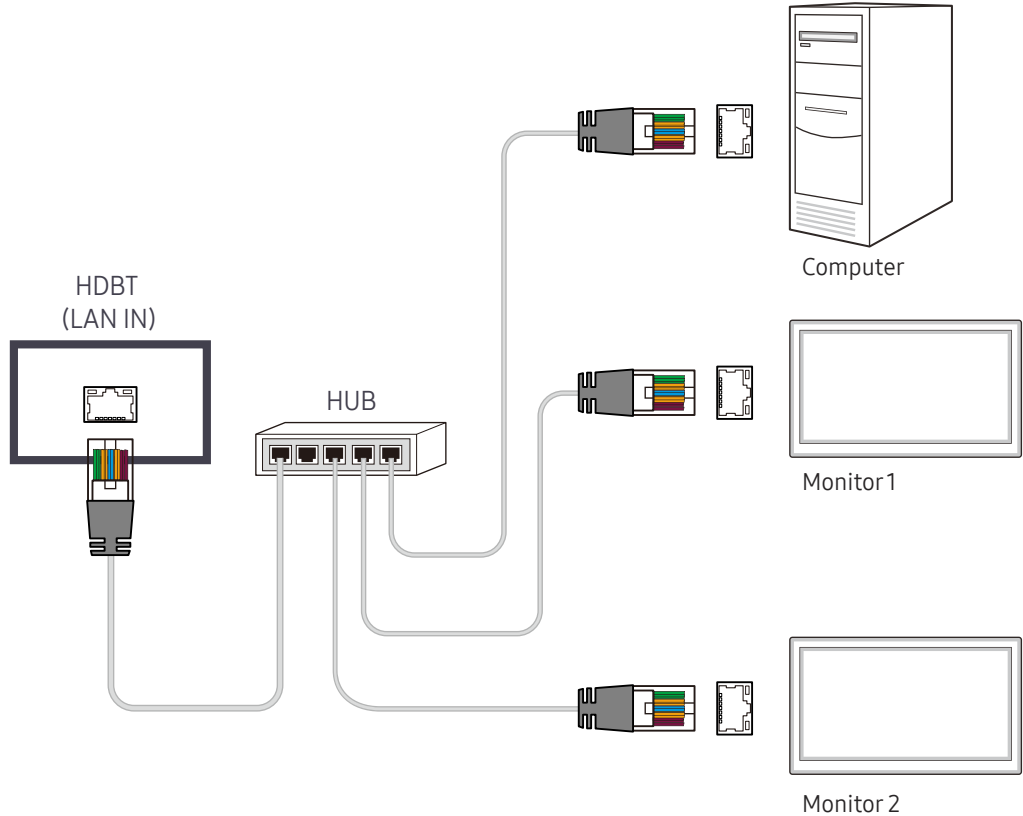


# Using MDC via Ethernet

Enter the IP for the primary display device and connect the device to the PC. Display devices can be connected to each other using a LAN cable.

## Connection using a direct LAN cable

- The appearance may differ depending on the product.
- Multiple products can be connected using the HDBT (LAN IN) port on the product and the LAN ports on the HUB.



# Chapter 05

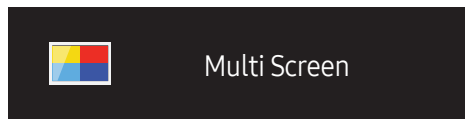
## Home feature

This feature is provided in [Support](#) → [Go to Home](#).

Accessible using the HOME button on the remote control.

### Multi Screen

HOME  → **Multi Screen** → ENTER 



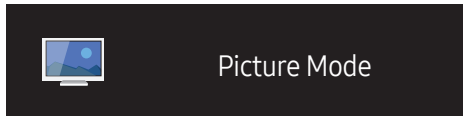
- The displayed image may differ depending on the model.
- Refer to **Multi Screen** under the chapter **OnScreen Display** for more information on sub-features.

View several sources on the screen at the same time.

- **Off**
- **PIP**: The picture from the external video source will be in the main screen and the picture from the product will be in the PIP sub-picture screen.
- **Triple Screen**: When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as two sub-screens.
- **Four Screen**: When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as three sub-screens.

# Picture Mode

HOME  → Picture Mode → ENTER 



– The displayed image may differ depending on the model.

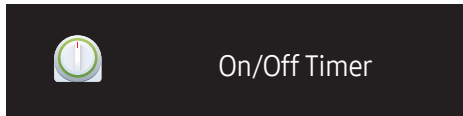
Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

**Video/Image** mode improves the picture quality of the video device. **Text** mode improves the picture quality of the computer.

- **Shop & Mall**  
Suitable for shopping malls.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Office & School**  
Suitable for offices and schools.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Terminal & Station**  
Suitable for bus terminals and train stations.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Video Wall**  
Suitable for environments where videowall display are used.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Calibration**  
In this mode, the brightness, color, gamma and uniformity settings customized using the color calibration program **Color Expert** are applied.
  - To apply the **Calibration** mode properly, make sure you configure the picture quality settings, such as brightness, color, gamma and uniformity, using the color calibration program **Color Expert**.
  - To download the **Color Expert** program, visit [www.samsung.com/displaysolutions](http://www.samsung.com/displaysolutions).

## On/Off Timer

HOME  → On/Off Timer → ENTER 



– The displayed image may differ depending on the model.

– You must set the clock before you can use **Clock Set**.

### On Timer

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

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

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

(On Timer1 ~ On Timer7)

- **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.

### Off Timer


Set the off timer (**Off Timer**) by making a selection from one of the seven options. (**Off Timer1 ~ Off Timer7**)

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

---

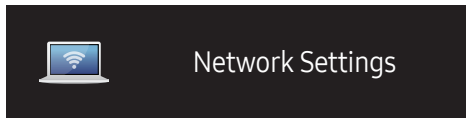
## Holiday Management

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

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

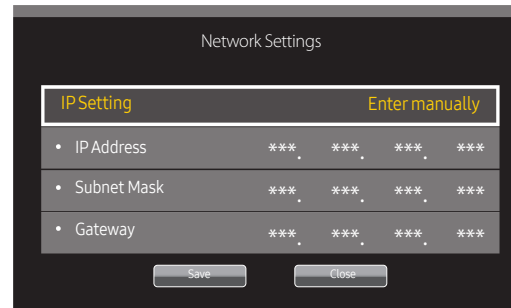
# Network Settings

HOME  → Network Settings → ENTER 



– The displayed image may differ depending on the model.

View the network settings.



- **IP Setting:** Obtain automatically, Enter manually
- **IP Address:** Manually enter the IP Address if IP Setting is set to Enter manually.
- **Subnet Mask:** Manually enter the Subnet Mask if IP Setting is set to Enter manually.
- **Gateway:** Manually enter the Gateway if IP Setting is set to Enter manually.



# ID Settings

HOME  → ID Settings → ENTER 




– The displayed image may differ depending on the model.

Assign an ID to a set.

## Device ID

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

- Press ▲/▼ to select a number, and press .
- Enter the number you want using the number buttons on the remote control.

## PC Connection Cable

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

- **RS232C cable**  
Communicate with MDC via the RS232C-stereo cable.
- **RJ45(LAN) cable**  
Communicate with MDC via the RJ45 cable.

# Video Wall

HOME  → Video Wall → ENTER 



– The displayed image may differ depending on the model.

Customize the layout of multiple displays that are connected to form a video wall.

In addition, display part of a whole picture or repeat the same picture on each of the connected multiple displays.

To display multiple images, refer to MDC Help or the MagicInfo user guide. Some models may not support the MagicInfo function.

## Video Wall

You can activate or deactivate **Video Wall**.

To organize a video wall, select **On**.

- **Off / On**

### Horizontal x Vertical

This feature automatically splits a videowall display based on a videowall matrix configuration.

Enter the videowall matrix.

The videowall display is split based on the configured matrix. The number of vertical or horizontal display devices can be set within the range 1 and 15.

- A videowall display can be split into a maximum of 225 screens.
- The **Horizontal x Vertical** option is only enabled when **Video Wall** is set to **On**.

---

## Screen Position

To rearrange split screens, adjust the number for each product in the matrix using the **Screen Position** feature. Selecting **Screen Position** will display the videowall matrix with the numbers assigned to the products that form the videowall.

To change the order of a display device, change the device number and press the  button.

- A maximum of 255 displays can be arranged in **Screen Position**.
- The **Screen Position** option is only enabled when **Video Wall** is set to **On**.
- To use the function, make sure **Horizontal x Vertical** is configured.

## Format

Select how to display images on the videowall display.

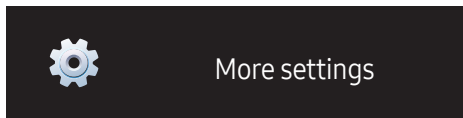
- **Full**: Display images in full screen.
  - **Natural**: Display images in the original aspect ratio.
- The **Format** option is only enabled when **Video Wall** is set to **On**.

---

## More settings

The picture settings menu appears.

HOME  → More settings → ENTER 



---

– The displayed image may differ depending on the model.

# Chapter 06

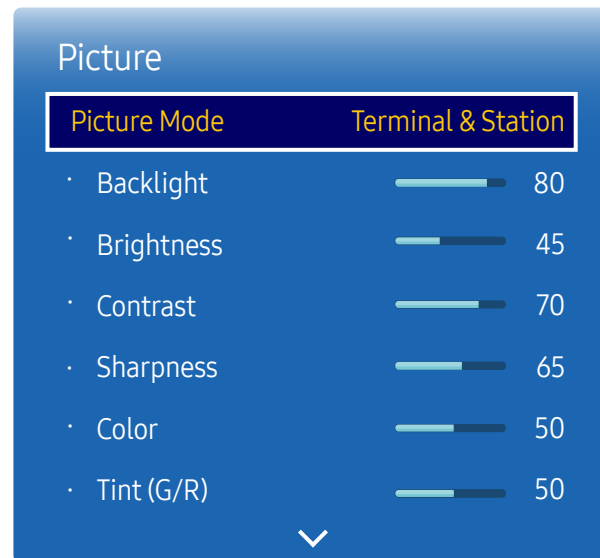
## Screen Adjustment

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

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

### Picture Mode

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



– The displayed image may differ depending on the model.

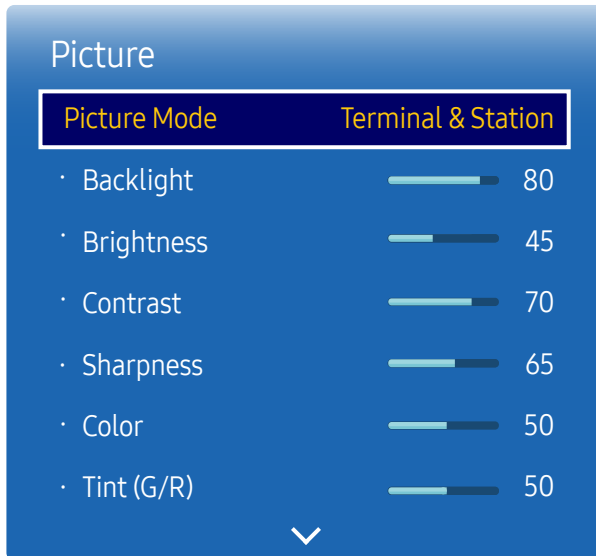
Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

**Video/Image** mode improves the picture quality of the video device. **Text** mode improves the picture quality of the computer.

- **Shop & Mall**  
Suitable for shopping malls.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Office & School**  
Suitable for offices and schools.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Terminal & Station**  
Suitable for bus terminals and train stations.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Video Wall**  
Suitable for environments where videowall display are used.
  - Select either **Video/Image** or **Text** depending on the picture mode.
- **Calibration**  
In this mode, the brightness, color, gamma and uniformity settings customized using the color calibration program **Color Expert** are applied.
  - To apply the **Calibration** mode properly, make sure you configure the picture quality settings, such as brightness, color, gamma and uniformity, using the color calibration program **Color Expert**.
  - To download the **Color Expert** program, visit [www.samsung.com/displaysolutions](http://www.samsung.com/displaysolutions).

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

MENU  → Picture → ENTER 



– The displayed image may differ depending on the model.

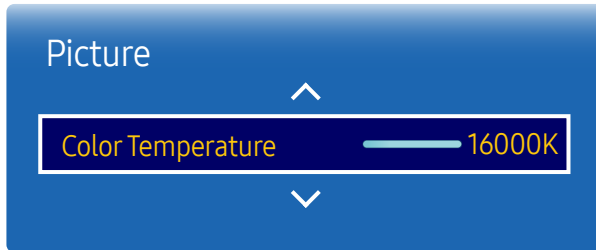
Your product has several options for adjusting picture quality.

Picture Mode	Picture Mode settings	Adjustable options
Shop & Mall, Office & School, Terminal & Station, Video Wall	Video/Image	Backlight / Brightness / Contrast / Sharpness / Color / Tint (G/R)
	Text	Backlight / Brightness / Contrast / Sharpness
Calibration		Backlight

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

## Color Temperature

MENU  → Picture → Color Temperature → ENTER 



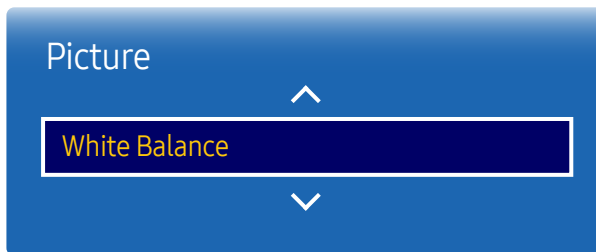
– The displayed image may differ depending on the model.

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

- Enabled when **Color Tone** is set to **Off**.
- If **Picture Mode** is set to **Calibration**, **Color Temperature** is disabled.

## White Balance

MENU  → Picture → White Balance → ENTER 




– The displayed image may differ depending on the model.

Adjust the color temperature for a more natural picture.

- **R-Gain / G-Gain / B-Gain**: Adjust each color's (red, green, blue) brightness.
- **R-Offset / G-Offset / B-Offset**: Adjust each color's (red, green, blue) darkness.
- **Reset**: Suitable for environments where videowall display are used.

## Gamma

MENU  → Picture → Gamma → ENTER 



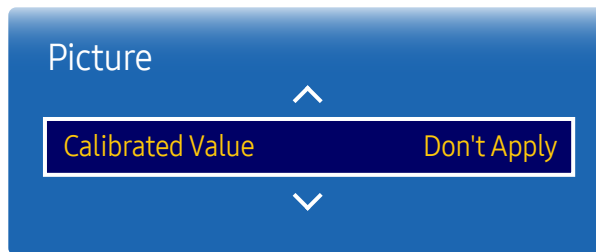
– The displayed image may differ depending on the model.

Adjust the primary color intensity.

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

## Calibrated Value

MENU  → Picture → Calibrated Value → ENTER 



– The displayed image may differ depending on the model.

Select whether to apply the brightness, color, gamma and uniformity settings customized using the color calibration program Color Expert to the Information and Advertisement modes.

- **Don't Apply / Apply**

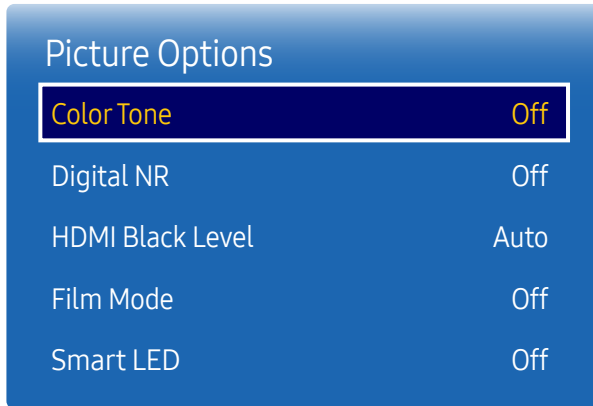
– To download the Color Expert program, visit [www.samsung.com/displaysolutions](http://www.samsung.com/displaysolutions).

– If **Picture Mode** is set to **Calibration**, **Calibrated Value** is disabled.



# Picture Options

MENU  → Picture → Picture Options → ENTER 



– The displayed image may differ depending on the model.

Picture Mode	Picture Mode settings	Adjustable options
Shop & Mall, Office & School, Terminal & Station, Video Wall	Video/Image	Color Tone / Digital NR / HDMI Black Level / Film Mode / Smart LED
	Text	Color Tone / Digital NR / HDMI Black Level / Smart LED
Calibration		Digital NR / HDMI Black Level / Smart LED

## Picture Options

Color Tone	Off
Digital NR	Off
HDMI Black Level	Auto
Film Mode	Off
Smart LED	Off

– The displayed image may differ depending on the model.

## Color Tone

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

- Off / Cool / Normal / Warm

If **Picture Mode** is set to **Video/Image**

- Off / Cool / Normal / Warm1 / Warm2

– If **Picture Mode** is set to **Calibration**, **Color Tone** is disabled.

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

## Digital NR

Reduces the noise of the picture to avoid distracting flickering.

- Off / On

## HDMI Black Level

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

- Auto / Low / Normal

## Picture Options

Color Tone	Off
Digital NR	Off
HDMI Black Level	Auto
Film Mode	Off
Smart LED	Off

– The displayed image may differ depending on the model.

## Film Mode

This mode is suitable to view movies.

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

- Off / Auto

– This option can be configured if the input source supports 480i, 576i or 1080i.

– This option is not supported when a PC is connected.

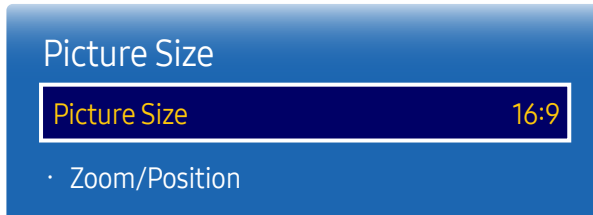
## Smart LED

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

- Off / On

# Picture Size

MENU  → Picture → Picture Size → ENTER 



– The displayed image may differ depending on the model.

choose size and aspect ratio picture displayed on screen.

## Picture Size

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

Available **Picture Size** options can vary depending on whether the **Picture Mode** is **Video/Image** or **Text**.

- **16:9**: Sets the picture to **16:9** wide mode.
- **Zoom1**: Use for moderate magnification. Cuts off the top and sides.
- **Zoom2**: Use for a stronger magnification.
- **Smart View 1**: Reduces the **16:9** picture by 50%.
- **Smart View 2**: Reduces the **16:9** picture by 25%.
- **Wide**: 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 **HDMI1**, **HDMI2** (720p / 1080i / 1080p) signals are inputted.
- **Custom**: Changes the resolution to suit the user's preferences.
- **Original**: Display images in the original picture quality.
  - Available ports may differ depending on the model.

## Picture Size

Picture Size

Custom

· Zoom/Position

– The displayed image may differ depending on the model.




## Zoom/Position

Adjust the screen size and position.

This option can be configured if the input source supports 1080i or 1080p and the **Picture Size** is **Custom**.

– This option is not supported when a PC is connected.

– From the **Zoom/Position** screen, follow the steps below.

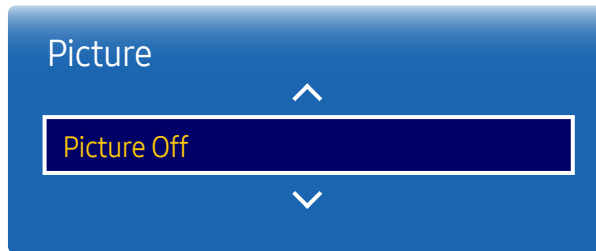
- 1 Press the ▼ button to select **Zoom/Position**. Press the  button.
- 2 Select the **Zoom** or **Position**. Press the  button.
- 3 Press the ▲/▼/◀/▶ button to move the picture.
- 4 Press the  button.

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

---

## Picture Off

MENU  → Picture → Picture Off → ENTER 



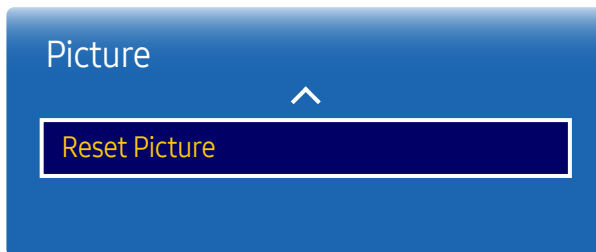
---

– The displayed image may differ depending on the model.

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

## Reset Picture

MENU  → Picture → Reset Picture → ENTER 



---

– The displayed image may differ depending on the model.

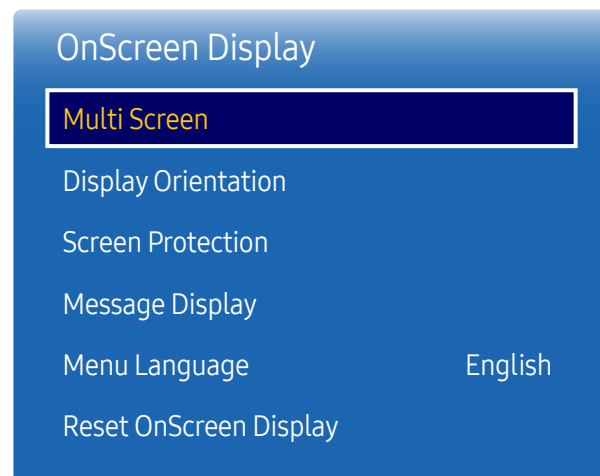
Resets your current picture mode to its default settings.

# Chapter 07

## OnScreen Display

### Multi Screen

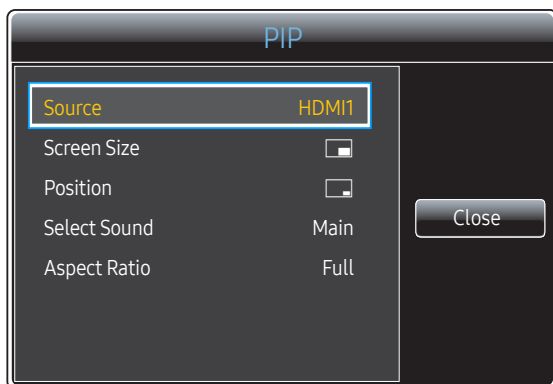
MENU  → OnScreen Display → Multi Screen → ENTER 



– The displayed image may differ depending on the model.

### Multi Screen

- **Off**
  - **PIP**: The picture from the external video source will be in the main screen and the picture from the product will be in the PIP sub-picture screen.
  - **Triple Screen**: When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as two sub-screens.
  - **Four Screen**: When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as three sub-screens.
- For **Multi Screen** sound, refer to the **Select Sound** instructions.
- If you turn the product off while watching in the **Multi Screen** mode, **Multi Screen** mode will remain after power Off/On.
- You may notice that the picture in the PIP screen becomes slightly unnatural when you use the main screen to view a game or karaoke.
- **Multi Screen** mode supports two UHD resolution screens (3840 x 2160 @ 30 Hz (HDMI) / 60 Hz (DP)). When using this mode, screen burn in (picture quality degradation) may occur.

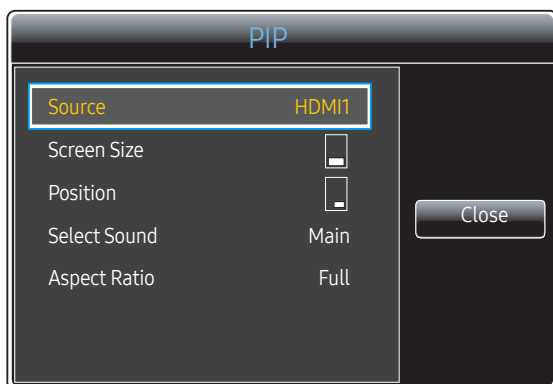


– The displayed image may differ depending on the model.

### PIP (Landscape)

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

- **Source:** You can select a source of the sub picture.
- **Screen Size:** Select a size for the subpicture.
- **Position:** Select a position for the sub-picture.
  - In double mode, you cannot select **Position**.
- **Select Sound (Main / Sub):** Select a sound source to enable in **PIP** mode.
- **Aspect Ratio (Original / Full):** Set the screen mode to either **Full** or **Original**.



– The displayed image may differ depending on the model.

### PIP (Portrait)

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

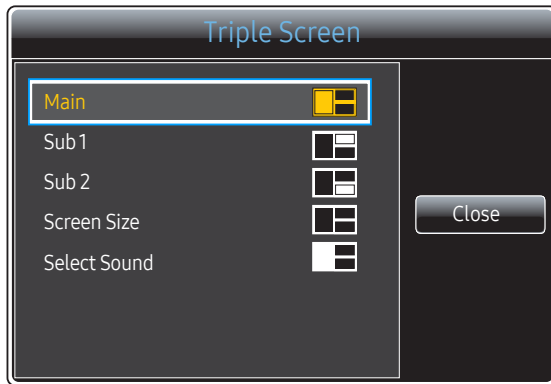
- Available only when **Source Content Orientation** is set to **Portrait**.
- **Source:** You can select a source of the sub picture.
- **Screen Size:** Select a size for the subpicture.
- **Position:** Select a position for the sub-picture.
  - In double mode, you cannot select **Position**.
- **Select Sound (Main / Sub):** Select a sound source to enable in **PIP** mode.
- **Aspect Ratio (Original / Full):** Set the screen mode to either **Full** or **Original**.



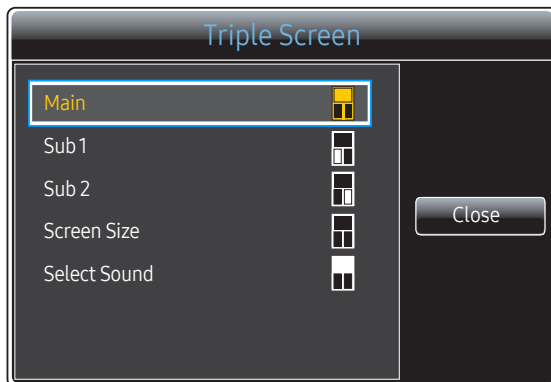
## Restrictions

- Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.

Main picture	Sub picture
DisplayPort1	DisplayPort2, HDMI1, HDMI2, HDBT
DisplayPort2	DisplayPort1, HDMI1, HDMI2, HDBT
HDMI1	DisplayPort1, DisplayPort2, HDMI2, HDBT
HDMI2	DisplayPort1, DisplayPort2, HDMI1, HDBT
HDBT	DisplayPort1, DisplayPort2, HDMI1, HDMI2



– The displayed image may differ depending on the model.



– The displayed image may differ depending on the model.

## Triple Screen (Landscape)

When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as two sub-screens.

– Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.

- **Main:** Specify **Source** and **Aspect Ratio** for the **Main** screen in **Triple Screen** mode.
- **Sub 1:** Specify **Source** and **Aspect Ratio** for the **Sub 1** screen in **Triple Screen** mode.
- **Sub 2:** Specify **Source** and **Aspect Ratio** for the **Sub 2** screen in **Triple Screen** mode.
- **Screen Size:** Set the sizes of the **Main**, **Sub 1** and **Sub 2** screens.
- **Select Sound:** Select a sound source to enable in **Triple Screen** mode.

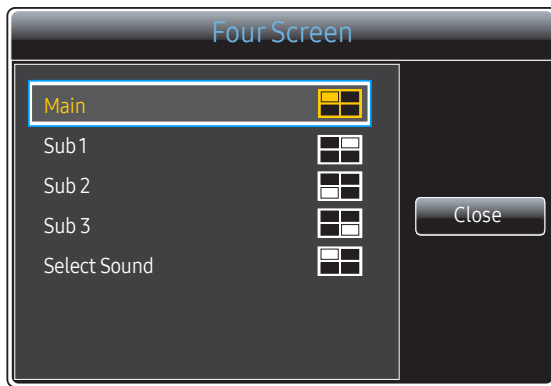
## Triple Screen (Portrait)

When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as two sub-screens.

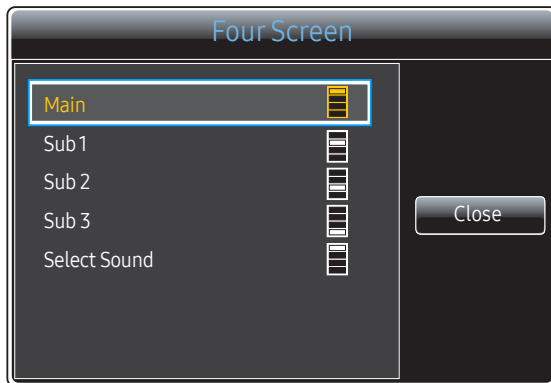
– Available only when **Source Content Orientation** is set to **Portrait**.

– Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.

- **Main:** Specify **Source** and **Aspect Ratio** for the **Main** screen in **Triple Screen** mode.
- **Sub 1:** Specify **Source** and **Aspect Ratio** for the **Sub 1** screen in **Triple Screen** mode.
- **Sub 2:** Specify **Source** and **Aspect Ratio** for the **Sub 2** screen in **Triple Screen** mode.
- **Screen Size:** Set the sizes of the **Main**, **Sub 1** and **Sub 2** screens.
- **Select Sound:** Select a sound source to enable in **Triple Screen** mode.



– The displayed image may differ depending on the model.



– The displayed image may differ depending on the model.

## Four Screen (Landscape)

When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as three sub-screens.

– Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.

- **Main:** Specify **Source** and **Aspect Ratio** for the **Main** screen in **Four Screen** mode.
- **Sub 1:** Specify **Source** and **Aspect Ratio** for the **Sub 1** screen in **Four Screen** mode.
- **Sub 2:** Specify **Source** and **Aspect Ratio** for the **Sub 2** screen in **Four Screen** mode.
- **Sub 3:** Specify **Source** and **Aspect Ratio** for the **Sub 3** screen in **Four Screen** mode.
- **Select Sound:** Select a sound source to enable in **Four Screen** mode.

## Four Screen (Portrait)

When the screen of an external device or PC is displayed, view pictures from other devices at the same time. The pictures will be displayed as three sub-screens.

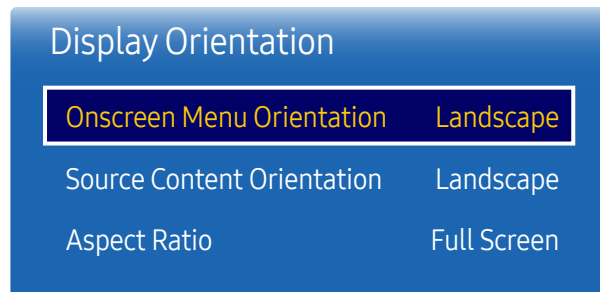
– Available only when **Source Content Orientation** is set to **Portrait**.

– Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.

- **Main:** Specify **Source** and **Aspect Ratio** for the **Main** screen in **Four Screen** mode.
- **Sub 1:** Specify **Source** and **Aspect Ratio** for the **Sub 1** screen in **Four Screen** mode.
- **Sub 2:** Specify **Source** and **Aspect Ratio** for the **Sub 2** screen in **Four Screen** mode.
- **Sub 3:** Specify **Source** and **Aspect Ratio** for the **Sub 3** screen in **Four Screen** mode.
- **Select Sound:** Select a sound source to enable in **Four Screen** mode.

## Display Orientation

MENU  → OnScreen Display → Display Orientation → ENTER 



- The displayed image may differ depending on the model.
- The **Display Orientation** feature is not available in Interlace signal mode.

## Onscreen Menu Orientation

Configure the menu screen.

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

## Source Content Orientation

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



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

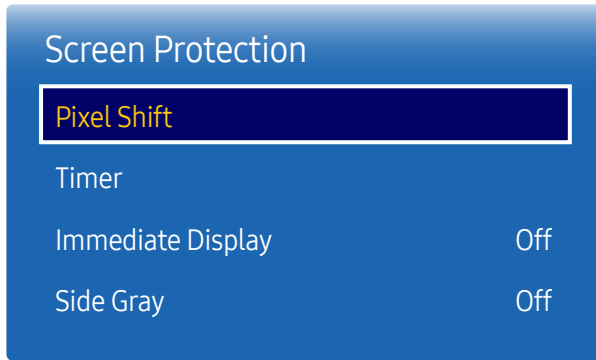
## Aspect Ratio

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

- **Full Screen**: Display the rotated screen in full screen.
  - **Original**: Display the rotated screen in the original aspect ratio.
- Available only when **Source Content Orientation** is set to **Portrait**.
  - If **Multi Screen** is set to **Triple Screen**, **Four Screen** is disabled.

# Screen Protection

MENU  → OnScreen Display → Screen Protection → ENTER 



– The displayed image may differ depending on the model.

To reduce the possibility of screen burn, this unit is equipped with **Pixel Shift** screen burn prevention technology. **Pixel Shift** moves the picture slightly on the screen.

The **Pixel Shift** time setting allows you to program the time between movements of the picture in minutes.

## Pixel Shift

Minimize image retention by finely moving pixels horizontally or vertically.

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

### Available Pixel Shift Settings and Optimum Settings.

	Available Settings	Optimum Settings
<b>Horizontal</b> (pixels)	0 ~ 4	4
<b>Vertical</b> (pixels)	0 ~ 4	4
<b>Time</b> (minute)	1 min. ~ 4 min.	4 min.

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

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

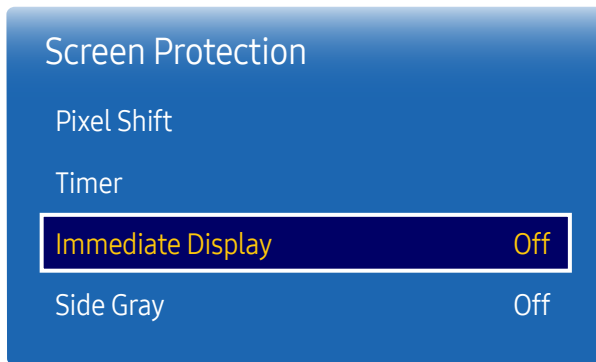
---

## Timer

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

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

- **Timer (Off / Repeat / Interval)**
  - **Off**
  - **Repeat**: Display the anti-burn in pattern at a specified interval.
  - **Interval**: Display the anti-burn in pattern for a specified period of time (from the starting to finishing time).
    - When **Clock Set** is configured, **Interval** will be enabled.
    - **Period**, **Start Time** and **End Time** are enabled only when **Timer** is set to **Repeat** or **Interval**.
- **Period**: Specify the time interval to activate the **Screen Protection** function.
  - The option is enabled when **Repeat** is selected for **Timer**.
- **Start Time**: Set the start time to activate the screen protection function.
  - The option is enabled when **Interval** is selected for **Timer**.
- **End Time**: Set the end time to deactivate the screen protection function.
  - The option is enabled when **Interval** is selected for **Timer**.



## Immediate Display

Select the screen saver you want to display immediately.

- Off / Fading Screen



## Side Gray

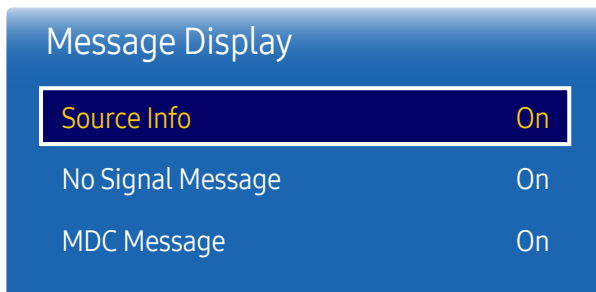
When the screen is set to 4:3 aspect ratio, adjust the brightness of white margins on sides to protect the screen.

- Off / Light / Dark

– The displayed image may differ depending on the model.

## Message Display

MENU  → OnScreen Display → Message Display → ENTER 



## Source Info

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

- Off / On

## No Signal Message

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

- Off / On

## MDC Message



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

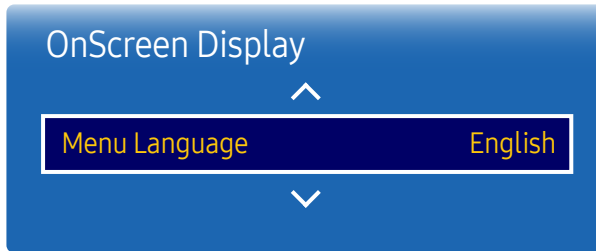
- Off / On

– The displayed image may differ depending on the model.

---

## Menu Language

MENU  → OnScreen Display → Menu Language → ENTER 



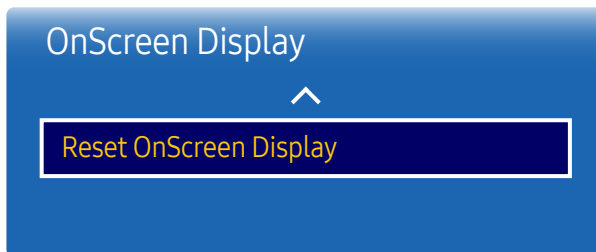
– The displayed image may differ depending on the model.

Set the menu language.

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

## Reset OnScreen Display

MENU  → OnScreen Display → Reset OnScreen Display → ENTER 



– The displayed image may differ depending on the model.



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

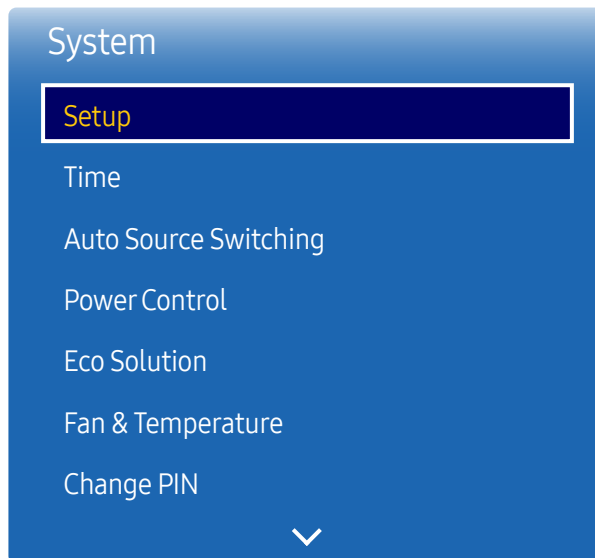


# Chapter 08

## System

### Setup

MENU  → System → Setup → ENTER 





### Initial settings (System)

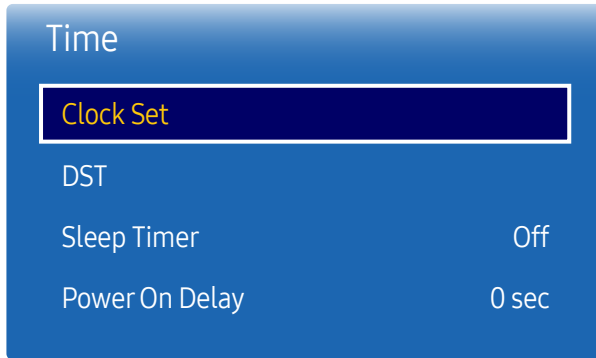
Go through the initial setup steps like you did the first time you used this product.

---

– The displayed image may differ depending on the model.

# Time

MENU  → System → Time → ENTER 




– The displayed image may differ depending on the model.

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

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

## Clock Set

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

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

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

## DST

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

**Off / On**

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

## Sleep Timer

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

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

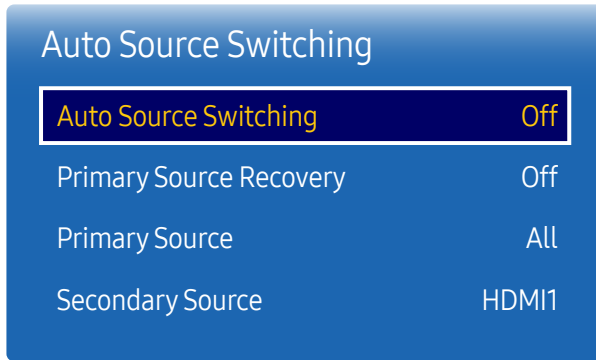
– Use the up and down arrows to select a period of time, and then press . To cancel **Sleep Timer**, select **Off**.

## Power On Delay

When connecting multiple products, adjust the power-on time for each product to prevent power overload (within the range 0–50 seconds).

# Auto Source Switching

MENU  → System → Auto Source Switching → ENTER 



– The displayed image may differ depending on the model.

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

## Auto Source Switching

When the **Auto Source Switching** is **On**, the display video source will automatically be searched for active video. The **Primary Source** selection will be activated, if the current video source is not recognized.

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

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

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

## Primary Source Recovery

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

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

## Primary Source

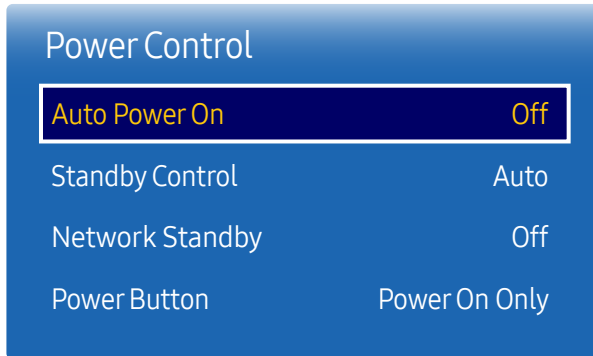
Specify **Primary Source** for the automatic input source.

## Secondary Source

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

# Power Control

MENU  → System → Power Control → ENTER 



– The displayed image may differ depending on the model.

## Auto Power On

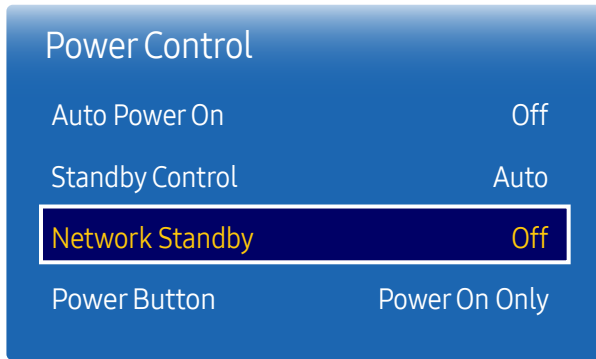
This feature automatically turns on the product as soon as it is plugged in. Pressing the power button is not needed.

- Off / On

## Standby Control

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

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



## Network Standby

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

- **Off / On**

## Power Button

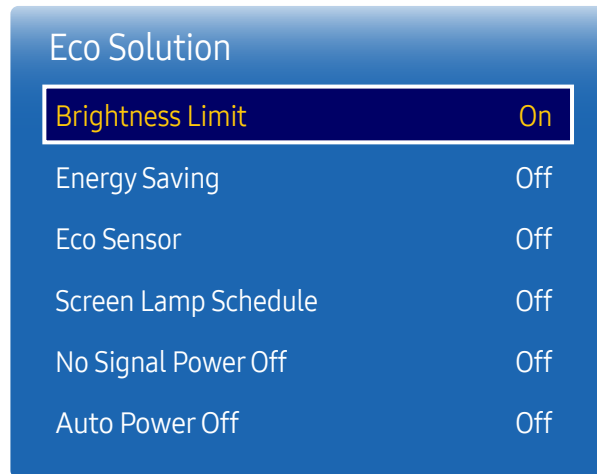
The power button can be set to either turn on the power or turn on/off the power.

- **Power On Only**: Set the power button to turn on the power.
- **Power On/Off**: Set the power button to turn on/off the power.

– The displayed image may differ depending on the model.

## Eco Solution

MENU  → System → Eco Solution → ENTER 



– The displayed image may differ depending on the model.

## Brightness Limit

Limit the screen's maximum backlight level.

- **Off:** **Off** allows you to use the maximum brightness available.
- **On:** **On** prevents the use of maximum brightness and saves energy.

## Energy Saving

Reduce the power consumption by adjusting the screen brightness.

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

## Eco Sensor

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

- **Off / On**

- Adjusting the **Backlight** setting under **Picture** while **Eco Sensor** is on will disable the **Off**.
- If the screen contrast is not sufficient, set the **Eco Sensor** to **Off**.  
If the **Eco Sensor** is **Off**, it may not comply with energy standards.

## Min. Backlight

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

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

## Eco Solution

Brightness Limit	On
Energy Saving	Off
Eco Sensor	Off
Screen Lamp Schedule	Off
No Signal Power Off	Off
Auto Power Off	Off

– The displayed image may differ depending on the model.

## Screen Lamp Schedule

– This option is enabled when **Clock Set** is configured.

### Screen Lamp Schedule

Enable or disable the lamp schedule.

- **Off / On**

### Schedule1, Schedule2

#### Time

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

#### Lamp

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

- **0 ~ 100**

## No Signal Power Off

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

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

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

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

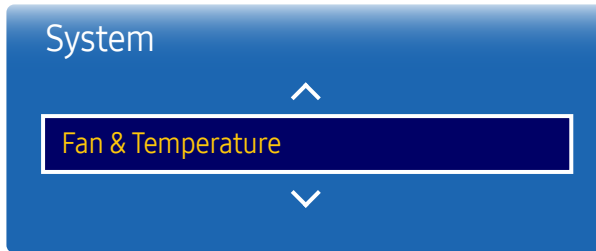
## Auto Power Off

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

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

# Fan & Temperature

MENU  → System → Fan & Temperature → ENTER 



– The displayed image may differ depending on the model.

Protects the product by detecting the fan speed and internal temperature.

## Fan Control

Selects auto or manual for the fan speed settings.

- Auto / Manual

## Fan Speed Setting

Sets the fan speed within a range of 0 and 100.

- Enabled when **Fan Control** is set to **Manual**.
- When the fan speed is low in a high temperature, it can cause problem to the product.

## Outdoor Mode

To use the product at a low temperature below 0°C, make sure to set **Outdoor Mode** to "On."

This feature keeps the internal temperature of the product steady so that the product can start properly when it is powered on.

- Off / On
- Do not disconnect the power cable when this feature is set to "On."
- The product consumes more power when it is turned off if this feature is set to "On" rather than to "Off."

## Temperature Control

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

The default temperature is set to 90 °C.

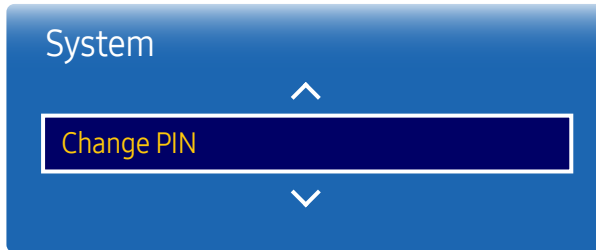
The recommended operating temperature for this product is 75 to 90 °C (based on an ambient temperature of 50 °C).

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



## Change PIN

MENU  → System → Change PIN → ENTER 



– The displayed image may differ depending on the model.


The **Change PIN** screen will appear.

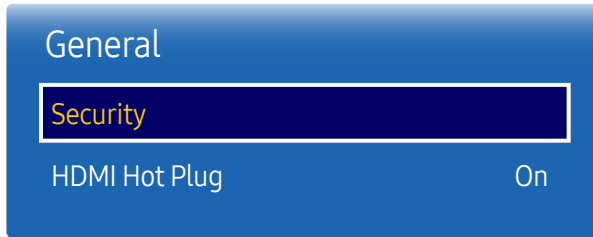
Choose any 4 digits for your PIN and enter it in **Enter a new PIN..** Reenter the same 4 digits in **Enter the PIN again..**

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

– Default password: 0 - 0 - 0 - 0

## General

MENU  → System → General → ENTER 



– The displayed image may differ depending on the model.

## Security

Enter your 4 digit PIN number. The default PIN number is "0-0-0-0".  
If you want to change the PIN number, use the **Change PIN** function.

### Safety Lock

It sets safe lock function.

- Off / On

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

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

### Power On Button

Turn on this feature to enable the remote control's Power button to turn on the device while **Safety Lock** is enabled.

- Off / On

## HDMI Hot Plug

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

- Off / On

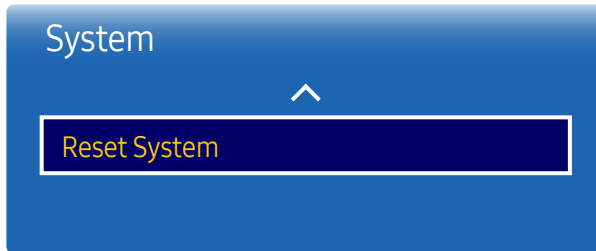
— Depending on the type of external device, the screen may not display properly. In this case, connect it with the **HDMI Hot Plug** function turned **On**.

---

## Reset System

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

MENU  → System → Reset System → ENTER 



---

– The displayed image may differ depending on the model.

# Chapter 09

## Support

### Software Update

MENU  → Support → Software Update → ENTER 

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

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

### Contact Samsung

MENU  → Support → Contact Samsung → ENTER 

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

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

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



### Go to Home

MENU  → Support → Go to Home → ENTER 

Accessible using the HOME  button on the remote control.

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

### Reset All

MENU  → Support → Reset All → ENTER 

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

# Chapter 10

## Troubleshooting Guide

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

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

## Requirements Before Contacting Samsung Customer Service Center

### Testing the Product

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

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

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

### Checking the Resolution and Frequency

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

---

## Check the followings.

### Installation issue (PC mode)

---

The screen keeps switching on and off.

Check the cable connection between the product and PC, and ensure the connection is secure.

---

Blank spaces are found on all four sides of the screen when an HDMI or HDMI-DVI cable is connected to the product and PC.

The blank spaces found on the screen have nothing to do with the product.

---

Blank spaces on the screen are caused by the PC or graphics card. To resolve the problem, adjust the screen size in the HDMI or DVI settings for the graphics card.

---

If the graphics card settings menu does not have an option to adjust the screen size, update the graphics card driver to the latest version.

(Please contact the graphics card or computer manufacturer for further details about how to adjust the screen settings.)

---

### Screen issue

---

The power LED is off. The screen will not switch on.

Make sure that the power cord is connected.

---

**No Signal** is displayed on the screen.

Check that the product is connected correctly with a cable.

---

Check that the device connected to the product is powered on.

---

Depending on the type of external device, the screen may not display properly. In this case, connect it with the **HDMI Hot Plug** function turned **On**.

---

**Not Optimum Mode** is displayed.

This message is displayed when a signal from the graphics card exceeds the product's maximum resolution and frequency.

---

Refer to the Standard Signal Mode Table and set the maximum resolution and frequency according to the product specifications.

---

The images on the screen look distorted.

Check the cable connection to the product.

---

---

## Screen issue

The screen is not clear. The screen is blurry.	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. There are shadows or ghost images left on the screen.	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.
The screen is too bright. The screen is too dark.	Adjust <b>Brightness</b> and <b>Contrast</b> .
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.
The product will turn off automatically.	Go to <b>System</b> and make sure <b>Sleep Timer</b> is set to <b>Off</b> . If a PC is connected to the product, check the power status of the PC. Make sure the power cable is connected properly to the product and power outlet. If the signal from a connected device is not detected, the product automatically turns off after 10 to 15 minutes.
Picture quality of the product is different from the dealer shop where it was purchased.	Use an HDMI cable to obtain high-definition (HD) picture quality.
The screen display does not look normal.	Encoded video content may cause the display to appear corrupted in scenes featuring fast moving objects such as in a sports event or action video. Low signal level or low picture quality may cause the display to appear corrupted. This does not mean the product is defective. A cell phone within a distance of one-meter radius may cause static on analog and digital products.

---

## Screen issue

The brightness and color do not look normal.	Go to <b>Picture</b> and adjust the screen settings such as <b>Picture Mode, Color, Brightness</b> and <b>Sharpness</b> .
	Go to <b>System</b> and adjust the <b>Energy Saving</b> settings.
	Reset the screen settings to the default settings.
Broken lines are displayed on the edges of the screen.	If <b>Picture Size</b> is set to <b>Screen Fit</b> , change the setting to <b>16:9</b> .
Lines (red, green or blue) are displayed on the screen.	These lines are displayed when there is a defect in DATA SOURCE DRIVER IC on the monitor. Contact a Samsung Service Center to resolve the issue.
The display looks unstable and then freezes.	The screen may freeze when a resolution other than the recommended resolution is used or if the signal is not stable. To resolve the issue, change the PC resolution to the recommended resolution.
The screen cannot be displayed in full screen.	A scaled SD (4:3) content file can cause black bars on both sides of an HD channel screen.
	A video with an aspect ratio different from the product can cause black bars at the top and bottom of the screen.
	Change the screen size setting to full screen on the product or source device.

## Remote control issue

The remote control does not work.	Make sure that the batteries are correctly in place (+/-).
	Check if the batteries are flat.
	Check for power failure.
	Make sure that the power cord is connected.
	Check for any special lighting or neon signs switched on in the vicinity.



---

## Source device issue

---

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

---

## Other issue

---

The product smells like plastic.	The plastic smell is normal and disappears over time.
----------------------------------	---

---

The monitor appears tilted.	Remove and then attach the stand again to the product.
-----------------------------	--

---

Audio or video cuts out intermittently.	Check the cable connection and connect it again if required.
---	--

---

Using a very hard or thick cable may corrupt audio and video files.

Make sure cables are flexible enough to ensure durability. When mounting the product onto a wall, it is recommended to use right-angle cables.

---

Small particles are found on the edges of the product.	The particles are part of the product design. The product is not defective.
--	---

---

The <b>Multi Screen</b> menu is not available.	The menu is enabled or disabled depending on the <b>Source</b> mode.
--	--

---

When I try to change the PC resolution, a message " <b>The defined resolution is not currently supported.</b> " appears.	The message " <b>The defined resolution is not currently supported.</b> " appears if the input source resolution exceeds the maximum resolution of the display.
--	---

---

To resolve the issue, change the PC resolution to a resolution supported on the display.

---

There is no sound from the speakers in HDMI mode when a DVI-HDMI cable is connected.	DVI cables do not transmit sound data.
--	--

---

Make sure to connect the audio cable to the correct input jack to enable audio.

---

<b>HDMI Black Level</b> is not functioning properly on an HDMI device with YCbCr output.	This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.
--	---

---

---

---

## Other issue

There is no sound in HDMI mode.

Displayed picture colors may not look normal. Video or sound may not be available. This can occur if a source device that only supports an older version of the HDMI standard is connected to the product.

If these issues occur, connect an audio cable along with the HDMI cable.

Some PC graphics cards may not automatically recognize HDMI signals that do not include sound. In this case, manually select a sound input.

	Sound input	Screen mode
PC	Auto	PC settings
DVI PC	Audio In (Stereo ports)	PC settings

HDMI-CEC does not work.

This product does not support the HDMI-CEC feature.

To use several external devices compatible with the HDMI-CEC feature that are connected to the HDMI IN 1 and HDMI IN 2 ports on the product, turn off the HDMI-CEC features on all the external devices. External devices include Blu-ray and DVD players.

Operating an external device when its HDMI-CEC feature is enabled may automatically stop other external devices.

To change HDMI-CEC settings, refer to the device user guide or contact the device manufacturer for assistance.

---

---

## Other issue

The IR sensor is not functioning.

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

If the sensor light does not turn on, turn the power switch off and then on again on the back of the product.

(The power LED lights up red when the screen is switched off.)

If the sensor light still does not turn on after the power switch is turned off and then on again, an internal jack may be disconnected.

Contact your nearest service Center to have the product serviced.

If the sensor light that is on does not flash red when a button is pressed on the remote control, the IR sensor may be defective.

Contact your nearest service center to have the product serviced.

This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.

When booting the PC with the input source set to **DisplayPort1**, **DisplayPort2**, the BIOS and booting screens do not appear.

Boot the PC when the set is turned on or when the input source is not **DisplayPort1**, **DisplayPort2**.

---

## Q & A

### Question

How can I change the frequency?

---

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

### Answer

Set the frequency on your graphics card.

- Windows XP: Go to Control Panel → Appearance and Themes → Display → Settings → Advanced → Monitor and adjust the frequency in Monitor Settings.
- Windows ME/2000: Go to Control Panel → Display → Settings → Advanced → Monitor and adjust the frequency in Monitor Settings.
- Windows Vista: Go to Control Panel → Appearance and Personalization → Personalize → Display Settings → Advanced Settings → Monitor and adjust the frequency in Monitor Settings.
- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced Settings → Monitor and adjust the frequency in Monitor Settings.
- Windows 8: Go to Settings → Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced Settings → Monitor and adjust the frequency in Monitor Settings.
- Windows 10: Go to Settings → System → Display → Advanced display settings → Display adapter properties → Monitor, and adjust Screen refresh rate under Monitor settings.

How can I change the resolution?

- Windows XP: Go to Control Panel → Appearance and Themes → Display → Settings and adjust the resolution.
- Windows ME/2000: Go to Control Panel → Display → Settings and adjust the resolution.
- Windows Vista: Go to Control Panel → Appearance and Personalization → Personalize → Display Settings and adjust the resolution.
- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Adjust Resolution and adjust the resolution.
- Windows 8: Go to Settings → Control Panel → Appearance and Personalization → Display → Adjust Resolution and adjust the resolution.
- Windows 10: Go to Settings → System → Display → Advanced display settings, and adjust the resolution.

---

## Question

How do I set powersaving mode?

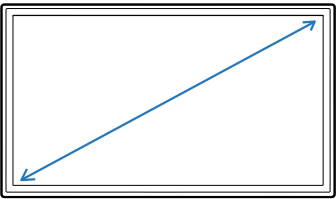
## Answer

- Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC.
  - Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC.
  - Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
  - Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
  - Windows 8: Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
  - Windows 10: Set power-saving mode in **Settings** → **Personalization** → **Lock screen** → **Screen timeout settings** → **Power & sleep** or BIOS SETUP on the PC.
-

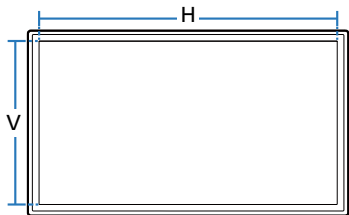
# Chapter 11

## Specifications

– Size



– Display area



## General

Model Name

**OH85F**

Panel	Size	85 CLASS (84.5 inches / 214 cm)
	Display area	1872 mm (H) x 1053 mm (V) 73.7 inches (H) x 41.4 inches (V)

Power Supply	AC100-240V~ 50/60Hz
	Refer to the label at the back of the product as the standard voltage can vary in different countries.

Environmental considerations	Operating	Temperature : -30 °C – 50 °C (-22 °F – 122 °F) * For installing the housing, keep the internal temperature at 40 °C or below. Humidity : 10% – 80%, non-condensing
	Storage	Temperature : -20 °C – 50 °C (-4 °F – 122 °F) Humidity : 5% – 95%, non-condensing

---

— Plug-and-Play

This monitor can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the monitor and PC system optimizes the monitor settings. Monitor 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 is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

— For detailed device specifications, visit the Samsung Electronics website.

(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

## Preset Timing Modes

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

Model Name		OH85F
Synchronization	Horizontal Frequency	30 - 135 kHz (DP), 30 - 90kHz (HDMI)
	Vertical Frequency	30 - 75 Hz (DP), 24 - 75 Hz (HDMI)
Resolution	Optimum resolution	3840 x 2160 @ 60 Hz (DP), 3840 x 2160 @ 30 Hz (HDMI)
	Maximum resolution	3840 x 2160 @ 60 Hz (DP), 3840 x 2160 @ 30 Hz (HDMI)
Maximum Pixel Clock		533.25 MHz (DP), 297 MHz (HDMI)

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.

### – Horizontal Frequency

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

### – Vertical Frequency

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



Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 480	31.469	59.940	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	+/+
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	+/+

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
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	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	+/+
VESA, 2560 x 1440	88.787	59.951	241.500	+/-
CEA, 3840 x 2160	67.500	30.000	297.000	-/-

# Chapter 12

## Appendix

### Responsibility for the Pay Service (Cost to Customers)

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

#### Not a product defect

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

- If a service technician gives instructions on how to use product or simply adjusts options without disassembling product.
- If a defect is caused by external environmental factors (Internet, Antenna, Wired Signal, etc.)
- If a product is reinstalled or devices are connected additionally after installing the purchased product for the first time.
- If a product is reinstalled to move to a different spot or to move to a different house.
- If customer requests instructions on how to use because of another company's product.
- If customer requests instructions on how to use the network or another company's 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

- 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: 24,883,200
- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
  - Activate power-saving mode or a dynamic screen saver if you will not be using the product for an extended period of time.

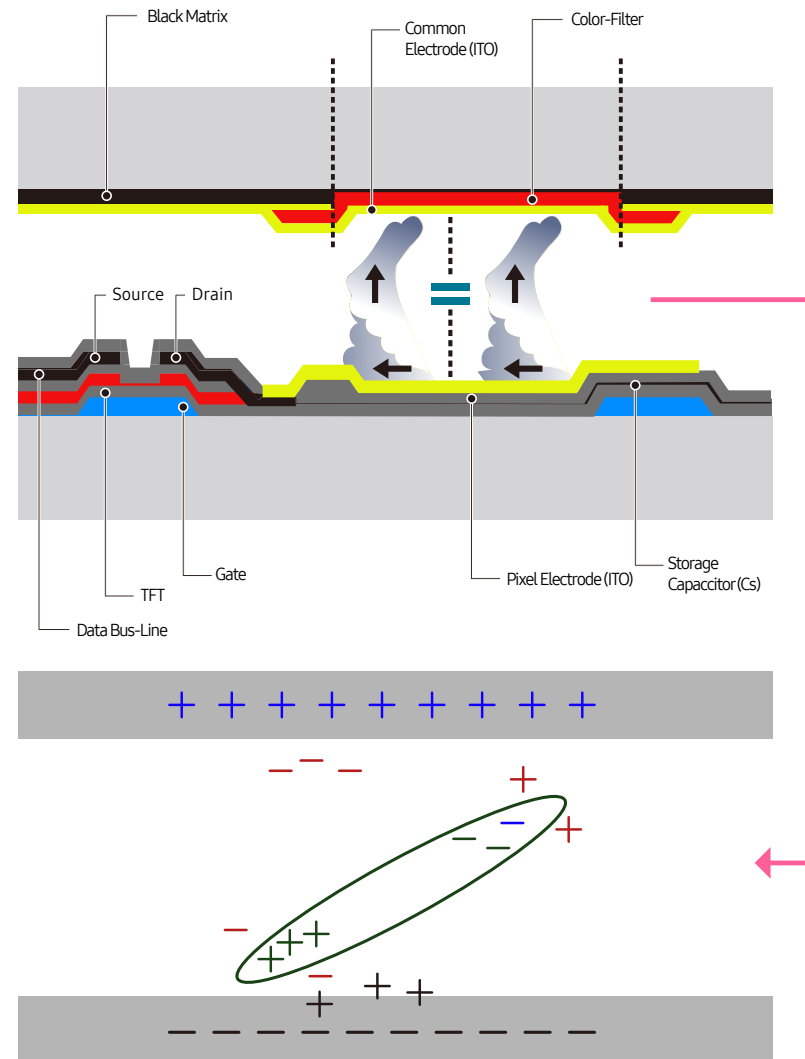
## Prevention of Afterimage Burn-in

### What is afterimage burn-in?

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

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

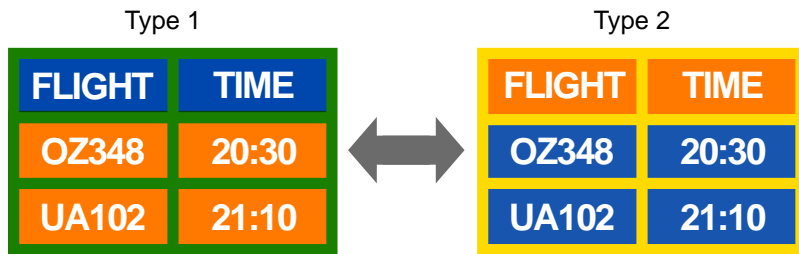
- Afterimage burn-in should not occur when an LCD panel is operating in proper conditions.



## Preventing afterimage burn-in

— The best way to protect the product from afterimage burn-in is switching the power off or setting the PC or system to run a screen saver when not in use. Also, Warranty service may be limited depending on instruction guide.

- Powering Off, Screen Saver and Power Saving Mode
  - Power off the product for 2 hours after using it for 12 hours.
  - Go to Display Properties > Power Supply on your PC and set the product to power off as required.
  - Using a screen saver is recommended.  
It is best to use a single-color or moving-image screen saver.
- Regular color Change
  - Use 2 colors
  - Switch between 2 colors every 30 minutes as shown above.



- Avoid combinations of a text color and background color of contrasting brightness. (Brightness: refers to the lightness or darkness of a color which varies depending on the amount of light emitted.)

— Avoid using grey as it may contribute to afterimage burn-in.

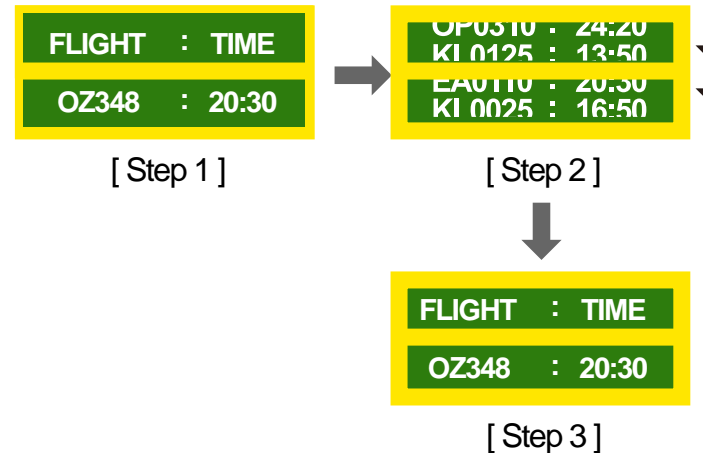
— Avoid using colors of contrasting brightness (black and white; grey).



- Regular Text color Change
  - Use bright colors of similar brightness.
  - Interval: Change text color and background color every 30 minutes



- Move and change text every 30 minutes as shown below.



- Regularly display a moving image along with a logo.
  - Interval: Display a moving image along with a logo for 60 seconds after using for 4 hours.

---

## License



The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

---

### Open Source Licence Notice

In the case of using open source software, Open Source Licences are available on the product menu. Open Source Licence Notice is written only English.

For information on the Open Source Licence Notice, contact the Samsung Customer Center or send email to [oss.request@samsung.com](mailto:oss.request@samsung.com).

---

---

# Terminology

**480i / 480p / 720p / 1080i /**

**1080p**\_\_\_\_\_ Each of the scanning rates above refers to the number of effective scanning lines that decides the screen resolution. The scanning rate may be indicated in i (interlaced) or p (progressive), depending on the scanning method.

- Scanning

Scanning refers to a process of sending pixels that form an image progressively. A larger number of pixels will deliver a clearer and more vivid picture.

- Progressive

In progressive scan mode, all lines of pixels are scanned one by one (progressively) on the screen.

- Interlaced

In interlaced scan mode, every other line of pixels is scanned from top to bottom first and then the remaining lines of pixels (that were not scanned) are scanned.

**Non-interlace Mode and Interlace Mode**\_\_\_\_\_

Non-interlace mode (progressive scan) displays a horizontal line from the top to the bottom of a screen progressively. Interlace mode displays the odd number lines first and the even number lines next. Non-interlace mode is mainly used in monitors as it produces screen clarity and interlace mode is mainly used in TVs.

**Dot Pitch**\_\_\_\_\_ The screen consist of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same color. Dot pitch is measured in millimeters.

**Vertical Frequency**\_\_\_\_\_ The product displays a single image many times per second (like a fluorescent light that flickers) to display an image for a viewer to see. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.

E.g. 60Hz refers to a single image being displayed 60 times in one second.

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

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

**Plug & Play**\_\_\_\_\_ Plug & Play is a function that allows the automatic exchange of information between a monitor and PC to produce an optimum display environment. The product uses VESA DDC (international standard) to execute Plug & Play.

**Resolution**\_\_\_\_\_ Resolution is the number of horizontal dots (pixels) and vertical dots (pixels) that form a screen. It represents the level of display detail. A higher resolution enables more data to be displayed on the screen and is useful to perform multiple tasks simultaneously.

E.g. A resolution of 1920 X 1080 consists of 1,920 horizontal pixels (horizontal resolution) and 1,080 vertical pixels (vertical resolution).

**DVD (Digital Versatile Disc)**\_\_\_\_\_ DVD refers to a CD-sized mass storage disk where you can save multimedia (audio, video or game) applications using MPEG-2 video compression technology.

**HDMI (High Definition Multimedia Interface)**\_\_\_\_\_ It is an interface that can be connected to a digital audio source as well as a high-definition video source by using a single cable without compression.

**Multiple Display Control (MDC)**\_\_\_\_\_ MDC (Multiple Display Control) is an application that allows multiple display devices to be controlled simultaneously using a PC. Communication between a PC and monitor takes place using RS232C (serial data transmission) and RJ45 (LAN) cables.